

PYRACLOSTROBIN (210)

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EXPLANATION

Pyraclostrobin was first evaluated by JMPR in 2003 when an ADI of 0–0.03 mg/kg bw and an ARfD of 0.05 mg/kg bw were established, and subsequently evaluated in 2004 and 2006 for the estimation of a number of maximum residue levels. At the Forty-second Session of the CCPR, pyraclostrobin was scheduled for the evaluation of 2011 JMPR for additional uses in a broad variety crops.

Animal metabolism

All information on the animal metabolism has been provided to JMPR for evaluation in 2003 and 2004. The Meeting did not receive new data on the metabolism of pyraclostrobin in livestock animals.

Plant metabolism

All information on the plant metabolism has already been provided to JMPR for evaluation in 2004. The Meeting did not receive new data on the metabolism of pyraclostrobin in plants.

Chemical names and codes for pyraclostrobin and its metabolites in this evaluation are summarized below.

Pyraclostrobin (BAS 500F)	methyl-N-[[[1-(4-chlorophenyl)pyrazol-3-yl]oxy]O-tolyl]N-methoxycarbamate
BAS 500-3	methyl-N-[[[1-(4-chlorophenyl)pyrazol-3-yl]oxy]O-tolyl]carbamate

RESIDUE ANALYSIS

Information on the analytical methods for plant matrices has been provided to JMPR for evaluation of residue in 2004. During the conduct of the supervised field trials, new data generation methods were developed; all methods are based on LC/MS-MS quantitation with different limits of quantitation. Furthermore, independent laboratory validation studies were performed for the methods proposed for enforcement purposes.

Analytical methods

The Meeting received descriptions and validation data for analytical methods for residues of pyraclostrobin and its metabolites in raw agricultural commodities and processed commodities. Methods rely on HPLC-MS-MS for analysis of pyraclostrobin in the following matrices.

Determination of BAS 500 F and BF 500-3 in various plant matrices. Validation of BASF Method No. 445/0. (Benz, A, Mackenroth, C, 2001, BASF DocID 2000/1012405)

Analyte:	Pyraclostrobin and its metabolite	LC-MS-MS	Method No. 445/0
LOQ:	0.02 mg/kg in various plant matrices		

Description After extraction of the plant material with a methanol/water/hydrochloric acid mixture and subsequent centrifugation of an aliquot, transfer an aliquot of the supernatant into a culture tube containing water. For purification, perform liquid/liquid partitioning with cyclohexane. Evaporate the cyclohexane to dryness and dissolve the residue in methanol/water for HPLC-MS/MS quantification. For pyraclostrobin, the transition ions $m/z = 388 \rightarrow 194$ and $m/z = 388 \rightarrow 163$ and for BF 500-3 $m/z = 358 \rightarrow 164$ and $m/z = 358 \rightarrow 132$ can be used for quantification.

Method for determination of BAS 500 F, BF 500-3 and BAS 510 F–Residues in plant matrices using LC/MS/MS–BASF method number D9908. (Abdel-Baky, S, Jones, JE, 2001, BASF DocID 2001/5001019)

Analyte: Pyraclostrobin and its metabolites LC-MS-MS Method No. D9908

LOQ: 0.02 mg/kg in plant matrices for pyraclostrobin and BF 500-3 and 0.05 mg/kg for boscalid

Description Analytical Method No D9908 was developed to determine the residues of pyraclostrobin, its desmethoxy metabolite BF 500-3 and boscalid in plant matrices. It can be used for matrices including (but not limited to) wheat (forage, grain straw, flour), barley (hay, grain), grape (fruit, raisin, juice), peanut (hay, oil nutmeat), dry pea (forage, seed), lentil seed, tomato, cucurbits, onion, almond, pecans, carrot, stone fruit, strawberry, raspberry, pepper and banana (peel, pulp). Pyraclostrobin, BF 500-3 and boscalid are extracted with a 70:25:5 methanol:water: 2N HCl mixture. An aliquot of the extract is removed and cleaned by either liquid/liquid partition or by Polar Plus C18 Speedisk and/or silica Speedisk column chromatography. If further cleaning is needed, the elute from the Polar Plus C18 Speedisk column is then applied to a Silica gel Speedisk column. The final chromatography analysis of pyraclostrobin, BF 500-3 and boscalid are determined by LC/MS/MS.

Method for determination of BAS 500 F, BF 500-3 and BAS 510 F residues in plant matrices using LC/MS/MS (Validation of Method D9908). (Jones, JE, 2001, BASF DocID 2001/5001020)

Analyte: Pyraclostrobin and its metabolite LC-MS-MS Method No. D9908

LOQ: 0.02 mg/kg in plant matrices for pyraclostrobin and BF 500-3 and 0.05 mg/kg for boscalid

Description Residues of pyraclostrobin, BF 500-3 and boscalid were extracted from plum with a 70:25:5 methanol/water/HCl mixture and cleaned with a PolarPlus® C18 Speedisk® column. Residues of each analyte in almonds, the representative oily plant matrix, were extracted by Accelerated Solvent Extractor (ASE) with acetonitrile, and then cleaned by a liquid/liquid partition with hexane. The residues were purified further by PolarPlus® C18 Speedisk® and Silica Gel Speedisk® columns. Residues of each analyte fortified in onion were extracted with a 70:25:5 methanol/water/HCl mixture. An aliquot of the extract was removed and cleaned by liquid/liquid partitioning using cyclohexane, followed by further purification on a Silica Gel Speedisk® column. The final chromatography analysis of pyraclostrobin, BF 500-3, and boscalid residues in plants was performed by high performance liquid chromatography with dual mass selective detectors (LC/MS/MS).

Independent laboratory validation of BASF method Number D9808 (USA), 421/0 (Germany), an analytical method for the determination of residues of BAS 500 F and its metabolite BF 500-3. (Devine, HC, 2002, BASF DocID 2002/1007082)

Analyte:	Pyraclostrobin and its metabolite LC-MS-MS Method No. D9908 (USA) Method No. 421/0 (Germany)
LOQ:	0.02 mg/kg in plant matrices for pyraclostrobin and BF 500-3 and 0.05 mg/kg for boscalid
Description	Pyraclostrobin and BF 500-3 residues were extracted from cabbage and grain specimens with methanol/water 70/30 v/v and then filtered. The extracts were purified by micro C18-polar plus column clean-up eluted with dichloromethane. Onion, orange and hops specimens were extracted as above, but with an additional clean up stage using micro silica columns. Rape seed was homogenized with acetonitrile followed by addition of hexane. The extract was filtered and then transferred to a separating flask and shaken. The hexane layer was discarded and the acetonitrile layer partitioned with hexane. The acetonitrile extract was collected and made to volume. An aliquot was concentrated to dryness and then redissolved in methanol/water 70/30 v/v. The extracts were purified by micro C18-polar plus column clean up eluted with dichloromethane followed by a micro silica column clean up. In all cases, measurement was accomplished using liquid chromatography/APCI mass spectrometry (LC/MS/MS). Results were quantified on peak areas against the linearity of response of external calibration standard solutions.

Independent laboratory validation of BASF method D9904, an analytical method for the determination of residues of BAS 500 F and its metabolite BF 500-3. (Devine, H. C., 2002, BASF DocID 2002/1007083)

Analyte:	Pyraclostrobin and its metabolite LC-MS-MS Method No. D9904
LOQ:	0.02 mg/kg in cabbage, orange and wheat grain for pyraclostrobin and BF 500-3. In onion, 0.5 mg/kg for pyraclostrobin and 0.2 mg/kg for BF 500-3.
Description	Pyraclostrobin and BF 500-3 residues were extracted from cabbage and grain specimens with methanol/water 70/30 v/v and then filtered. The extracts were purified by micro C18-polar plus column clean up eluted with dichloromethane. Onion, orange and hops specimens were extracted as above, but with an additional clean up stage using micro silica columns. Rape seed was homogenized with acetonitrile followed by addition of hexane. The extract was filtered and then transferred to a separating flask and shaken. The hexane layer was discarded and the acetonitrile layer partitioned with hexane. The acetonitrile extract was collected and made to volume. An aliquot was concentrated to dryness and then redissolved in methanol/water 70/30 v/v. The extracts were purified by micro C18-polar plus column clean up eluted with dichloromethane followed by a micro silica column clean up. In all cases, measurement was accomplished using liquid chromatography/APCI mass spectrometry (LC/MS/MS). Results were quantified on peak areas against the linearity of response of external calibration standard solutions. The method for analysis of pyraclostrobin and BF 500-3 using HPLC/UV as final determination is suitable for the plant matrices cabbage, orange and wheat grain down to a limit of quantitation of 0.02 mg/kg. For onion, the method can be used to 0.5 mg/kg for pyraclostrobin and to 0.2 mg/kg for BF 500-3. In hops and oilseed rape, the HPLC/UV method does not yield satisfactory results.

Method for the determination of BAS 421 F, BAS 480 F, BAS 500 F, BF 500-3, BAS 510 F, BAS 550 F, BAS 555 F and BAS 560 F in plant matrices—BASF Method Number 535/1. BASF DocID 2006/1039426. (Lehmann, A, *et al.*, 2006, BASF DocID 2006/1039426)

Analyte:	Pyraclostrobin and its metabolites	LC-MS-MS	Method No. 535/1
LOQ:	0.01 mg/kg in plant matrices for BAS 421 F, BAS 480 F, BAS 500 F, BF 500-3, BAS 510 F, BAS 550 F, BAS 555 F and BAS 560 F		
Description	Analytical method No. 535/1 allows the determination of BAS 421 F, BAS 480 F, pyraclostrobin, BF 500-3, boscalid, BAS 550 F, BAS 555 F and BAS 560 F in plant matrices. Method 535/1 was successfully tested in wheat grain, wheat forage, wheat straw, lemon, oilrape seed, onion, lettuce and tomato. BAS 421 F, BAS 480 F, pyraclostrobin, BF 500-3, boscalid, BAS 550 F, BAS 555 F and BAS 560 F are extracted with a mixture of methanol, water and hydrochloric acid. An aliquot of the extract is centrifuged and partitioned at alkaline conditions against cyclohexane. The final determination of BAS 421 F, BAS 480 F, pyraclostrobin, BF 500-3, boscalid, BAS 550 F, BAS 555 F and BAS 560 F is performed by HPLC-MS/MS. The limit of quantitation (LOQ) of the method for BAS 421 F, BAS 480 F, pyraclostrobin, BF 500-3, boscalid, BAS 550 F, BAS 555 F and BAS 560 F is 0.01 mg/kg. The HPLC-MS/MS final determination for BAS 421 F, BAS 480 F, pyraclostrobin, BF 500-3, boscalid, BAS 550 F, BAS 555 F and BAS 560 F is a highly selective detection technique. For every compound the quantitation is possible at three different transitions. No confirmatory technique is required.		

Validation of BASF method No. 535/1 in plant matrices. (Mackenroth, C, Lehmann, A, 2007, BASF DocID 2006/1039427)

Analyte:	Pyraclostrobin and its metabolites	LC-MS-MS	Method No. 535/1
LOQ:	0.01 mg/kg in wheat, lemon, lettuce, oilseed rape seed tomato and onion for pyraclostrobin, BF 500-3 and boscalid		
Description	Analytical method No. 535/1 allows the determination of BAS 421 F, BAS 480 F, After extraction of the plant material with a methanol/water/hydrochloric acid mixture and subsequent centrifugation of an aliquot, transfer an aliquot of the supernatant into a culture tube containing sodium hydroxide solution. For purification, perform liquid/liquid partitioning with cyclohexane. Evaporate the cyclohexane to dryness and dissolve the residue in methanol/water for HPLC-MS/MS quantitation. For pyraclostrobin, the transition ions $m/z = 388 \rightarrow 194$ and $m/z = 388 \rightarrow 163$, for BF 500-3 $m/z = 358 \rightarrow 164$ and $m/z = 358 \rightarrow 132$ and for boscalid, $m/z = 343 \rightarrow 271$ and $m/z = 343 \rightarrow 307$ can be used for quantification. Due to the high specificity of HPLC-MS/MS and the different transitions proposed above, no confirmatory technique is necessary.		

Method for determination of residues of BAS 500 F and its metabolite BF 500-16 in hen tissues using LC/MS/MS. (Malinski, DS, Trumbly, R, 2000, BASF DocID 2000/5003)

Analyte:	Pyraclostrobin and its metabolite	LC-MS-MS	Method No. 9902
LOQ:	0.05 mg/kg in all matrices for pyraclostrobin, BF 500-16		

Description Analytical Method D9902 was developed in order to determine residues of pyraclostrobin and its metabolite (BF 500-16) in hen tissues. Method D9902 is a common moiety method and determines all compounds that form BF 500-5 (1-(4-chlorophenyl)-3-methoxy-1H-pyrazole) and BF 500-9 (1-(4-chloro-2-methoxyphenyl)-3-methoxy-1H-pyrazole) upon hydrolysis, which includes the parent compound and the major metabolite BF 500-16. As a first step, egg, liver, and muscle samples are extracted as well as hydrolysed in a sodium hydroxide solution. Fat samples are handled somewhat differently. Fat is first partitioned with hexane and acetonitrile before hydrolysis. After hydrolysis, an aliquot of the fat extract was purified by partitioning with ethyl acetate. For egg, liver and muscle aliquots after hydrolysis, samples are purified by ENV and silica solid phase extraction column chromatography. For all matrices, the final analytes BF 500-5 and BF 500-9 are measured by LC/MS/MS.

Method validation of BASF analytical method D9902: Method for determination of residues of BAS 500F and its metabolite BF 500-16 in hen tissues using LC/MS/MS. (Malinsky, DS, Riley, ME, 2000, BASF DocID 2000/5004)

Analyte: Pyraclostrobin and its metabolite LC-MS-MS Method No. 9902

LOQ: 0.05 mg/kg in all matrices for pyraclostrobin, BF 500-16

Description Analytical Method D9902 was developed in order to determine residues of pyraclostrobin, metabolite BF 500-16 and related metabolites in hen tissues. Validation of the method was conducted on four hen tissues, including egg, liver, muscle and fat. The method involves a common moiety approach for total residue determination. Pyraclostrobin and its metabolite BF 500-16 are base hydrolysed into BF 500-5 and BF 500-9, respectively, which are the final analytes of the method. Other compounds sharing the BF 500-5 and BF 500-9 moieties are also expected to undergo the same hydrolytic conversion to the analytes mentioned. As a first step, egg, liver, and muscle samples are extracted as well as hydrolysed in a sodium hydroxide solution. Fat samples are handled somewhat differently. Fat is first partitioned with hexane and acetonitrile before hydrolysis. After hydrolysis, an aliquot of the fat extract purified by partitioning with ethyl acetate. For egg, liver and muscle aliquots after hydrolysis, samples are purified by ENV and silica solid phase extraction column chromatography. For all matrices, the final analytes BF 500-5 and BF 500-9 are measured by LC/MS/MS.

Independent laboratory validation (ILV) of the SOP-PA.0265 for the determination of BAS 500 F and its metabolite BF 500-16 residues in animal tissue–Hen (heart/muscle). (Dantas, C, 2005, BASF DocID 2005/1023792)

Analyte: Pyraclostrobin and its metabolite LC-MS-MS Method No. 9902

LOQ: 0.05 mg/kg in all matrices for pyraclostrobin, BF 500-16

Description Pyraclostrobin and its metabolite BF 500-16 are hydrolysed with 2.5 mol/l NaOH solution for 1.5 hours to be transformed respectively into BF 500-5 and BF 500-9. After hydrolysis, a 5 mol/L HCL solution is added to the extract and the samples are allowed to reach room temperature. Then it is diluted with methanol and allowed to precipitate overnight in a refrigerator. The samples are filtered and diluted with a solution of 50% methanol:water. The extraction solution is quantitatively transferred to a new flask and it is brought up with a solution of 50:50 methanol:water (v/v) and mixed well. A 4% aliquot is removed and transferred to a flat bottom flask and a water aliquot is added. The sample now is submitted to an ENV Solid Phase Extraction. The column is washed first with water and after with a 30% methanol:water solution. Then BF 500-5 and BF 500-9 are eluted with a 50% dichloromethane / ethyl acetate solution and the solvent is evaporated to complete dryness. The sample is dissolved in ethyl acetate and it is submitted to a Silica Solid Phase Extraction. This column is washed with hexane and the analytes are eluted using a 35:65 ethyl acetate:hexane (v/v) solution. Then the solvent is evaporated totally at 45 °C and the samples are diluted in a 9:1 methanol:water (v/v) solution. Pyraclostrobin and BF 500-16 as BF 500-5 and BF 500-9, respectively, are determined by LC/MS/MS.

Recovery data from the internal and independent laboratory validation (ILV) testing are summarised in Table 1.

Table 1 Validation data for analytical methods for the determination of pyraclostrobin residues and BF 500-3 in food and feed.

Sample Matrix	Fortification [mg/kg]	Number of Analyses	Mean Recovery [%]	RSD [%]	Recovery Range [%]	Ref
Validation of BASF Method No. 445/0						
	0.02 (pyraclostrobin)	5	92	5	86–98	Benz A and
Apple (Fruit)	0.2 (pyraclostrobin)	5	77	3	75–80	Mackenroth C
	Overall	10	85	10	75–98	2001, BASF
	0.02 (BF 500-3)	5	94	6	88–101	DocID 2000/
	0.2 (BF 500-3)	5	84	6	78–92	1012405
	Overall	10	89	8	78–101	
	0.02 (pyraclostrobin)	5	91	9	82–101	
Sour cherry (fruit)	0.2 (pyraclostrobin)	5	87	3	83–89	
	Overall	10	89	7	82–101	
	0.02 (BF 500-3)	5	85	2	81–87	
	0.2 (BF 500-3)	5	83	4	80–87	
	Overall	10	84	2	80–87	
	0.02 (pyraclostrobin)	4	98	6	89–103	
Grapes (fruit)	0.2 (pyraclostrobin)	5	87	4	83–91	
	Overall	9	92	7	83–103	
	0.02 (BF 500-3)	5	98	9	84–109	
	0.2 (BF 500-3)	5	86	3	83–90	
	Overall	10	92	9	83–109	
	0.02 (pyraclostrobin)	5	100	6	92–107	
Strawberry (fruit)	0.2 (pyraclostrobin)	5	103	10	93–115	
	Overall	10	101	8	92–115	
	0.02 (BF 500-3)	5	103	3	99–106	

Sample Matrix	Fortification [mg/kg]	Number of Analyses	Mean Recovery [%]	RSD [%]	Recovery Range [%]	Ref
	0.2 (BF 500-3)	5	113	12	98–128	
	Overall	10	108	10	98–128	
	0.02 (pyraclostrobin)	5	94	3	91–96	
Carrot (root)	0.2 (pyraclostrobin)	5	90	6	81–96	
	Overall	10	92	5	81–96	
	0.02 (BF 500-3)	5	96	7	90–107	
	0.2 (BF 500-3)	5	81	4	78–86	
	Overall	10	88	9	78–107	
	0.02 (pyraclostrobin)	5	88	3	84–91	
Onion (bulb)	0.2 (pyraclostrobin)	5	94	4	90–98	
	Overall	10	91	5	84–98	
	0.02 (BF 500-3)	5	75	8	66–82	
	0.2 (BF 500-3)	5	87	5	80–92	
	Overall	10	81	9	66–92	
	0.02 (pyraclostrobin)	5	97	12	83–115	
Tomato (fruit)	0.2 (pyraclostrobin)	5	91	4	84–94	
	Overall	10	94	9	83–115	
	0.02 (BF 500-3)	5	96	14	87–122	
	0.2 (BF 500-3)	5	85	2	83–88	
	Overall	10	91	11	83–122	
	0.02 (pyraclostrobin)	5	92	18	78–118	
Broccoli (pl. w/o root)	0.2 (pyraclostrobin)	5	91	4	86–95	
	Overall	10	91	12	78–118	
	0.02 (BF 500-3)	5	101	18	83–120	
	0.2 (BF 500-3)	5	94	3	91–99	
	Overall	10	97	12	83–120	
	0.02 (pyraclostrobin)	5	91	8	82–100	
White cabbage (head)	0.2 (pyraclostrobin)	5	83	3	80–85	
	Overall	10	87	7	80–100	
	0.02 (BF 500-3)	5	90	7	81–101	
	0.2 (BF 500-3)	5	70	5	64–76	
	Overall	10	80	12	64–101	
	0.02 (pyraclostrobin)	5	103	7	96–113	
Leek (pl. w/o root)	0.2 (pyraclostrobin)	5	94	4	89–97	
	Overall	10	99	7	89–113	
	0.02 (BF 500-3)	5	96	3	92–100	
	0.2 (BF 500-3)	5	93	2	91–95	
	Overall	10	95	3	91–100	
	0.02 (pyraclostrobin)	5	97	12	84–114	
Dwarf bean (pods w/ seed)	0.2 (pyraclostrobin)	5	91	8	85–103	
	Overall	10	94	10	84–114	
	0.02 (BF 500-3)	5	94	8	83–103	
	0.2 (BF 500-3)	5	90	5	84–96	

Sample Matrix	Fortification [mg/kg]	Number of Analyses	Mean Recovery [%]	RSD [%]	Recovery Range [%]	Ref
	Overall	10	92	6	83–103	
	0.02 (pyraclostrobin)	5	85	18	70–102	
Oilseed rape (grain)	0.2 (pyraclostrobin)	5	89	7	82–100	
	Overall	10	87	12	70–102	
	0.02 (BF 500-3)	4	90	16	70–105	
	0.2 (BF 500-3)	5	77	3	72–80	
	Overall	9	83	12	70–105	
	0.02 (pyraclostrobin)	5	91	9	79–102	
Wheat (plant w/o root)	0.2 (pyraclostrobin)	5	79	11	67–91	
	Overall	10	85	12	67–102	
	0.02 (BF 500-3)	5	102	8	92–114	
	0.2 (BF 500-3)	5	78	8	67–85	
	Overall	10	90	15	67–114	
	0.02 (pyraclostrobin)	5	78	10	66–86	
Wheat (grain)	0.2 (pyraclostrobin)	5	87	4	83–92	
	Overall	10	82	9	66–92	
	0.02 (BF 500-3)	5	82	12	64–94	
	0.2 (BF 500-3)	5	92	2	91–97	
	Overall	10	87	10	64–97	
	0.02 (pyraclostrobin)	5	98	8	92–110	
Wheat (straw)	0.2 (pyraclostrobin)	5	95	7	91–107	
	Overall	10	97	7	91–110	
	0.02 (BF 500-3)	5	95	8	88–106	
	0.2 (BF 500-3)	5	91	8	86–105	
	Overall	10	93	8	86–106	
Validation of BASF Method No. 9908						
	0.02 (pyraclostrobin)	4	80	18	61–99	Jones JE, 2001
Almond	3.0 (pyraclostrobin)	4	64	17	47–81	BASF DocID
	Overall	8	72	18	47–99	2001/5001020
	0.02 (BF 500-3)	5	76	13	61–90	
	3.0 (BF 500-3)	5	71	9	54–83	
	Overall	10	74	11	54–90	
	0.02 (pyraclostrobin)	2	92		91–92	
Plum	3.0 (pyraclostrobin)	2	92		92–93	
	Overall	4	92	1	91–93	
	0.02 (BF 500-3)	2	86		82–89	
	3.0 (BF 500-3)	2	90		89–90	
	Overall	4	88	4	82–90	
	0.02 (pyraclostrobin)	4	105	20	76–120	
Onion	3.0 (pyraclostrobin)	2	85		80–89	
	Overall	6	98	19	76–120	
	0.02 (BF 500-3)	5	91	21	62–112	
	3.0 (BF 500-3)	2	86		81–91	
	Overall	8	90	18	62–112	

Sample Matrix	Fortification [mg/kg]	Number of Analyses	Mean Recovery [%]	RSD [%]	Recovery Range [%]	Ref
ILV of BASF Method No. D9908						
	0.02 (pyraclostrobin)	5	82	3	78–85	Devine HC,
Cabbage	1.0 (pyraclostrobin)	5	86	3	82–89	2002, BASF
	Overall	10	84		78–89	DocID 2002/
	0.02 (BF 500-3)	5	85	16	71–105	1007082
	0.2 (BF 500-3)	5	90	4	85–95	
	Overall	10	88	10	71–105	
	0.02 (pyraclostrobin)	5	86	6	80–92	
Onion	1 (pyraclostrobin)	5	88	5	81–93	
	Overall	10			80–93	
	0.02 (BF 500-3)	5	79	6	74–84	
	0.2 (BF 500-3)	5	93	4	88–98	
	Overall	10	86	8	74–98	
	0.02 (pyraclostrobin)	4	74*	4*	73–79	
Orange (flesh)	1 (pyraclostrobin)	5	86	8	76–94	
	Overall	10			73–94	
	0.02 (BF 500-3)	5	83	13	73–100	
	0.2 (BF 500-3)	5	94	11	84–111	
	Overall	10	88	12	73–111	
	0.02 (pyraclostrobin)	4	83	2	81–84	
Wheat (grain)	0.5 (pyraclostrobin)	5	90	3	87–93	
	Overall	9			81–93	
	0.02 (BF 500-3)	4	77	3	74–79	
	0.2 (BF 500-3)	5	87	8	81–99	
	Overall	9	82	9	74–99	
	0.02 (pyraclostrobin)	5	71	7	66–79	
Hops	10 (pyraclostrobin)	5	92	3	87–95	
	Overall	10			66–95	
	0.02 (BF 500-3)	5	94	7	88–106	
	0.2 (BF 500-3)	5	91	12	78–102	
	Overall	10	93	9	78–106	
	0.02 (pyraclostrobin)	5	89	9	77–97	
Oilrape (seed)	5 (pyraclostrobin)	5	84	7	76–92	
	Overall	10			76–97	
	0.02 (BF 500-3)	5	70	14	53–79	
	0.2 (BF 500-3)	5	79	9	70–89	
	Overall	10	74	9	53–89	
ILV of BASF Method No. D9904						
	0.02 (pyraclostrobin)	5	86	3	84–89	Devine HC,
Cabbage (head)	0.5 (pyraclostrobin)	4	93*	3*	91–97	2002, BASF
	Overall	9			84–97	DocID 2002/
	0.02 (BF 500-3)	5	110	5	102–116	1007083
	0.2 (BF 500-3)	4	89	4	85–92	
	Overall	9	101	12	85–116	

Sample Matrix	Fortification [mg/kg]	Number of Analyses	Mean Recovery [%]	RSD [%]	Recovery Range [%]	Ref
	0.5 (pyraclostrobin)	5	90	3	88–93	
Onion	1 (pyraclostrobin)	5	94	4	91–99	
	Overall	10			88–99	
	0.2 (BF 500-3)	5	84	5	81–91	
	0.5 (BF 500-3)	5	89	3	84–94	
	Overall	10	87	4	81–94	
	0.02 (pyraclostrobin)	5	102	12	88–119	
Orange (flesh)	1 (pyraclostrobin)	5	89	2	87–91	
	Overall	10			87–119	
	0.02 (BF 500-3)	5	100	4	95–105	
	0.2 (BF 500-3)	5	90	5	85–96	
	Overall	10	95	7	85–105	
	0.02 (pyraclostrobin)	5	79	18	64–103	
Wheat (grain)	0.5 (pyraclostrobin)	5	88	8	84–100	
	Overall	10			64–103	
	0.02 (BF 500-3)	5	84	8	77–95	
	0.2 (BF 500-3)	5	84	15	75–106	
	Overall	10	84	10	75–106	
Validation of BASF Method No. 535/1 (pyraclostrobin: transition 388→194, BF 500-3: transition 358 → 164)						
	0.01 (pyraclostrobin)	5	101	8	91–110	Mackenroth C
Wheat (plant w/o root)	0.1 (pyraclostrobin)	5	86	5	79–90	and Lehmann A,
	Overall	10	93	11	79–110	BASF DocID
	0.01 (BF 500-3)	5	95	7	86–102	2006/1039427
	0.1 (BF 500-3)	5	81	5	73–87	
	Overall	10	88	10	73–102	
	0.01 (pyraclostrobin)	5	95	4	91–99	
Wheat (grain)	0.1 (pyraclostrobin)	5	98	5	92–104	
	Overall	10	97	5	91–104	
	0.01 (BF 500-3)	5	100	3	96–105	
	0.1 (BF 500-3)	5	93	7	87–105	
	Overall	10	97	6	87–105	
Wheat (straw)	0.01 (pyraclostrobin)	5	92	5	86–97	
	0.1 (pyraclostrobin)	5	86	5	80–90	
	Overall	10	89	6	80–97	
	0.01 (BF 500-3)	5	90	6	80–95	
	0.1 (BF 500-3)	5	81	5	74–85	
	Overall	10	86	7	74–95	
	0.01 (pyraclostrobin)	5	97	7	89–106	
Lemon (fruit)	0.1 (pyraclostrobin)	5	88	6	84–97	
	Overall	10	92	8	84–106	
	0.01 (BF 500-3)	5	101	3	97–106	
	1.0 (BF 500-3)	5	88	5	82–94	
	Overall	10	95	8	82–106	
	0.01 (pyraclostrobin)	5	93	4	87–97	

Sample Matrix	Fortification [mg/kg]	Number of Analyses	Mean Recovery [%]	RSD [%]	Recovery Range [%]	Ref
Lettuce	0.1 (pyraclostrobin)	5	87	5	83–93	
	Overall	10	90	6	83–97	
	0.01 (BF 500-3)	5	97	2	95–100	
	0.1 (BF 500-3)	5	85	2	83–87	
	Overall	10	91	6	83–100	
	0.01 (pyraclostrobin)	5	96	6	88–103	
Oilrape (seed)	0.1 (pyraclostrobin)	5	90	6	82–94	
	Overall	10	91	4	82–103	
	0.01 (BF 500-3)	5	83	9	71–92	
	0.1 (BF 500-3)	5	81	3	79–85	
	Overall	10	82	6	71–92	
	0.01 (pyraclostrobin)	5	92	5	86–97	
Tomato (fruit)	0.1 (pyraclostrobin)	5	90	4	87–94	
	Overall	10	91	4	86–97	
	0.01 (BF 500-3)	5	92	3	89–95	
	0.1 (BF 500-3)	5	91	5	83–95	
	Overall	10	92	4	83–95	
	0.01 (pyraclostrobin)	5	99	4	94–103	
Onion (bulb)	0.1 (pyraclostrobin)	5	93	4	88–97	
	Overall	10	96	5	88–103	
	0.01 (BF 500-3)	5	104	3	101–107	
	0.1 (BF 500-3)	5	96	2	94–100	
	Overall	10	100	5	94–107	
Validation of BASF Method No. 535/1 (pyraclostrobin: transition 388→163, BF 500-3: transition 358 → 132))						
	0.01 (pyraclostrobin)	5	103	10	89–116	
Wheat (plant w/o root)	0.1 (pyraclostrobin)	5	88	6	81–94	
	Overall	10	96	11	81–116	
	0.01 (BF 500-3)	5	93	8	82–103	
	0.1 (BF 500-3)	5	84	4	78–90	
	Overall	10	89	8	78–103	
	0.01 (pyraclostrobin)	5	101	4	96–106	
Wheat (grain)	0.1 (pyraclostrobin)	5	96	7	93–109	
	Overall	10	98	6	93–109	
	0.01 (BF 500-3)	5	99	2	96–101	
	0.1 (BF 500-3)	5	98	8	88–109	
	Overall	10	99	5	88–109	
	0.01 (pyraclostrobin)	5	95	8	86–103	
Wheat (straw)	0.1 (pyraclostrobin)	5	80	5	75–85	
	Overall	10	87	11	75–103	
	0.01 (BF 500-3)	5	95	9	80–103	
	0.1 (BF 500-3)	5	79	3	77–84	
	Overall	10	87	10	77–103	
	0.01 (pyraclostrobin)	5	97	5	91–103	
Lemon (fruit)	0.1 (pyraclostrobin)	5	89	5	86–98	

Sample Matrix	Fortification [mg/kg]	Number of Analyses	Mean Recovery [%]	RSD [%]	Recovery Range [%]	Ref
	Overall	10	93	7	86–103	
	0.01 (BF 500-3)	5	99	3	97–104	
	1.0 (BF 500-3)	5	85	3	81–87	
	Overall	10	92	8	81–104	
	0.01 (pyraclostrobin)	5	92	6	84–99	
Lettuce	0.1 (pyraclostrobin)	5	88	6	82–95	
	Overall	10	90	6	82–99	
	0.01 (BF 500-3)	5	102	2	99–104	
	0.1 (BF 500-3)	5	85	4	81–90	
	Overall	10	93	9	81–104	
	0.01 (pyraclostrobin)	5	94	2	92–98	
Oiled rape (grain)	0.1 (pyraclostrobin)	5	91	3	89–97	
	Overall	10	92	3	89–98	
	0.01 (BF 500-3)	5	82	8	68–90	
	0.1 (BF 500-3)	5	81	4	76–85	
	Overall	10	81	6	76–90	
	0.01 (pyraclostrobin)	5	92	4	88–97	
Tomato (fruit)	0.1 (pyraclostrobin)	5	87	3	84–91	
	Overall	10	90	5	84–97	
	0.01 (BF 500-3)	5	91	4	86–97	
	0.1 (BF 500-3)	5	91	5	82–95	
	Overall	10	91	4	82–97	
	0.01 (pyraclostrobin)	5	96	3	93–99	
Onion (bulb)	0.1 (pyraclostrobin)	5	85	7	79–94	
	Overall	10	91	8	79–99	
	0.01 (BF 500-3)	5	104	4	98–107	
	0.1 (BF 500-3)	5	95	3	90–96	
	Overall	10	99	6	90–107	
Validation of BASF Method No. 9902						
	0.05 (pyraclostrobin)	4	115		102–131	Malinsky DS
Hen (egg)	1 (pyraclostrobin)	4	93		79–108	and Riley ME,
	Overall	8	104	16	79–131	2000, BASF
	0.05 (pyraclostrobin)	4	110		69–152	DocID 2000/
Hen (liver)	1 (pyraclostrobin)	4	99		85–110	5004
	Overall	8	104	24	69–152	
Hen (muscle)	0.05 (pyraclostrobin)	4	112		90–132	
	1 (pyraclostrobin)	4	108		101–115	
	Overall	8	110	12	90–132	
Hen (fat)	0.05 (pyraclostrobin)	4	95		91–100	
	1 (pyraclostrobin)	4	92		88–98	
		8	93	4	88–100	
ILV of BASF Method No. D9902 (transition 197→155)						
	0.05 (pyraclostrobin)	6			78–86	Dantas C, 2005,
Hen (heart/muscle)**	0.1 (pyraclostrobin)	6			80–100	BASF DocID

Sample Matrix	Fortification [mg/kg]	Number of Analyses	Mean Recovery [%]	RSD [%]	Recovery Range [%]	Ref
	Overall	12	85(82, 87)	8(9,10)	78–100	2005/1023792
ILV of BASF Method No. D9902 (transition 197→134)						
	0.05 (pyraclostrobin)	6			70–92	
Hen (heart/muscle)**	0.1 (pyraclostrobin)	6			72–95	
	Overall	12			70–95	
ILV of BASF Method No. D9902 (transition 197→118)						
	0.05 (pyraclostrobin)	6			78–100	
Hen (heart/muscle)**	0.1 (pyraclostrobin)	6			75–103	
	Overall	12			75–103	

Stability of residues in stored analytical samples

The Meeting received information on the stability of residues of pyraclostrobin in stored analytical samples in 2004. No new information were submitted to the 2011 Meeting.

USE PATTERN

Pyraclostrobin is effective against most foliar Oomycete pathogens including *Plasmopara viticola* in grapes, *Phytophthora infestans* in potatoes and tomatoes and *Pseudoperonospora cubensis* in cucurbits. Labels and English translations were available for all the uses. Labels including the details of Good Agricultural Practices (GAP) are provided for the worst-case registered uses that are supported by relevant residue data. Information on registered uses included in this monograph is generally limited to countries where supervised trials had been conducted, and is summarized in Table 2.

Table 2 Registered uses of pyraclostrobin

crop	Country	F/G/P ^a	Application			Application rate per treatment			PHI [days] min
			Method	No. per crop and season Min–max	Application interval [days]	kg ai/hL ^b max	Water L/ha Min–max	kg ai/ha ^b min–max	
Citrus fruits	Argentina	F	spraying	3	30	0.005	1000	0.05	15
	Brazil	F	spraying	2	28–45	0.0013	2000	0.05–0.075	14
	China	F	spraying	3	21	0.007	675–1200	0.025–0.05	10
	Japan	F	spraying	1–3	7	0.012	2000–7000	0.068–0.238	7
	Korea	–	spraying	1–4	10–14	0.003	5000	0.17	20
	Korea	–	spraying	1–4	10–14	0.006	5000	0.31	10
	Peru	F	spraying	1–2	14	0.006	2000	0.1–0.125	14
	Peru	F	spraying	1–2	14	0.007	1800–2000	0.102–0.128	120
	Spain	F	spraying	4	7	0.015	1500–3000	0.075–0.225	7
	Uruguay	F	spraying	2	45	0.008	1000	0.063–0.075	0
	USA	F	spraying	3	–	–	–	0.147–0.245	0
Stone fruits	Belgium	F	spraying	2	7	0.02	300–1000	0.06	15
	Canada	F	spraying	5	7–14	–	–	0.094–0.128	14
	Canada	F	spraying	5	7–14	0.013	1000	0.134	10
	Chile	F	spraying	1–2	7–14	0.013	1000–2000	0.125	7
	Cyprus	F	spraying	3	7–10	0.005	1000	0.04–0.05	20
	Denmark	F	spraying	3	14	0.025	200–400	0.05	14
	Estonia	F	spraying	3	5–10	0.008	600–1000	0.05	3
	Finland	F	spraying	3	5–10	0.008	600–1000	0.05	3

crop	Country	F/G/P ^a	Application			Application rate per treatment			PHI [days] min
			Method	No. per crop and season Min–max	Application interval [days]	kg ai/hL ^b max	Water L/ha Min–max	kg ai/ha ^b min–max	
	France	F	spraying	2	7–10	0.005	1000	0.05	3
	Germany	F	spraying	3	10–14	–	max. 500 L/ha and growing metre	0.0168 (per growing metre)	10
	Greece	F	spraying	3	7–10	0.005	1000	0.04–0.05	7
	Hungary	F	spraying	2–3	–	0.008	800–1000	0.05–0.067	7
	Italy	F	spraying	3	7–14	0.01	500–1000	0.04–0.05	3
	Japan	F	spraying	1–3	7	0.012	2000–7000	0.068–0.238	1
	Netherlands	F	spraying	1–3	7–10	0.003	2000–7000	0.021–0.05	7
	New Zealand	F	spraying	2	7–14	0.033	300–500	0.1	7–14
	Norway	F	spraying	2	14	0.033	300–500	0.1	3
	Poland	F	spraying	2	5–10	0.013	500–750	0.05–0.07	7
	Sweden	F	spraying	1–2	–	0.008	600–1000	0.038–0.05	14
	Slovakia	F	spraying	1–3	7–10	0.013	300–600	0.017–0.034	7
	Spain	F	spraying	3	7–14	0.005	1000	0.04–0.05	3
	Turkey	G	spraying	3	5–7	0.005	2000	0.1	7
	Ukraine	F	spraying	1–2	7	0.021	400–1500	0.067–0.084	30
	USA	F	spraying	5	7–14	–	–	0.134	0
Plums	Belgium	F	spraying	2	7	0.02	300–1000	0.06	7
	Canada	F	spraying	5	7–14	0.013	1000	0.134	10
	Canada	F	spraying	5	7–14	–	–	0.094–0.128	0
	Chile	F	spraying	1–2	7–14	0.013	1000–2000	0.125	0
	Denmark	F	spraying	3	14	0.025	200–400	0.05	3
	Estonia	F	spraying	3	5–10	0.008	600–1000	0.05	3
	Finland	F	spraying	3	5–10	0.008	600–1000	0.05	3
	France	F	spraying	2	–	0.005	1000	0.03–0.05	3
	Germany	F	spraying	3	7–14	–	max. 500 L/ha and growing metre	0.0168 (per growing metre)	7
	Greece	F	spraying	3	7–14	0.005	1000	0.05	7
	Hungary	F	spraying	2–3	–	0.008	800–1000	0.050–0.067	7
	Italy	F	spraying	3	7–14	0.01	500–1000	0.04–0.05	3
	Japan	F	spraying	1–2	7	0.012	2000–7000	0.068–0.238	7
	Korea	F	spraying	1–4	7	0.0035	4000	0.14	7
	Netherlands	F	spraying	1–3	7–10	–	–	0.025–0.050	7
	Norway	F	spraying	2	14	0.033	300–500	0.1	3
	Sweden	F	spraying	3	14	0.008	600–1000	0.05	3
	Slovakia	F	spraying	1–3	–	0.005	1000	0.05	7
	Spain	F	spraying	3	7–14	0.005	1000	0.04–0.05	3
	USA	F	spraying	5	7–14	–	–	0.134	0
	USA	F	spraying	5	7–14	–	–	0.084–0.117	0
Peach	Argentina	F	spraying	1	na	0.006	500–2000	–	7
Nectarine	Belgium	F	spraying	2	7	0.02	300–1000	0.06	7
	Canada	F	spraying	5	7–14	0.013	1000	0.134	10
Apricot	Canada	F	spraying	5	7–14	–	–	0.094–0.128	0
	Chile	F	spraying	1–2	7–14	0.007	1000–2000	0.125	7
	France	F	spraying	2–3	8–10	0.005	1000	0.04–0.05	3

crop	Country	F/G/P ^a	Application			Application rate per treatment			PHI [days] min
			Method	No. per crop and season Min-max	Application interval [days]	kg ai/hL ^b max	Water L/ha Min-max	kg ai/ha ^b min-max	
	Germany	F	spraying	3	7-14	—	max. 500 L/ha and growing metre	0.0168 (per growing metre)	7
	Greece	F	spraying	3	7-14	0.005	1000	0.05	7
	Hungary	F	spraying	2-3	—	0.008	800-1000	0.050-0.067	7
	Italy	F	spraying	3	7-14	0.01	500-1000	0.04-0.05	3
	Japan	F	spraying	1-2	7	0.012	2000-7000	0.068-0.238	45
	Korea	F	spraying	1-3	7	0.004	4000	0.16	7
	Korea	F	spraying	1-4	7	0.004	4000	0.14	7
	Korea	F	spraying	1-4	7	0.007	4000	0.27	7
	New Zealand	F	spraying	2	7-14	—	—	0.102	100% petal fall
	Serbia	F	spraying	1-2	—	0.008	1000	0.050	7
	Slovakia	F	spraying	1-3	7-10	0.011	300-600	0.017-0.034	—
	Spain	F	spraying	3	7-14	0.005	1000	0.04-0.05	3
	Turkey	F	spraying	3	5-7	0.075	2000	0.1	7
	Ukraine	F	spraying	1-2	7	0.021	400-1500	0.067-0.084	40
	Uruguay	F	spraying	2	7-14	0.013	1000	0.096-0.128	0
	USA	F	spraying	5	7-14	—	—	0.134	0
Blackberries Raspberries	Belgium	F	spraying	2	7	0.007	1000	0.067	3
	Canada	F	spraying	4	7-14	—	—	0.166-0.205	0
	Denmark	F	spraying	2	10	0.05	200-1000	0.1	3
	France	F	spraying	1-2	—	—	—	0.03-0.1	3
	Germany	F, G	spraying	3	7-10	0.007	1000	0.067	7
	Italy	F	spraying	2	7-10	0.02	500-1000	0.1	3
	Latvia	F	spraying	2	10	0.05	200-1000	0.1	3
	Netherlands	F	spraying	1-2	7	0.012	1000-1200	0.121	3
	Norway	F	spraying	2	10	0.05	200-1000	0.1	3
	Poland	F	spraying	2	7-10	0.02	600-700	0.121	3
	Serbia	F	spraying	1-2	—	0.034	300-600	0.1	7
	Spain	F	spraying	2	7-14	—	1000	0.067-0.1	3
	USA	F	spraying	4	7-14	—	—	0.196	0
Blueberries Currants	Argentina	F	spraying	1	na	0.026	500	0.128	7
	Belgium	F	spraying	2	7	0.007	1000	0.067	3
	Canada	F	spraying	4	10-14	0.088	225	0.2	1
	Canada	F	spraying	4	7-14	—	—	0.166-0.205	0
	Chile	F	spraying	1-2	10-15	0.01	1000-2000	0.102	0
	Chile	F	spraying	1-2	7-14	0.025	500-1000	0.125	7
	Germany	F	spraying	3	7-10	0.007	1.000	0.067	14
	Italy	F	spraying	2	7-10	0.02	500-1000	0.1	3
	Netherlands	F	spraying	1-2	7	0.012	1000-1200	0.1206	3
	Norway	F	spraying	2	10	0.05	200-1000	0.1	3
	Spain	F	spraying	2	7-14	0.01	1000	0.067-0.1	3
	Uruguay	—	spraying	2	7	0.126	1000	0.128-0.256	7
	USA	F	spraying	4	7-14	—	—	0.196	0
Strawberry	Belgium	F, G	spraying	2	7-10	0.012	1000	0.121	3
	Canada	F	spraying	5	7-14	0.02	1000	0.112-0.2	1
	Chile	F	spraying	1-2	10-15	0.01	1000-2000	0.1	0

crop	Country	F/G/P ^a	Application			Application rate per treatment			PHI [days] min
			Method	No. per crop and season Min-max	Application interval [days]	kg ai/hL ^b max	Water L/ha Min-max	kg ai/ha ^b min-max	
	Cyprus	F	spraying	3	5-7	0.007	1000	0.05-0.067	3
	Denmark	F	spraying	2	5-7	0.03	400-2000	0.121	3
	Estonia	F	spraying	2	5-7	0.023	400-2000	0.121	3
	Finland	F	spraying	2	5-7	0.023	400-2000	0.121	3
	France	F	spraying	1-2	-	-	-	0.04-0.12	3
	Greece	F	spraying	3	5-7	0.007	1000	0.05-0.067	3
	Germany	F, G	spraying	1	na	0.006	2000	0.121	3
	Ireland	F, G	spraying	2	7-10	0.03	400-2000	0.121	3
	Italy	F, G	spraying	2	7-10	0.01	500-1000	0.101-0.121	3
	Japan	F	spraying	1-2	7	0.01	1000-3000	0.034-0.101	1
	Korea	-	spraying	1-3	7	0.003	1200	0.04	5
	Korea	-	spraying	1-3	7-10	0.006	1200	0.08	2
	Korea	-	dipping	1-3	-	0.006	1200	0.08	7
	Latvia	F	spraying	2	5-7	0.023	400-2000	0.121	3
	Lithuania	F	spraying	2	5-7	0.023	400-2000	0.121	3
	Netherlands	F, G	spraying	1-2	7	-	-	0.121	1
	Norway	F	spraying	2	5-7	0.03	400-2000	0.121	3
	Poland	F	spraying	2	5-7	0.024	500-700	0.121	3
	Serbia	F	spraying	1-2	-	0.03	300-600	0.101	7
	Spain	F	spraying	2	7-14	0.012	1000	0.067-0.121	3
	Taiwan	-	spraying	2	7	0.006	900-1200	0.041-0.054	5
	Turkey	G	spraying	2	5-7	0.01	1000	0.1	3
	UK	F, G	spraying	2	7-10	0.030	400-2000	0.121	3
	USA	F	spraying	5	7-14	-	-	0.168-0.196	0
Avocado Mango Papaya	Brazil	F	spraying	4	10-14	0.02	500-1000	0.1	7
	China	F	spraying	2-3	7-10	0.04	675-1200	0.08-0.3	7
	Perú	F	spraying	1-2	15	0.008	1500-1800	0.125	60
	Taiwan	F	spraying	4	7	0.01	1000-1200	0.083-0.125	12
	USA	F	spraying	2	7	-	-	0.148	0
Garlic Onion, bulb Shallot	Argentina	F	spraying	1	-	0.026	500	0.133	30
	Bolivia	F	spraying	4	7-14	0.02	200	0.03-0.04	3
	Brazil	F	spraying	4	10-12	0.02	500-800	0.1	7
	Canada	F	spraying	6	7-14	-	-	0.128-0.166	7
	Chile	F	spraying	1-2	10-15	0.026	200-8000	0.026-0.205	7
	Chile	F	spraying	3	10-15	0.038	300-500	0.125-0.187	7
	Cyprus	G	spraying	3	7-10	0.018	1000	0.1-18	14
	Denmark	F	Spraying	2	10-14	0.022	300-500	0.067	7
	Estonia	F	spraying	2	10-14	0.022	300-500	0.067	7
	Finland	F	spraying	2	10-14	0.022	300-500	0.067	7
	France	F	spraying	2	-	0.5	1000	0.1	14
	France	F	spraying	1-3	7-10	0.01-0.05	200-1000	0.1	7
	Germany	F	spraying	2	7-10	0.017	600	0.1	14
	Greece	G	spraying	3	7	0.025	400-500	0.1	7
	Greece	F	spraying	3	14-21	0.005	1000	0.05	14
	Indonesia	F	spraying	2-4	5	0.019	300-500	0.056	14
	Italy	F	spraying	1-3	7-10	0.01	1000	0.08-0.1	14
	Japan	F	spraying	1-3	7	0.013	1000-3000	0.045-0.134	7
	Korea	-	spraying	1-3	-	0.02	500	0.1	14
	Korea	-	spraying	1-4	10	0.003	1200	0.04	14
	Korea	-	spraying	1-3	10	0.004	1200	0.05	14

Pyraclostrobin

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crop	Country	F/G/P ^a	Application			Application rate per treatment			PHI [days] min
			Method	No. per crop and season Min–max	Application interval [days]	kg ai/hL ^b max	Water L/ha Min–max	kg ai/ha ^b min–max	
	Korea	–	spraying	1–5	14	0.006	1200	0.08	14
	Netherlands	F	spraying	1–2	7–10	0.05	200–400	0.1	21
	Norway	F	spraying	2	10–14	0.022	300–500	0.067	7
	Perú	F	spraying	1–2	14	0.043	350	0.15	7
	Poland	F	spraying	2–3	7–10	0.009	600–800	0.067	14
	Spain	F	spraying	2	7–14	0.01	1000	0.067–0.1	14
	USA	F	spraying	6	7	–	–	0.112–0.168	7
	USA	F	spraying	6	14	–	–	0.084–0.148	7
	USA	F	seed treatment	1	na	na	na	0.01–0.03 kg as/100 kg seed	na
Welsh Onion Spring onion	Germany	F	spraying	2	7–10	0.017	600	0.1	14
	Korea	F	spraying	1–3	10	0.003	1200	0.04	14
	Korea	F	spraying	1–3	14	0.007	1200	0.08	14
	USA1	F	spraying	6	7	–	–	0.112–0.168	7
	USA1	F	spraying	6	14	–	–	0.084–0.148	7
	USA1	F	seed treatment	1	na	na	na	0.01–0.03 kg as/100 kg seed	na
Squash summer Cucumber Gherkin	Canada	F	spraying	4	7–14	0.048	> 350	0.112–0.168	3
	Canada	F	spraying	4	7–14	–	–	0.114–0.165	0
	Canada	G	spraying	1	na	–	> 250	0.166	0
	Chile	F	spraying	1–2	10–15	0.026	200–800	–	7
	Greece	G	spraying	3	7–8	0.01	1000	0.1	1
	USA	F	spraying	4	7–14	–	–	0.112–0.224	0
	USA	F	seed treatment	1	na	na	na	0.01–0.03 kg as/100 kg seed	na
Melons, except watermelon	Brazil	F	spraying	4	7–10	0.025	400–1000	0.1	7
	Canada	F	spraying	4	7–14	–	–	0.112–0.168	3
	Canada	F	spraying	4	7–14	–	–	0.114–0.165	0
	Chile	F	spraying	1	10–15	0.026	200–800	0.026–0.205	7
	China	F	spraying	3	7–10	0.013	675–1200	0.075–0.09	7
	China	F	spraying	3	7–10	0.019	675–1200	0.075–0.125	3
	France	F	spraying	1–3	7–10	0.05	200–1000	0.1	3
	Greece	G	spraying	3	7	0.01	1000	0.1	3
	Taiwan		spraying	3	7	0.013	1000–1500	0.075–0.125	12
	USA	F	spraying	4	7	–	–	0.112–0.224	0
	USA	F	seed treatment	1	na	na	na	0.01–0.03 kg as/100 kg seed	na
Watermelon Artichoke globe	Canada	F	spraying	4	7–14	–	–	0.114–0.165	0
	Greece	G	spraying	3	7	0.01	1000	0.1	3
	USA	F	spraying	4	7–14	–	–	0.119–0.175	0
	Chile	F	spraying	3	10–14	0.042	300–800	0.125	7
	Chile	F	spraying	1–2	10–15	0.0151	200–800	0.102	7
	France	F	spraying	–	7–10	0.05	200–1000	0.1	3
	Peru	F	spraying	1–2	15	0.03	400–600	0.125	30
	Peru	F	spraying	1–2	14	0.013	800	0.1	3

crop	Country	F/G/P ^a	Application			Application rate per treatment			PHI [days] min
			Method	No. per crop and season Min–max	Application interval [days]	kg ai/hL ^b max	Water L/ha Min–max	kg ai/ha ^b min–max	
Oats Barley	Belgium	F	spraying	2	28	0.1	200–400	0.25	35
	Brazil	F	spraying	1	na	0.067	200	0.133	30
	Brazil	F	spraying	1	na	0.1	200	0.2	30
	Canada	F	spraying	2	10–14	–	–	0.075–0.1	Apply no later than the end of flowering
	Chile	F	spraying	1–2	–	0.152	150–200	0.114–0.228	35
	Denmark	F	spraying	1–2	14–21	0.17	150–300	0.25	42
	Finland	F	spraying	2	21	0.25	100–400	0.25	35
	France	F	spraying	2	–	–	–	0.25	35
	France	F	spraying	2	–	–	–	0.17	35
	Ireland	F	spraying	2	–	0.125	> 200	0.25	max BBCH 59
	Lithuania	F	spraying	1	na	0.113	150–300	0.064–0.17	42
	Norway	F	spraying	1–2	–	0.17	150–300	0.25	42
	Norway	F	spraying	1–2	–	0.13	150–300	0.2	35
	Sweden	F	spraying	1–2	–	0.17	150–300	0.25	35
	Sweden	F	spraying	1–2	–	0.13	150–300	0.2	35
	UK	F	spraying	2	–	0.125	> 200	0.25	max BBCH 59
	Uruguay	F	spraying	1	na	0.13	100	0.133	35
	USA	F	spraying	2	–	–	–	0.098–0.147	*
	USA	F	seed treatment	1	na	na	na	0.005–0.01 kg as/ 100 kg seed	na
Rye Triticale Wheat	Belgium	F	spraying	2	28	0.1	200–400	0.25	35
	Canada	F	spraying	2	10–14	–	–	0.075–0.15	Apply no later than the end of flowering
	Canada	F	spraying	1	na	–	–	0.233	35
	Denmark	F	spraying	1–2	14–21	0.17	150–300	0.25	42
	Finland	F	spraying	2	21	0.25	100–400	0.25	35
	France	F	spraying	2	–	–	–	0.25	35
	Germany	F	spraying	2	–	0.117	200–400	0.233	35
	Germany	F	spraying	2	–	0.117	200–400	0.233	max BBCH 61
	Ireland	F	spraying	2	–	0.125	> 200	0.25	max BBCH 71
	Lithuania	F	spraying	1	na	0.11	150–300	0.085–0.17	42
	Netherlands	F	spraying	1–2	–	–	–	0.2	35
	Norway	F	spraying	1–2	–	0.17	150–300	0.25	42
	Norway	F	spraying	1–2	–	0.13	150–300	0.2	35
	Poland	F	spraying	1	na	0.1	200–400	0.2	35
	Sweden	F	spraying	1–2	–	0.17	150–300	0.25	42
	Sweden	F	spraying	1–2	–	0.13	150–300	0.2	35
	Switzerland	F	spraying	1	na	–	–	0.233	35
	USA	F	spraying	2	–	–	–	0.098–0.147	*
	USA	F	seed treatment	1	na	na	na	0.005–0.01 kg as/100 kg seed	na

crop	Country	F/G/P ^a	Application			Application rate per treatment			PHI [days] min
			Method	No. per crop and season Min–max	Application interval [days]	kg ai/hL ^b max	Water L/ha Min–max	kg ai/ha ^b min–max	
Sorghum Treenuts except pistachio nut and almonds	USA	F	spraying	1	na	–	–	0.098–0.196	Apply no later than 25% flowering
	USA	F	seed treatment	1	na	na	na	0.01–0.02 kg as/100 kg seeds	na
	Australia	F	spraying	2	14–28	–	–	0.2	not required when used as directed1
	USA	F	spraying	4	7–28	–	–	0.133	14
Almonds Cotton seed Linseed Rape seed	Australia	F	spraying	2	10–14	–	–	0.2	not required when used as directed2
	USA	F	spraying	4	7–14	–	–	0.133	25
	Brazil	F	spraying	3	15–20	0.05	200	0.1	7
	USA	F	spraying	3	7–14	–	–	0.098–0.196	30
	USA	F	spraying	2	7–14	–	–	0.112–0.224	30
	Canada	F	spraying	2	10–14	–	–	0.075–0.1	21
	USA	F	spraying	2	7–14	–	–	0.098–0.196	21
	Canada	F	spraying	2	–	–	–	0.075–0.1	21
	Chile	F	spraying	1–2	10–15	0.032	100–150	0.032	7
	Chile	F	seed treatment	1	na	na	na	0.002	na
	USA	F	spraying	2	7–14	–	–	0.222	21
	USA	F	spraying	4	7–14	–	–	0.098–0.196	21
	USA	F	seed treatment	1	na	na	na	0.02–0.04 kg as/100 kg seed	na
Sunflow er seed Alfalfa forage	Argentina	F	spraying	1	na	0.05	> 200	0.1	69
	Argentina	F	spraying	1	na	0.038	> 200	0.075	75
	Bolivia	F	spraying	1	na	0.047	200	0.08–0.093	60
	Canada	F	spraying	2	10–14	–	–	0.1	21
	Uruguay	F	spraying	1	na	0.013	100	0.1–0.133	69
	USA	F	spraying	2	7–14	–	–	0.098–0.196	21
	USA	F	seed treatment	1	na	na	na	0.01–0.03 kg as/100 kg seed	na
	Canada	F	spraying	1	na	–	–	0.1	na
	USA	F	seed treatment	1	na	na	na	0.02–0.04 kg as/100 kg seed	na
	USA	F	spraying	3	14–21	–	–	0.098–0.147	14

^a F = outdoor or field use, G = glasshouse, P = protected, I = indoor application

^b Information given on active substance refers to pyraclostrobin only

RESIDUES RESULTING FROM SUPERVISED TRIALS

The Meeting received information on supervised field trials for pyraclostrobin uses on the following crops.

Commodity	Country/Region	Table No.
Orange:	Argentina, Brazil, Spain, US	Table 3

Mandarin	Spain	Table 4
Grapefruit	USA	Table 5
Lemon	Argentina, USA	Table 6
Cherry	Canada, Europe, USA	Table 7
Plum	Canada, Europe, USA	Table 8
Peach	Argentina, Canada, Europe, New Zealand, USA	Table 9
Blackberry	USA	Table 10
Raspberry	Canada, USA	Table 11
Blueberry	Canada, USA	Table 12
Currant	Europe	Table 13
Strawberry	Canada, USA	Table 14
Avocado	USA	Table 15
Papaya	Brazil	Table 16
Bulb onion	Canada, USA	Table 17
Spring onion	Canada, USA	Table 18
Garlic	Brazil	Table 19
Cucumber	USA	Table 20
Summer squash	USA	Table 21
Cantaloupe	Canada, USA	Table 22
Melon	Spain	Table 23
Artichoke	Europe	Table 24
Oat	Canada, Europe, USA	Table 25, 36
Barley	Canada, USA	Table 26, 37
Rye	USA	Table 27, 38
Wheat	Canada, Europe, USA	Table 28, 39
Sorghum	USA	Table 29, 40
Peacan	USA	Table 30
Almond	USA	Table 31, 41
Cotton	USA	Table 32, 42
Canola	Canada, USA	Table 33
Sunflower	Canada, USA	Table 34
Alfalfa	Canada, USA	Table 35

Where residues were not detected, they are reported as below the LOQ. Residue data, application rates and spray concentrations have generally been rounded to two significant figures or, for residues near the LOQ, to one significant figure. Residue data are recorded unadjusted for % recovery. Multiple results are recorded in the data tables where the trial design included replicate plots and where separate samples have been identified as being from these replicate plots. Results used to estimate maximum residue levels and STMRs are underlined.

Trials were generally well documented with laboratory and field reports. Laboratory reports included method validation with procedural recoveries from spiking at residue levels similar to those occurring in samples from the supervised trials. Dates of analyses or duration of residue sample storage were also provided.

Conditions of the supervised residue trials were generally well reported in detailed field reports. Most field reports provided data on the sprayers used, plot size, residue sample size and sampling date. In multiple applications, the application rate, spray concentration and water volume may not have been exactly the same for all applications; the recorded values in the supervised trials summary tables are for the final application.

All samples were frozen soon after collection and kept frozen in storage until shipment to the residue analysis laboratory. Upon receipt, all samples were transferred to deep freeze storage ($\leq 20^{\circ}\text{C}$). Intervals between sampling and analysis were reported for all trials and were within the acceptable proven storage stability duration.

Orange

During the growing season 2001, 13 field trials was conducted in the United States testing in orange. A WG formulation of pyraclostrobin (200 g ai/L) was foliar applied four times with the first two applications at rates of 0.224 kg ai/ha and the last two at 0.28 kg ai/ha. The treatment began 30 days before expected harvest with a spray interval of 10 days. In one half of the trials the spray volume used was 470–950 L/ha (concentrate), in the other half it was 950–3800 L/ha (dilute). The samples were analysed using BASF method D9908.

During the 2000/2001 growing season residue trials in orange were performed in Brazil. An EC was applied two times at a rate of 0.20 or 0.40 kg ai/ha per application. The spray volume used was 2000 L/ha, the spray interval between both applications was 40 days in all trials. The samples were analysed with BASF method no. D9808

Table 3 Results of orange residue trials with pyraclostrobin conducted as a foliar application to orange in Argentina, Brazil, USA and Spain.

[illegible]

ORANGE	Application				Residues (mg/kg)					Ref. Report No
Country /year / location / (variety) trial code	Formulation	No.	Kg ai/ha	kg ai/hL	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
Spain, 2005	EC	4	0.225	0.0188	fruit	0	0.51	0.07	0.58	2005/
21130 Mazagon						8	0.39	0.07	0.46	1014081
Huelva						14	0.33	0.07	0.40	
(FC 0004)										
ALO/15/05										
Spain, 2005	EC	4	0.225	0.0188	fruit	0	0.41	0.04	0.45	2005/
21130 Mazagon						8	0.24	0.03	0.27	1014081
Huelva						14	0.29	0.05	0.34	
(FC 0004)										
ALO/16/05										
Spain, 2005	EC	4	0.225	0.0188	fruit	0	1.00	0.08	1.08	2005/
21670 Nerva						7	1.31	0.21	1.52	1014081
Huelva						13	1.24	0.14	1.38	
(FC 0004)										
ALO/17/05										
Spain, 2005	EC	4	0.225	0.0188	fruit	0	0.63	0.11	0.74	2005/
21500 Gibrleon						8	0.60	0.08	0.68	1014081
Huelva						14	0.40	0.08	0.48	
(FC 0004)										
ALO/18/05										
USA, 2001	WG	4	2× 0.224	0.016	whole fruit	0	0.47	0.03	0.50	2002/
Florida			2× 0.28	0.020	peel		2.69	0.18	2.87	5002446
(Valencia)					pulp		0.07	< 0.02	0.09	
RCN 2001339					peel/pulp (20/80)					
USA, 2001	WG	4	2× 0.224	0.026	whole fruit	0	0.19	< 0.02	0.21	2002/
Florida			2× 0.28	0.033	peel		0.33	< 0.02	0.35	5002446
Navel					pulp		< 0.02	< 0.02	< 0.04	
RCN 2001340					peel/pulp (15/85)					
USA, 2001	WG	4	2× 0.224	0.016	whole fruit	0	0.61	0.04	0.65	2002/
Florida			2× 0.28	0.020	peel		2.03	0.03	2.06	5002446
(Hamlin)					pulp		0.02	< 0.02	0.04	
RCN 2001341					peel/pulp (26/74)					
USA, 2001	WG	4	2× 0.224	0.027	Whole fruit	0	1.13	0.07	1.20	2002/
Florida			2× 0.28	0.033	peel		3.52	0.06	3.58	5002446
(Hamlin)					pulp		0.07	< 0.02	0.09	
RCN 2001342					peel/pulp (19/81)					
USA, 2001	WG	4	2×	0.014	whole fruit	0	0.42	0.03	0.45	2002/

[illegible]

ORANGE	Application				Residues (mg/kg)					Ref. Report No
Country /year / location / (variety) trial code	Formulation	No.	Kg ai/ha	kg ai/hL	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
USA, 2001	WG	4	2× 0.224	0.031	whole fruit	0	0.17	< 0.02	0.19	2002/
California			2× 0.28	0.040	peel		0.42	0.03	0.45	5002446
(Cutter)					pulp		< 0.02	< 0.02	< 0.04	
RCN 2001351					peel/pulp (28/72)					
Argentina, 2001	EC	4	0.2625	0.0075	fruit	1	0.09	< 0.02	0.11	2002/
Corrientes						17	0.04	< 0.02	0.06	1012084
(Valencia Late)						41	0.04	< 0.02	0.06	
F/01/853/AR2/01						91	< 0.02	< 0.02	< 0.04	
						208	< 0.02	< 0.02	< 0.04	
Brazil, 2000	EC	4	2× 0.200	0.01	fruit	14	0.14	0.02	0.16	2001/
Aguaí, SP			2× 0.400	0.02	fruit	14	0.21	0.03	0.23	5002342
(?)										2003/
CDR/F2000/099/										1012786
Brazil, 2000	EC	4	2× 0.200	0.01	fruit	0	< 0.02	< 0.02	< 0.04	2001/
Porto Feliz, SP			2× 0.400		fruit	7	< 0.02	< 0.02	< 0.04	5002342
(?)					fruit	14	< 0.02	< 0.02	< 0.04	2003/
CDR/F2000/100/					fruit	21	< 0.02	< 0.02	< 0.04	1012786
					fruit	28	< 0.02	< 0.02	< 0.04	
Brazil, 2000	EC	4	2× 0.200	0.01	fruit	14	0.10	0.02	0.12	2001/
Leme, SP			2× 0.400	0.02	fruit	14	0.19	0.03	0.22	5002342
(?)										2003/
CDR/F2000/102										1012786
Brazil, 2000	EC	4	2× 0.200	0.01	fruit	14	0.18	0.02	0.20	2001/
Taiuva, SP			2× 0.400	0.02	fruit	14	0.23	0.03	0.26	5002342
(?)										2003/
CDR/F2000/101/										1012786

Mandarins

During the growing seasons 2004 and 2005, six field trials were conducted with mandarins in the Southern part of Europe (Spain). An EC formulation (250 g ai/L) was tested with four applications at a rate of 0.225 kg ai/ha per application in a spray volume of 1200 L/ha. The applications were done about 52, 37, 22 and 7 days before commercial harvest of the crop. The samples were analysed with BASF method no. 445/0. A summary of the residue trials with their most relevant data is presented in Table 4.

Table 4 Results of residue trials with pyraclostrobin conducted as a foliar application to mandarin in Spain in 2004/2005 (Schroth, E., 2005, BASF DocID 2005/1007593; Schroth, E., 2005, BASF DocID 2005/1014081).

MANDARIN	Application				Residues (mg/kg)					Ref. Report No
Country /year / location / (variety) trial code	Formulation	No.	kg ai/ha	kg ai/hl	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
Spain, 2004	EC	4	0.225	0.0188	fruit	0	0.19	< 0.02	0.21	2005/
41500 Alcala						7	0.14	< 0.02	0.16	1007593
Guadaira, Sevilla						14	0.76	0.03	0.79	
(FC 0003)										
ALO/54/04										
Spain, 2004	EC	4	0.225	0.0188	fruit	0	0.63	0.06	0.69	2005/
41710 Los						7	0.52	0.07	0.59	1007593
Palacios, Sevilla						14	0.48	0.08	0.56	
(FC 0003)										
ALO/55/04										
Spain, 2004	EC	4	0.225	0.0188	fruit	0	1.12	0.08	1.20	2005/
41600 Arahal						7	1.07	0.14	1.21	1007593
Sevilla						14	1.15	0.16	1.31	
(FC 0003)										
ALO/56/04										
Spain, 2004	EC	4	0.225	0.0188	fruit	0	0.93	0.08	1.01	2005/
21130 Mazagon						6	0.87	0.10	0.97	1007593
Sevilla						14	0.84	0.10	0.94	
(FC 0003)										
ALO/57/04										
Spain, 2005	EC	4	0.225	0.0188	fruit	0	0.38	0.03	0.41	2005/
21670 Nerva						7	0.25	0.04	0.29	1014081
Huelva						13	0.13	0.02	0.15	
(FC 0003)										
ALO/19/05										
Spain, 2005	EC	4	0.225	0.0188	fruit	0	0.77	0.06	0.83	2005/
21500 Gibrleon						8	0.49	0.05	0.54	1014081
Huelva						14	0.54	0.08	0.62	
(FC 0003)										
ALO/20/05										

Grape fruits

During the growing season 2001, six field trials were conducted in the United States on grapefruits. A WG formulation of pyraclostrobin (200 g ai/L) was foliar applied four times with the first two applications at rates of 0.224 kg ai/ha and the last two at 0.28 kg ai/ha. The treatment began 30 days before expected harvest with a spray interval of 10 days. The samples were analysed using BASF method D9908. A summary of the residue trials with their most relevant data is presented in Table 5.

Table 5 Results of residue trials with pyraclostrobin conducted as a foliar application to grapefruits in USA in 2001

GRAPEFRUIT	Application				Residues (mg/kg)					Ref. Report No
Country /year / location / (variety) trial code	Formulation	No.	kg ai / ha	kg ai/hL	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
USA, 2001	WG	4	2× 0.224	0.013	fruit	0	0.24	< 0.02	0.26	2002/
Florida			2× 0.28	0.017						5002446
(Flame)										
RCN 2001352										
USA, 2001	WG	4	2× 0.224	0.027	fruit	0	0.59	0.04	0.63	2002/
Florida			2× 0.28	0.034						5002446
(White Marsh)										
RCN 2001353										
USA, 2001	WG	4	2× 0.224	0.009	fruit	0	0.06	< 0.02	0.08	2002/
Florida			2× 0.28	0.011						5002446
(Flame)										
RCN 2001354										
USA, 2001	WG	4	2× 0.224	0.032	fruit	0	0.07	< 0.02	0.09	2002/
Texas			2× 0.28	0.040						5002446
(Rio Red)										
RCN 2001355										
USA, 2001	WG	4	2× 0.224	0.027	fruit	0	0.11	< 0.02	0.13	2002/
California			2× 0.28	0.033						5002446
(Mello Gold)										
RCN 2001356										
USA, 2001	WG	4	2× 0.224	0.011	fruit	0	0.09	< 0.02	0.11	2002/
California			2× 0.28							5002446
(Oroblanco)										
RCN 2001357										

Lemon

During the growing season 2001, five field trials were conducted in the US in lemon. A WG formulation of pyraclostrobin (200 g ai/L) was foliar applied four times with the first two applications at rates of 0.224 kg ai/ha and the last two at 0.28 kg ai/ha. The treatment began 30 days before expected harvest with a spray interval of 10 days. The samples were analysed using BASF method D9908.

During 1999/2000 and 2000/2001 growing season, two lemon field trial was carried out in Argentina in lemon. A WG formulation of pyraclostrobin (200 g ai/L) was foliar applied four times with an application rate of 0.075 kg ai/ha (application interval 30 days). The samples were analysed using BASF method 445/0.

A summary of the residue trials with their most relevant data is presented in Table 6.

Table 6 Results of residue trials with pyraclostrobin conducted as a foliar application to lemon in Argentina and USA

LEMON	Application				Residues (mg/kg)					Ref. Report No
Country /year / location / (variety) trial code	Formulation	No.	kg ai / ha	kg ai/hL	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
USA, 2001	WG	4	2× 0.224	0.022	fruit	0	0.56	< 0.02	0.58	2002/
Florida			2× 0.28							5002446
(Bearss)										
RCN 2001358										
USA, 2001		4	2× 0.224	0.010	fruit	0	0.52	< 0.02	0.54	2002/
California			2× 0.28	0.013						5002446
(Prior)										
RCN 2001359										
USA, 2001	WG	4	2× 0.224	0.031	fruit	0	0.90	0.02	0.92	2002/
California			2× 0.28	0.040						5002446
(Lisbon)										
RCN 2001360										
USA, 2001	WG	4	2× 0.224	0.030	fruit	0	0.54	< 0.02	0.56	2002/
Arizona			2 x 0.28	0.038						5002446
(Lisban)										
RCN 2001361										
USA, 2001	WG	4	2× 0.224	0.012	fruit	0	0.74	0.03	0.77	2002/
Arizona			2× 0.28	0.015						5002446
(Limonarie)										
RCN 2001362										
Argentina	EC	4	0.075	0.0075	fruit	1	0.33	< 0.02	0.35	2001/
Tucuman						40	0.11	< 0.02	0.13	1015023
2000/2001						90	0.12	< 0.02	0.14	
F/01/854/ARX/06										
/01										
Argentina	EC	4	0.150	0.0075	fruit	1	0.23	0.02	0.25	2001/
Tucuman						10	0.10	< 0.02	0.12	1015025
1999/2000						20	< 0.02	< 0.02	< 0.04	
F/00/849/AR1/01						40	0.13	< 0.02	0.15	
						92	0.12	< 0.02	0.14	

Stone fruits

Cherries

In the USA and Canada, fourteen field trials were conducted (1999–2007) on sweet and sour cherries. Two WG formulations were foliar applied five times (in one trial six times) at rates of 0.110–0.134 kg ai/ha per application. First application was made about 28 days before commercial harvest (in one trial 36 days before commercial harvest), retreatment intervals were 6–8 days. Cherry fruit

samples were collected at the day of last application (0). Residues were analysed with the methods D9808.

In Europe, seventeen field trials of cherry were conducted in 2003 and 2004. A WG was foliar applied three times at rates of 0.050 kg pyraclostrobin/ha per application. First application was made about 31 days before commercial harvest, retreatment intervals were about 14 days. Residues were analysed with method 445/0.

A summary of the residue trials with their most relevant data is presented in Table 7.

Table 7 Results of residue trials with pyraclostrobin conducted as a foliar application to cherries in Canada, Europe and USA.

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Cherries, sour									
USA, 1999	WG	5×	749–	0	fruit	0.48	0.04	0.52	1999/5146
Lyons, NY		0.134	754						
(Montmorency)		5×	1399–	0	fruit	0.51	0.05	0.56	
RCN 99101		0.134	1408						
USA, 1999	WG	5×	606–	0	fruit	0.50	0.03	0.53	1999/5146
Conklin, MI		0.134	639						
(Montmorency)		5×	1799–	0	fruit	0.63	0.03	0.66	
RCN 99102		0.134	1882						
USA, 1999		5×	610–	0	fruit	0.50	0.02	0.52	1999/5146
Conklin, MI		0.134	640						
(Montmorency)		5×	1814–	0	fruit	0.43	0.03	0.46	
RCN 99103		0.134	1889						
Canada, 2007	WG	5×	187–	0	fruit	1.08	0.09	1.17	2007/7013460
Welland county		0.131	1403	1	fruit	0.97	0.10	1.07	
(Montmorency)									
R070182									
USA, 2007		5×	187–	0	fruit	0.56	0.03	0.59	2007/7013460
Ottawa county		0.131	1403	1	fruit	0.47	0.03	0.50	
(Montmorency)									
R070183									
USA, 2007	WG	5×	187–	0	fruit	1.06	0.06	1.12	2007/7013460
Fresno county		0.131	1403	1	fruit	0.78	0.04	0.82	
(Brooks)									
R070184									
Germany, 2003	WG	3×	1000	0	fruit	0.15	< 0.02	0.17	2004/1010551
Vehlefan		0.050		3	fruit	0.07	< 0.02	0.09	
(K27 Kelores)				7	fruit	0.05	< 0.02	0.07	
ACK/20/03									
France, 2003	WG	3×	1000	0	fruit	0.11	< 0.02	0.13	2004/1010551
Corzé		0.050		3	fruit	0.11	< 0.02	0.13	
(Montmorency)				7	fruit	0.12	< 0.02	0.14	
FBM/17/03									
France, 2003	WG	3×	1000	0	fruit	0.18	< 0.02	0.20	2004/1010551

Pyraclostrobin

[illegible]

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Sweden, 2004	WG	3×	1000	0	fruit	0.06	< 0.02	0.08	2005/1004972
Vitaby		0.050		4	fruit	0.06	< 0.02	0.08	
(Van)				8	fruit	0.03	< 0.02	0.05	
HUS/07/04									
Italy, 2004	WG	3×	1000	0	fruit	0.13	< 0.02	0.15	2005/1004972
Val di Nizza		0.050		3	fruit	0.09	< 0.02	0.11	
(Nero secondo)				8	fruit	0.06	< 0.02	0.08	
ITA/16/04									

Plums

In the USA and Canada, fifteen field trials on plums were conducted (1999–2007). Two formulations, WG, 20% and WG, 12.8%, were foliar applied five times at rates of 0.131–0.134 kg ai/ha per application. First application was made about 28 days before commercial harvest, retreatment intervals were 6–8 days. Plum fruit samples were collected at the day of last application (0). Residues were analysed with the methods D9808.

In Europe, thirteen field trials were conducted in 2003 and 2004. A WG formulation was foliar applied three times at rates of 0.050 kg ai/ha per application. First application was made about 31 days before commercial harvest, retreatment intervals were about 14 days. Plum fruit samples were collected at the day of last application (0) and additionally at about 3 DALA and about 7 DALA. Residues were analysed with method 445/0 (determination via LC/MS).

A summary of the residue trials with their most relevant data is presented in Table 8.

Table 8 Results of residue trials with pyraclostrobin conducted as a foliar application to plums in USA Canada

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Plums									
USA, 1999	WG	5×	684–	0	fruit	0.19	< 0.02	0.21	1999/5146
Conklin, MI		0.134	718	7	fruit	0.15	< 0.02	0.17	
(Stanley)				14	fruit	0.09	< 0.02	0.11	
RCN 99116				21	fruit	0.06	< 0.02	0.08	
				28	fruit	0.06	< 0.02	0.08	
		5×	2020–	0	fruit	0.13	< 0.02	0.15	
		0.134	2129	7	fruit	0.05	< 0.02	0.07	
				14	fruit	0.07	< 0.02	0.09	
				21	fruit	0.05	< 0.02	0.07	
				28	fruit	0.07	< 0.02	0.09	
USA, 1999	WG	5×	508–	0	fruit	0.04	< 0.02	0.06	1999/5146
Porterville, CA		0.134	527						
(Stanley)		5×	2011–	0	fruit	0.05	< 0.02	0.07	
RCN 99117		0.134	2129						
USA, 1999	WG	5×	549–	0	fruit	0.06	< 0.02	0.08	1999/5146

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
France, 2004	WG	3×	1000	0	fruit	0.04	< 0.02	0.06	2005/1004974
Westhoffen		0.050		3	fruit	0.04	< 0.02	0.06	
(Ortenauer)				7	fruit	0.02	< 0.02	0.04	
FAN/17/04									
France, 2004	WG	3×	1000	0	fruit	0.07	< 0.02	0.09	2005/1004974
Saint-Lattier		0.050		3	fruit	0.13	< 0.02	0.15	
(Myrobalan)				7	fruit	0.10	< 0.02	0.12	
FBD/18/04									
Greece, 2004	WG	3×	1000	0	fruit	< 0.02	< 0.02	< 0.04	2005/1004974
Diavatos		0.050		3	fruit	0.02	< 0.02	0.04	
(Angelleno)				7	fruit	< 0.02	< 0.02	< 0.04	
GRE/19/04									
Sweden, 2004	WG	3×	1000	0	fruit	0.04	< 0.02	0.06	2005/1004974
Bjärred		0.050		3	fruit	0.02	< 0.02	0.04	
(Victoria)				7	fruit	0.02	< 0.02	0.04	
HUS/08/04									
Italy, 2004	WG	3×	1000	0	fruit	0.04	< 0.02	0.06	2005/1004974
Brignano		0.050		3	fruit	0.02	< 0.02	0.04	
(Big-Egg)				7	fruit	0.02	< 0.02	0.04	
ITA/18/04									

Peaches

In the USA and Canada, nineteen field trials on peaches were conducted (1999–2007). Two formulations, WG, 20% and WG, 12.8%, were foliar applied five times at rates of 0.131–0.134 kg ai/ha per application. First application was made about 28 days before commercial harvest, retreatment intervals were 6–8 days. Peach fruit samples were collected at the day of last application (0). Residues were analysed with the methods D9808 and D9908.

In Argentina, Europe and New Zealand in total sixteen field trials were conducted in peaches in the growing seasons 2003, 2004 and 2005/2006. Two WG formulations and one SE formulation were foliar applied two or three times at rates of 0.050–0.205 kg ai/ha per application. Additionally, one field trial was conducted in nectarines in the growing season 2004/2005 in New Zealand. Samples collected and analysed with method 445/0 (Europe and Argentina) and KB item 7913 version 2 (New Zealand).

A summary of the residue trials with their most relevant data is presented in Table 9.

Table 9 Results of residue trials with pyraclostrobin conducted as a foliar application to peaches and nectarine in USA and in Canada

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Peaches									
USA, 1999	WG	5×	508–	0	fruit	0.26	< 0.02	0.28	1999/5146
Germanville, PA		0.134	520						

CROP Country, Year Location (variety) Trial No.	Application Formulation			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
		Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 2004	WG	5×	772–	0	fruit	0.23	< 0.02	0.262	2005/5000024
Carlyle, IL		0.131	827						
(Cresthaven)									
RCN 2004135									
Canada, 2004	WG	5×	844–	0	fruit	0.41	< 0.02	0.43	2005/5000024
Branchton, ON		0.131	868						
(Red Haven)									
RCN 2004136									
USA, 2004	WG	5×	930–	0	fruit	0.48	< 0.02	0.50	2005/5000024
Nodine, MN		0.131	966						
(Bailey Hardy)									
RCN 2004137									
USA, 2007	WG	5×	187–	0	fruit	1.59	0.06	1.65	2007/7013460
Wayne county		0.131	1403	1	fruit	1.75	0.06	1.81	
(Gold Nine)									
R070186									
USA, 2007	WG	5×	187–	0	fruit	0.49	< 0.02	0.51	2007/7013460
Tift county		0.131	1403	1	fruit	0.53	< 0.02	0.55	
(June Gold)				5	fruit	0.33	< 0.02	0.35	
R070187				10	fruit	0.25	< 0.02	0.27	
USA, 2007	WG	5×	187–	0	fruit	0.31	< 0.02	0.33	2007/7013460
Macon county		0.131	1403	1	fruit	0.26	< 0.02	0.28	
(Marqueen)									
R070188									
USA, 2007	WG	5×	187–	0	fruit	0.38	< 0.02	0.40	2007/7013460
Ottawa county		0.131	1403	1	fruit	0.43	< 0.02	0.45	
(Bellaire)									
R070189									
USA, 2007	WG	5×	187–	0	fruit	0.34	< 0.02	0.36	2007/7013460
Pontotoc county		0.131	1403	1	fruit	0.29	< 0.02	0.31	
(Contender)									
R070190									
USA, 2007	WG	5×	187–	0	fruit	0.35	0.02	0.37	2007/7013460
Madera county		0.131	1403	1	fruit	0.33	0.02	0.35	
(Payson)									
R070191									
Germany, 2003	WG	3×	1000	0	fruit	0.03	< 0.02	0.05	2004/1006482
Neustadt		0.050		4	fruit	0.03	< 0.02	0.05	
(Pêche de Vigne)				6	fruit	0.04	< 0.02	0.06	
AGR/28/03									
France, 2003	WG	3×	1000	0	fruit	0.08	< 0.02	0.10	2004/1006482
Grenade sur		0.050		3	fruit	0.05	< 0.02	0.07	

CROP Country, Year Location (variety) Trial No.	Application Formulation			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
		Rate [kg ai/ha]	Spray volume [L/ha]						
Garonne (Ronestar)				7	fruit	0.03	< 0.02	0.05	
FTL/21/03									
Italy, 2003	WG	3×	1000	0	fruit	0.08	< 0.02	0.10	2004/1006482
Volpedo (CrestHaven)		0.050		3	fruit	0.08	< 0.02	0.10	
ITA/15/03				7	fruit	0.03	< 0.02	0.05	
Spain, 2003	WG	3×	1000	0	fruit	0.02	< 0.02	0.04	2004/1006482
Dos Hermanas (Maycrest)		0.050		3	fruit	< 0.02	< 0.02	< 0.04	
ALO/20/03				7	fruit	0.03	< 0.02	0.05	
Spain, 2003	WG	3×	1000	0	fruit	< 0.02	< 0.02	< 0.04	2004/1006482
Arahal (Royal Glory)		0.050		3	fruit	< 0.02	< 0.02	< 0.04	
ALO/21/03				7	fruit	< 0.02	< 0.02	< 0.04	
Germany, 2004	WG	3×	1000	0	fruit	0.08	< 0.02	0.10	2005/1004973
Neustadt (Pêche de Vigne)		0.050		3	fruit	0.11	< 0.02	0.14	
AGR/15/04				7	fruit	0.07	< 0.02	0.09	
Spain, 2004	WG	3×	1000	0	fruit	0.09	< 0.02	0.11	2005/1004973
Dos Hermanas (Maycrest)		0.050		3	fruit	0.04	< 0.02	0.06	
ALO/28/04				7	fruit	0.03	< 0.02	0.05	
Germany, 2004	WG	3×	1000	0	fruit	0.12	< 0.02	0.14	2005/1004973
Horrenberg (South Haven)		0.050		3	fruit	0.04	< 0.02	0.06	
DU2/09/04				7	fruit	0.04	< 0.02	0.06	
Germany, 2004	WG	3×	1000	0	fruit	0.08	< 0.02	0.10	2005/1004973
Rödersheim- Gronau (Red Haven)		0.050		2	fruit	0.07	< 0.02	0.09	
DU4/10/04				7	fruit	0.09	< 0.02	0.11	
France, 2004	WG	3×	1000	0	fruit	0.03	< 0.02	0.05	2005/1004973
Westhoffen (Sanguine)		0.050		3	fruit	0.07	< 0.02	0.09	
FAN/15/04				7	fruit	0.06	< 0.02	0.08	
France, 2004	WG	3×	1000	0	fruit	0.11	< 0.02	0.13	2005/1004973
Romans sur Isère (Richelady)		0.050		3	fruit	0.10	< 0.02	0.12	
FBD/16/04				6	fruit	0.12	< 0.02	0.14	
France, 2004	WG	3×	1000	0	fruit	0.16	< 0.02	0.18	2005/1004973
Cheviré-Le-Rouge (Pêche de Vigne)		0.050		3	fruit	0.13	< 0.02	0.15	
				7	fruit	0.13	< 0.02	0.15	

CROP Country, Year Location (variety) Trial No.	Application Formulation			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
		Rate [kg ai/ha]	Spray volume [L/ha]						
FBM/10/04									
France, 2004	WG	3×	1000	0	fruit	0.14	< 0.02	0.16	2005/1004973
Grenade sur		0.050		3	fruit	0.07	< 0.02	0.09	
Garonne				7	fruit	0.11	< 0.02	0.13	
(Ronestar)									
FTL/16/04									
Italy, 2004	WG	3×	1000	0	fruit	0.04	< 0.02	0.06	2005/1004973
Garbagna		0.050		4	fruit	0.06	< 0.02	0.08	
(Elegant Lady)				8	fruit	0.07	< 0.02	0.09	
ITA/15/04									
Argentina, 2003	SE	2×	1800	01	fruit	0.14	nd	0.14	2003/1026479
Mendoza		0.075		10	fruit	0.13	nd	0.13	
(Dr. Rizzi)				20	fruit	0.11	nd	0.11	
MKD/F/2003/AR4				30	fruit	0.11	nd	0.11	
/836				45	fruit	0.11	nd	0.11	
				102	fruit	nd	nd	nd	
		2×	1800	01	fruit	0.28	nd	0.28	
		0.150		10	fruit	0.15	nd	0.15	
				20	fruit	0.13	nd	0.13	
				30	fruit	0.14	nd	0.14	
				45	fruit	0.07	nd	0.07	
				102	fruit	< 0.02	nd	< 0.02	
New Zealand	WG	3×	1306–	74	fruit	< 0.02	< 0.02	< 0.04	2006/1036207
2005/2006		0.1024	1377	102	fruit	< 0.02	< 0.02	< 0.04	
Hawke's Bay				148	fruit	< 0.02	< 0.02	< 0.04	
(Golden Queen)		3×	2004–	74	fruit	< 0.02	< 0.02	< 0.04	
St0205FR		0.2048	2045	102	fruit	< 0.02	< 0.02	< 0.04	
				148	fruit	< 0.02	< 0.02	< 0.04	
		3×	2004–	0	fruit	0.14	< 0.02	0.16	
		0.1024	2045	3	fruit	0.09	< 0.02	0.11	
				7	fruit	0.10	< 0.02	0.12	
				14	fruit	0.08	< 0.02	0.10	
		3×	2004–	0	fruit	0.36	< 0.02	0.38	
		0.2048	2045	3	fruit	0.21	< 0.02	0.23	
				7	fruit	0.20	< 0.02	0.22	
				14	fruit	0.22	< 0.02	0.24	
Nectarines									
New Zealand	WG	3×	1000	56	fruit	< 0.02	< 0.02	< 0.04	2006/1036206
2004/2005		0.1048		112	fruit	< 0.02	< 0.02	< 0.04	
Hawke's Bay				119	fruit	< 0.02	< 0.02	< 0.04	
(Red Gold)				126	fruit	< 0.02	< 0.02	< 0.04	
St0304FR				133	fruit	< 0.02	< 0.02	< 0.04	
		3×	1000	56	fruit	< 0.02	< 0.02	< 0.04	
		0.1048		112	fruit	< 0.02	< 0.02	< 0.04	
				119	fruit	< 0.02	< 0.02	< 0.04	
				126	fruit	< 0.02	< 0.02	< 0.04	
				133	fruit	< 0.02	< 0.02	< 0.04	
		3×	1300	0	fruit	0.11	< 0.02	0.13	

CROP Country, Year Location (variety) Trial No.	Application		PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]						
		0.2096		1	fruit	0.09	< 0.02	0.11
				3	fruit	0.10	< 0.02	0.12
				7	fruit	0.19	< 0.02	0.21
				14	fruit	0.06	< 0.02	0.08
				21	fruit	0.07	< 0.02	0.09
				28	fruit	0.07	< 0.02	0.09
		3×	1300	0	fruit	0.33	< 0.02	0.35
		0.2096		1	fruit	0.23	< 0.02	0.25
				3	fruit	0.22	< 0.02	0.24
				7	fruit	0.26	< 0.02	0.28
				14	fruit	0.13	< 0.02	0.15
				21	fruit	0.09	< 0.02	0.11
				28	fruit	0.11	< 0.02	0.13

nd: not detected.

Berries and other small fruits

Blackberries

In the USA and Canada, four blackberry trials were conducted in the 2007 growing season. A WG formulation were foliar applied four times at rates of 0.2 kg ai/ha per application in 187 L/ha. Samples were collected and analysed with the methods D9808. A summary of the residue trials is presented in Table 10.

Table 10 Results of residue trials with pyraclostrobin conducted as a foliar application to blackberries in USA

BLACKBERRY Country, Year Location (variety) Trial No.	Application		PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]						
USA, 2007	WG	4×	187	0	fruit	0.35	0.03	0.38
Tift county		0.200		1	fruit	0.30	0.03	0.33
(Kiowa)								
R070146								
USA, 2007	WG	4×	187	0	fruit	0.51	0.06	0.57
Washington		0.200		1	fruit	0.48	0.07	0.55
county								
(Kotata)								
R070147								
USA, 2007	WG	4×	187	0	fruit	0.87	0.05	0.92
Marion county		0.200		1	fruit	0.56	0.05	0.61
(Marion)								
R070148								
USA, 2007	WG	4×	187	0	fruit	1.32	0.11	1.43
Washington county		0.200		1	fruit	0.82	0.09	0.91
(Boysenberry)								
R070149								

Raspberries

In the USA and Canada, in total ten field trials were conducted in raspberries (1999–2007). A WG solo formulation containing 200 g ai/kg was foliar applied four times at the target rate 0.202 kg ai/ha resulting in seasonal target rate of 0.808 kg ai/ha. The spray volume was between 478–965 L/ha. Samples were collected 0 days after the last application (). In addition, at the residue decline site in New York, red raspberry samples were collected at 2, 4, 6, and 8 DALA.

During the 2004–2008 growing season, eighteen trials were conducted in raspberries in Europe. A WG formulation containing 6.7% ai was foliar applied two or three times at rates of 0.067 to 0.1005 kg pyraclostrobin/ha per application. Samples were collected 0, 3, 7, 14 and 21 day after the last application. Residues were analysed with methods 445/0, 535/0, and 01IL03101 (multi-method). A summary of the residue trials with their most relevant data is presented in Table 11.

Table 11 Results of residue trials with pyraclostrobin conducted as a foliar application to raspberries in the USA, Canada and Europe

RASPBERRY Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 1999	WG	4×	558–	0	fruit	0.78	0.02	0.80	1999/5143
Yates, NY		0.202–	590	2	fruit	0.53	0.02	0.55	
(Titau)		0.213		4	fruit	0.53	0.03	0.56	
RCN 99277				6	fruit	0.41	0.03	0.44	
				8	fruit	0.30	0.02	0.32	
USA, 1999	WG	4×	513–	0	fruit	0.48	< 0.02	0.50	1999/5143
Washington, OR		0.201–	540						
(Meeker)		0.211							
RCN 99280									
USA, 1999	WG	4×	509–	0	fruit	0.63	0.03	0.66	1999/5143
Washington, OR		0.199–	536						
(Tulamene)		0.210							
RCN 99281									
USA, 2004	WG	4×	565–	0	fruit	1.23	0.05	1.28	2005/5000025
Nodine, MN		0.210	575						2005/5000144
(Nova)									
RCN 2004143									
USA, 2004	WG	4×	700–	0	fruit	0.86	0.05	0.91	2005/5000025
Corvallis, OR		0.210	703						2005/5000144
(Caroline)									
RCN 2004144									
Canada, 2004	WG	4×	606–	0	fruit	0.88	0.04	0.92	2005/5000025
Abbotsford, QC		0.190–	798						2005/5000144
(Kilame)		0.210							
RCN 2004145									
USA, 2007	WG	4×	187	0	fruit	1.10	0.06	1.16	2007/7013455
Yates county		0.200		3	fruit	0.84	0.09	0.93	
(Heritage)									
R070150									
USA, 2007	WG	4×	187	0	fruit	1.04	0.06	1.10	2007/7013455
Washington		0.200		1	fruit	0.62	0.05	0.67	

RASPBERRY Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
(Tulameen)									
R070151									
USA, 2007	WG	4×	187	0	fruit	0.40	0.03	0.43	2007/7013455
Marion county		0.200		1	fruit	0.30	0.03	0.33	
(Meeker)				5	fruit	0.25	0.03	0.28	
R070152				10	fruit	0.16	0.02	0.18	
USA, 2007	WG	4×	187	0	fruit	0.88	0.07	0.95	2007/7013455
Washington		0.200		1	fruit	0.50	0.04	0.54	
(Willamettes)									
R070153									
Italy, 2004	WG	2×	1000	0	fruit	0.20	< 0.02	0.22	2006/1015026
Baselga di Pinè,		0.1005		3	fruit	0.18	< 0.02	0.20	
(K Polka)				7	fruit	0.12	< 0.02	0.14	
--									
Italy, 2004	WG	2×	1000	3	fruit	0.38	0.03	0.41	2006/1015027
Pergine		0.1005							
(--)									
--									
Spain, 2006	WG	2×	1000	0	fruit	0.07	< 0.01	0.08	2007/1006115
Almonte		0.100		3	fruit	0.06	< 0.01	0.07	
(Tulameen)				7	fruit	0.04	< 0.01	0.05	
06ES/106R				15	fruit	0.03	< 0.01	0.04	
Germany, 2006	WG	2×	300	0	fruit	0.38	< 0.01	0.39	2007/1006115
Xanten		0.100		3	fruit	0.18	< 0.01	0.19	
(Glen Ampel)				7	fruit	0.11	< 0.01	0.12	
06GE/107R				14	fruit	0.09	< 0.01	0.10	
UK, 2006	WG	2×	300	0	fruit	0.60	0.01	0.61	2007/1006115
Gloucestershire		0.100		3	fruit	0.60	0.02	0.62	
(Tulameen)				7	fruit	0.30	0.02	0.32	
06UK/108R				13	fruit	< 0.01	< 0.01	< 0.02	
Spain, 2005	WG	2×	1000	0	fruit	0.35	< 0.02	0.37	2005/7004262
Almonte		0.100		3	fruit	0.21	< 0.02	0.23	
(Glen Lion)				7	fruit	0.16	< 0.02	0.18	
ALO/34/05				14	fruit	0.05	< 0.02	0.07	
France, 2005	WG	2×	1000	0	fruit	0.11	< 0.02	0.13	2005/7004262
Castelmaurou		0.100		4	fruit	0.28	< 0.02	0.30	
(Automne Bis)				7	fruit	0.14	< 0.02	0.16	
FTL/16/05				15	fruit	0.08	< 0.02	0.10	
Italy, 2005	WG	2×	1000	0	fruit	0.72	< 0.02	0.74	2005/7004262
Boves		0.100		3	fruit	0.22	< 0.02	0.24	
(Eritage)				7	fruit	0.26	< 0.02	0.28	

Pyraclostrobin

[illegible]

RASPBERRY Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Germany, 2008	WG	3×	1000	0	fruit	1.2	n.p.	n.a.	2009/1086168
Buxtehude		0.067		1	fruit	0.72	n.p.	n.a.	
(Tulameen)				3	fruit	0.25	n.p.	n.a.	
0877				7	fruit	0.05	n.p.	n.a.	

n.p.: not performed.

n.a.: not applicable

Blueberries

In the USA and Canada, in total fourteen field trials were conducted in blueberries (1999–2007). WG formulations of containing between 128 and 252 g ai/kg was foliar applied four times at the target rate 0.202 kg ai/ha. Blueberry RAC samples were collected 0 and 1 day after the last application (0 and 1-DALA) from each plot at all locations. Residues in all trials were analysed with the methods D9808. A summary of the residue trials with their most relevant data is presented in Table 12.

Table 12 Results of residue trials with pyraclostrobin conducted as a foliar application to blueberries and raspberries in the USA and Canada.

BLUEBERRIES Country, Year Location (variety) Trial No.	Application				PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Method	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 1999	WG	foliar	4×	464–	0	fruit	0.35	0.02	0.37	1999/5143
Arkansaw, WI			0.202–	472						
(Blue Crop)			0.208							
RCN 99278										
USA, 1999	WG	foliar	4×	945–	0	fruit	0.19	0.02	0.21	1999/5143
Corvallis, OR			0.203–	954						
(Blue Crop)			0.206							
RCN 99279										
USA, 1999	WG	foliar	4×	564–	0	fruit	0.33	0.02	0.35	1999/5143
Dundee, NY			0.202–	585						
(Blue Ray & Blue			0.213							
RCN 99328										
USA, 1999	WG	foliar	4×	472–	0	fruit	0.30	0.02	0.32	1999/5143
Arkansaw, WI			0.202–	483						
(Blue Crop)			0.209							
RCN 99329										
USA, 1999	WG	foliar	4×	498–	0	fruit	0.50	0.03	0.53	1999/5143
Chula, GA			0.200–	531						
(Tift Blue)			0.203							
RCN 99330										
USA, 1999	WG	foliar	4×	508–	0	fruit	0.57	0.06	0.63	1999/5143
Chula, GA			0.198–	533						
(Climax)			0.207							
RCN 99331										

BLUEBERRIES Country, Year Location (variety) Trial No.	Application				PHI [d]	Sample material	Residue pyraclostro- bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Method	Rate [kg ai/ha]	Spray volume [L/ha]						
Canada, 2004	WG	foliar	4×	267–	0	fruit	1.37	0.11	1.48	2005/50000
Riverton, PEI			0.200–	275						2005/50001
(Wild blueberry)			0.210							
RCN 2004146										
USA, 2004	WG	foliar	4×	679–	0	fruit	1.15	0.07	1.22	2005/50000
Conklin, MI			0.210	723						2005/50001
(Blue Crop)										
RCN 2004149										
USA, 2004	WG	foliar	4×	674–	0	fruit	1.16	0.09	1.25	2005/50000
Conklin, MI			0.210	719						2005/50001
(Blue Crop)										
RCN 2004150										
USA, 2004	WG	foliar	4×	557–	0	fruit	1.62	0.17	1.79	2005/50000
Arkansas, WI			0.210	570						2005/50001
(Elliot)										
RCN 2004151										
Canada, 2004	WG	foliar	4×	695–	0	fruit	2.08	0.26	2.34	2005/50000
Berwick, NS			0.210	710						2005/50001
(not known)										
RCN 2004198										
Canada, 2004	WG	foliar	4×	680–	0	fruit	2.07	0.26	2.33	2005/50000
Berwick, NS			0.200–	720						2005/50001
(not known)			0.210							
RCN 2004199										
USA, 2007	WG	foliar	4×	187	0	fruit	0.78	0.06	0.84	2007/70134
Tift county			0.200		1	fruit	0.72	0.08	0.80	
(Brightwell)					5	fruit	0.59	0.10	0.69	
R070217					10	fruit	0.46	0.11	0.57	
Canada, 2007	WG	foliar	4×	187	0	fruit	2.02	0.15	2.17	2007/70134
Lac-St-Jean county			0.200		1	fruit	1.32	0.12	1.44	
(Wild Lowbush)										
R070218										

Currants

In Northern and Southern Europe, in total sixteen field and glasshouse trials were conducted in 2004, 2005, 2006, 2007 and 2008 in currants. An WG formulation was foliar applied two or three times at rates of 0.067 to 0.100 kg ai/ha per application. In currant samples of these trials collected and analysed with methods 445/0, 535/0 and 01IL03101. A summary of the residue trials with their most relevant data is presented in Table 13.

Table 13 Results of residue trials with pyraclostrobin conducted in currants

CROP Country, Year Location (variety) Trial No.	Application Formulation	Method Rate [kg ai/ha]	Spray volume [L/ha]	PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
Germany, 2004	WG	3×	800	0	fruit	0.33	n.p.	n.a.	2004/1034466
Neustadt		0.067		7	fruit	0.13	n.p.	n.a.	
(Tenak)				10	fruit	0.19	n.p.	n.a.	
RU 0424				14	fruit	0.11	n.p.	n.a.	
				21	fruit	0.05	n.p.	n.a.	
Germany, 2004	WG	3×	600	14	fruit	0.10	n.p.	n.a.	2004/1034466
Erfurt		0.067							
(Ben Tiran)									
RU 0425									
Germany, 2005	WG	3×	800	0	fruit	0.15	< 0.02	0.17	2006/1015882
Neustadt		0.067		7	fruit	0.05	< 0.02	0.07	
(Tsema)				10	fruit	0.04	< 0.02	0.06	
RU 0525				14	fruit	0.04	< 0.02	0.06	
				21	fruit	0.02	< 0.02	0.04	
Germany, 2005	WG	3×	1000	0	fruit	0.36	< 0.02	0.379	2006/1015882
Ravensburg		0.067		7	fruit	0.24	< 0.02	0.258	
(Titania)				10	fruit	0.19	< 0.02	0.206	
RU 0526				14	fruit	0.20	< 0.02	0.221	
				21	fruit	0.18	< 0.02	0.196	
Germany, 2005	WG	3×	1000	0	fruit	0.42	< 0.02	0.44	2006/1015882
Frankfurt/Oder		0.067		7	fruit	0.39	< 0.02	0.41	
(Titania)				10	fruit	0.36	0.02	0.38	
RU 0527				14	fruit	0.27	< 0.02	0.29	
				21	fruit	0.25	< 0.02	0.27	
Germany, 2005	WG	3×	1000	0	fruit	0.50	< 0.02	0.52	2006/1015882
Öhringen		0.067		7	fruit	0.21	< 0.02	0.23	
(Ben Alder)				14	fruit	0.21	0.020	0.23	
RU 0528				21	fruit	0.22	< 0.02	0.24	
Germany, 2005	WG	3×	1000	14	fruit	0.08	< 0.02	0.10	2006/1015882
Freising		0.067							
(Rolan)									
RU 0529									
Germany, 2005	WG	3×	1000	10	fruit	0.16	< 0.02	0.18	2006/1015882
Wedel		0.067		14	fruit	0.17	0.022	0.19	
(Titania)									
RU 0530									
Germany, 2005	WG	3×	1000	10	fruit	0.04	< 0.02	0.06	2006/1015882
Rogätz		0.067		14	fruit	0.03	< 0.02	0.05	
(Ometa)									
RU 0531									
Germany, 2007	WG	3×	1000	0	fruit	1.80	n.p.	n.a.	2008/1090416
Köln		0.067		7	fruit	0.85	n.p.	n.a.	
(Ometa)				10	fruit	0.71	n.p.	n.a.	
0731				14	fruit	1.30	n.p.	n.a.	
				21	fruit	0.73	n.p.	n.a.	
Germany, 2007	WG	3×	1000	14	fruit	0.20	n.p.	n.a.	2008/1090416

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Method Rate [kg ai/ha]	Spray volume [L/ha]						
Bad-Friedrichshall (Ben Alder) 0732		0.067							
Germany, 2008	WG	3×	1000	0	fruit	0.94	n.p.	n.a.	2009/1086168
Köln		0.067		7	fruit	0.56	n.p.	n.a.	
(Ometa)				10	fruit	0.65	n.p.	n.a.	
0874				14	fruit	0.48	n.p.	n.a.	
				21	fruit	0.73	n.p.	n.a.	
Italy, 2006	WG	2×	1000	0	fruit	0.57	0.02	0.59	2007/1005053
Concenedo di		0.100		3	fruit	0.25	0.02	0.27	2009/1102112
Barzio				7	fruit	0.20	0.02	0.22	
(Gigante di				14	fruit	0.22	0.03	0.25	
Boskoop)									
06IT/109R									
France, 2006	WG	2×	1000	0	fruit	0.94	0.05	0.99	2007/1005053
Fontanés		0.100		3	fruit	0.62	0.06	0.68	2009/1102112
(Andega)				7	fruit	0.42	0.05	0.47	
06FR/110R				14	fruit	0.17	0.04	0.21	
France, 2006	WG	2×	200	0	fruit	0.70	0.03	0.73	2007/1005053
Les-Rosiers-Sur-		0.100		2	fruit	0.58	0.04	0.62	2009/1102112
Loire				6	fruit	0.47	0.04	0.51	
(Blackdown)				13	fruit	0.27	0.05	0.32	
06FR/111R									
UK, 2006	WG	2×	200	0	fruit	1.42	0.02	1.44	2007/1005053
Gloucester		0.100		4	fruit	0.81	0.02	0.83	2009/1102112
(Ben Alder)				8	fruit	0.75	0.03	0.78	
06UK/112R				14	fruit	0.42	0.02	0.44	

n.p.: not performed.

n.a.: not applicable.

Strawberries

In the USA and Canada, in total eleven field trials were conducted in strawberries (1999, 2004, 2005). WG formulations were applied five times at a use rate of 0.20 to 0.43 kg ai/ha per application, with about 7 day target interval between applications. Strawberries samples of these trials were collected at 0 DALA and analysed with methods D9808.

In Northern and Southern Europe, in total thirty-four field and glasshouse trials were conducted in 2003, 2004 and 2007 in strawberries. WG formulations were applied two times at rates of about 0.120 kg ai/ha per application. Strawberry samples of these trials collected at 0 DALA and were analysed with methods 445/0 and 535/0.

A summary of the residue trials with their most relevant data is presented in Table 14.

Table 14 Results of residue trials with pyraclostrobin conducted as a foliar application to strawberries in USA

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500- 3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Strawberries									
USA, 1999	WG	5×	919–	0	fruit	0.06	< 0.02	0.08	1999/5140
Germansville, PA		0.198–	939						
(Earliglow)		0.203							
RCN 99157									
USA, 1999	WG	5×	232–	0	fruit	0.16	< 0.02	0.18	1999/5140
Cary, NC		0.200–	235						
(Chandler)		0.202							
RCN 99158									
USA, 1999	WG	5×	373–	0	fruit	0.20	< 0.02	0.22	1999/5140
Melrose, FL		0.202	381						
(Camarosa)									
RCN 99159									
USA, 1999	WG	5×	281–	0	fruit	0.12	< 0.02	0.14	1999/5140
Conklin, MI		0.202–	288						
(Delmarvel)		0.204							
RCN 99160									
USA, 1999	WG	5×	454–	0	fruit	0.31	< 0.02	0.33	1999/5140
Fallbrook, CA		0.196–	482	7	fruit	0.16	< 0.02	0.18	
(Camarosa)		0.208		14	fruit	0.11	< 0.02	0.13	
RCN 99161				21	fruit	0.05	< 0.02	0.07	
				28	fruit	0.03	< 0.02	0.05	
USA, 1999	WG	5×	912–	0	fruit	0.24	< 0.02	0.26	1999/5140
Manteca, CA		0.197–	923						
(Chandler)		0.200							
RCN 99162									
USA, 1999	WG	5×	280–	0	fruit	0.15	< 0.02	0.17	1999/5140
Porterville, CA		0.202–	286						
(Seascape)		0.204							
RCN 99163									
USA, 1999	WG	5×	473–	1	fruit	0.13	< 0.02	0.15	1999/5140
Corvallis, OR		0.204–	480						
(Totem)		0.207							
RCN 99164									
USA, 2004	WG	5×	279–	0*	fruit	0.30	< 0.02	0.32	2005/5000095
Monterey, CA		0.200–	300	0**	fruit	0.37	< 0.02	0.39	
(Diamante)		0.220		0	fruit	0.62	0.04	0.66	
RCN 2004186		5×	1390–	0*	fruit	0.20	< 0.02	0.22	
		0.200–	1481	0**	fruit	0.50	< 0.02	0.52	
		0.220		0	fruit	0.73	0.04	0.77	
		5×	282–	0*	fruit	0.63	< 0.02	0.65	

Pyraclostrobin

[illegible]

Pyraclostrobin

[illegible]

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500- 3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Spain, 2003	WG	2×	1000	0	fruit	0.10	< 0.02	0.12	2004/1015928
Palos de la Frontera		0.1206		3	fruit	0.07	< 0.02	0.09	
(Camarrosa)				7	fruit	0.03	< 0.02	0.05	
ALO/23/03									
France, 2003	WG	2×	1000	0	fruit	0.18	< 0.02	0.20	2004/1015928
Bourg de Péage		0.1206		3	fruit	0.16	< 0.02	0.18	
(Dorselect)				7	fruit	0.13	< 0.02	0.15	
FBD/18/03									
Italy, 2003	WG	2×	1000	0	fruit	0.24	< 0.02	0.26	2004/1015928
Castellar Guidobono		0.1206		3	fruit	0.12	< 0.02	0.14	
(Marmolada)				7	fruit	0.08	< 0.02	0.10	
ITA/18/03									
Spain, 2004	WG	2×	1000	0	fruit	0.08	< 0.02	0.10	2004/7007479
Rociana del Concado		0.120		3	fruit	0.04	< 0.02	0.06	
(Camarosa)				7	fruit	0.06	< 0.02	0.08	
ALO/14/04									
Spain, 2004	WG	2×	1000	0	fruit	0.22	< 0.02	0.24	2004/7007479
Lucena del Puerto		0.120		3	fruit	0.12	< 0.02	0.14	
(Camarosa)				7	fruit	0.05	< 0.02	0.07	
ALO/15/04									
France, 2004	WG	2×	1000	0	fruit	0.17	< 0.02	0.19	2004/7007479
Castelmaurou		0.120		3	fruit	0.13	< 0.02	0.15	
(Gariguette)				6	fruit	0.08	< 0.02	0.10	
FTL/10/04									
France, 2004	WG	2×	1000	0	fruit	0.23	< 0.02	0.25	2004/7007479
St-Pauls lès Romans		0.120		3	fruit	0.04	< 0.02	0.06	
(Marat des bois)				7	fruit	n.a.	n.a.	n.a.	
FBD/09/04									
Italy, 2004	WG	2×	1000	0	fruit	0.09	< 0.02	0.11	2004/7007479
Castellar Guidobono		0.120		3	fruit	0.09	< 0.02	0.11	
(Alba)				7	fruit	0.06	< 0.02	0.08	
ITA/07/04									
France, 2007	WG	2×	1000	0	fruit	0.16	< 0.01	0.17	2008/1090806
Thorée les Pins 2007		0.1206		1	fruit	0.15	< 0.01	0.16	
(Manille)				3	fruit	0.11	< 0.01	0.12	
L070726				7	fruit	0.09	< 0.01	0.10	
Germany, 2007	WG	2×	1000	0	fruit	0.22	< 0.01	0.23	2008/1090806
Goch		0.1206		1	fruit	0.23	< 0.01	0.24	
(Elsanta)				3	fruit	0.21	< 0.01	0.22	
L070727				7	fruit	0.22	< 0.01	0.23	
The Netherlands	WG	2×	1000	0	fruit	0.21	< 0.01	0.22	2008/1090806

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 2002 Orosi, CA (Hass) 02-CA101	WG	4× 0.206– 0.207	1522– 1573	0	pitted fruit	0.38	< 0.02	0.40	2006/1045610
USA, 2002 Lindcove, CA (Bacon) 02-CA102	WG	4× 0.204– 0.206	1418– 1434	0	pitted fruit	0.14	< 0.02	0.16	2006/1045610
USA, 2002 Nipomo, CA (Gwen & Bacon) 02-CA103	WG	4× 0.212– 0.224	1501– 1588	0	pitted fruit	0.15	< 0.02	0.17	2006/1045610

Papaya

In Brazil, in total eight field trials were conducted in the growing seasons 2000 and 2002 in papayas. EC and WG formulations were foliar applied four times at rates of 0.100 to 0.250 kg ai/ha per application. Different application intervals and sampling schemes were performed (for details see following table). Papaya samples of these trials collected analysed with methods D9904. A summary of the residue trials with their most relevant data is presented in Table 16.

Table 16 Results of residue trials with pyraclostrobin conducted in papaya

PAPAYA Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Brazil, 2000 Lagoa Grande, PE (Formosa) CDR/F/2000/188/ BRX	EC	4× 0.125	1000	7	fruit	< 0.05	< 0.05	< 0.1	2000/1021357
Brazil, 2000 Sooratemala, ES (Sunrise Solo) CDR/F/2000/187/ Quimiplan	EC	4× 0.125	1000	0 3 7 14 21	fruit fruit fruit fruit fruit	0.10 0.10 < 0.05 < 0.05 < 0.05	< 0.05 < 0.05 < 0.05 < 0.05 < 0.05	0.15 0.15 < 0.1 < 0.1 < 0.1	2000/1021359
Brazil, 2000 São Mateus, ES (Sunrise Solo) CDR/F/2000/189/ Quimiplan	EC	4× 0.125	1000	7	fruit	< 0.05	< 0.05	< 0.1	2000/1021361
Brazil, 2000 Petrópolis, PE (Formosa) CDR/F/2000/190/ BRX	EC	4× 0.125	1000	7	fruit	< 0.05	< 0.05	< 0.1	2000/1021363
Brazil, 2002 Linhares, ES	EC	4× 0.100	1000	0 3	fruit fruit	0.10 0.08	nd nd	0.10 0.08	2003/1016636

PAPAYA Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
(Golden)				5	fruit	0.07	nd	0.07	
CDR/F/2003/001				7	fruit	< 0.05	nd	< 0.05	
/BRU				14	fruit	< 0.05	nd	< 0.05	
		4×	1000	3	fruit	0.10	< 0.05	0.15	
		0.200		5	fruit	0.13	< 0.05	0.18	
				7	fruit	0.07	< 0.05	0.12	
Brazil, 2002	WG	4×	1000	0	fruit	0.13	< 0.05	0.18	2003/1016636
Itamarajú, BA		0.100		3	fruit	0.06	< 0.05	0.11	
(Golden)				5	fruit	< 0.05	nd	< 0.05	
CDR/F/2003/002/				7	fruit	< 0.05	nd	< 0.05	
BRU				14	fruit	< 0.05	nd	< 0.05	
		4×	1000	3	fruit	0.14	< 0.05	0.19	
		0.200		5	fruit	0.09	< 0.05	0.14	
				7	fruit	0.07	< 0.05	0.12	
Brazil, 2002	EC	4×	1000	0	fruit	0.09	nd	0.09	2003/1016636
Pinheiros, ES		0.100		3	fruit	0.07	nd	0.07	
(Sunrise)				5	fruit	0.07	nd	0.07	
CDR/F/2003/003				7	fruit	< 0.05	nd	< 0.05	
/BRU				14	fruit	< 0.05	nd	< 0.05	
		4×	1000	3	fruit	0.14	< 0.05	0.19	
		0.200		5	fruit	0.07	< 0.05	0.12	
				7	fruit	0.10	< 0.05	0.15	
Brazil, 2002	EC	4×	1000	0	fruit	0.08	nd	0.08	2003/1016636
Aracruz, ES		0.100		3	fruit	0.06	nd	0.06	
(Golden)				5	fruit	0.05	nd	0.05	
CDR/F/2003/004/				7	fruit	0.06	nd	0.06	
BRU				14	fruit	< 0.05	nd	< 0.05	
		4×	1000	3	fruit	0.12	< 0.05	0.17	
		0.200		5	fruit	0.11	< 0.05	0.16	
				7	fruit	0.08	nd	0.08	

nd not detected

Bulb vegetables

Onions

In the USA and Canada, in total 12 field trials in bulb onions were conducted in the growing seasons 1999, 2005 and 2006. A WG formulation was foliar applied six times at rates of 0.168 kg ai/ha per application. Mature onions (dry bulb) were harvested 6–7 days after the last application and analysed with the methods D9808.

In Northern and Southern Europe and Brazil, in total 52 field trials in bulb onions were conducted in the growing seasons 2000, 2005, 2006 and 2007. EC and WG formulations were foliar applied 2, 3, 4 or 5 times at rates of 0.100–0.300 kg ai/ha per application (except four trials, in which bulb onions were treated by dipping once in an application solution for 30 seconds). In dry bulb onion samples of these trials collected at about 7 DALA, residues were analysed with methods D9908, 445/0, 535/0 and 535/1.

A summary of the residue trials with their most relevant data is presented in Table 17.

Table 17 Results of residue trials with pyraclostrobin conducted as a foliar application to bulb onions in the USA and Canada

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
SA, 1999	WG	6×	206–	7	dry bulb	0.03	< 0.02	0.05	1999/5158
Germansville, PA		0.168–	212						
(Stuttgarter)		0.174							
RCN 99171									
USA, 1999	WG	6×	200–	7	dry bulb	0.02	< 0.02	0.04	1999/5158
Uvalde, TX		0.164–	207						
(Cimarron)		0.169							
RCN 99172									
USA, 1999	WG	6×	214–	7	dry bulb	0.02	< 0.02	0.04	1999/5158
Groom, TX		0.168	229						
(Vega)									
RCN 99173									
USA, 1999	WG	6×	281–	0	dry bulb	0.11	< 0.02	0.13	1999/5158
Porterville, CA		0.168–	285	7	dry bulb	0.02	< 0.02	0.04	
(ed Cerole)		0.169		14	dry bulb	< 0.02	< 0.02	< 0.04	
RCN 99174				21	dry bulb	< 0.02	< 0.02	< 0.04	
				28	dry bulb	< 0.02	< 0.02	< 0.04	
USA, 1999	WG	6×	277–	7	dry bulb	0.09	< 0.02	0.11	1999/5158
Fresno, CA		0.166–	288						
(Blanco Duro)		0.173							
RCN 99175									
USA, 1999	WG	6×	271–	7	dry bulb	0.02	< 0.02	0.04	1999/5158
Hood River, OR		0.168	293						
(How Danver)									
RCN 99176									
USA, 2005	WG	6×	174–	7	dry bulb	< 0.02	< 0.02	< 0.04	2005/5000019
Gardner, ND		0.17	189						
(Varsity)									
RCN R05105									
Canada, 2005	WG	6×	234–	7	dry bulb	0.42	0.05	0.47	2005/5000019
Branchton, ON		0.16–	284						
(Hamlet)		0.18							
RCN R05106									
Canada, 2005	WG	6×	247–	6	dry bulb	0.43	0.06	0.49	2005/5000019
Branchton, ON		0.17–	294						
(Norstar)		0.18							
RCN R05107									
Canada, 2005	WG	6×	204–	6	dry bulb	0.62*	0.17*	0.79*	2005/5000019
Sherrington, QC		0.17–	226						
(Copra)		0.18							
RCN R05108									
Canada, 2005	WG	6×	200–	6	dry bulb	0.61	0.19	0.80	2005/5000019

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Napierville, QC (Mountaineer)		0.17– 0.18	237						
RCN R05109									
Canada, 2006	WG	6×	230–	6	dry bulb	0.11	0.02	0.13	2006/7011064
Napierville, QC (Northstar)		0.16– 0.17	240						
RCN R06474									
Brazil, 2000	EC	5×	500	0	dry bulb	< 0.02	< 0.02	< 0.04	2001/5002342
Engenheiro Coelho, (Aurora)		0.150		7	dry bulb	< 0.02	< 0.02	< 0.04	2003/1012786
				14	dry bulb	< 0.02	< 0.02	< 0.04	
CDR/F/2000/263/BRT				21	dry bulb	< 0.02	< 0.02	< 0.04	
				28	dry bulb	< 0.02	< 0.02	< 0.04	
Brazil, 2000	EC	4×	500	7	dry bulb	< 0.02	< 0.02	< 0.04	2001/5002342
Piedade, SP (Optima, Hybrid)		0.150 4×							2003/1012786
		500	7	dry bulb	0.04	< 0.02	0.06		
CDR/F/2000/264/BRU		0.300							
Brazil, 2000	EC	4×	500	7	dry bulb	0.04	0.02	0.06	2001/5002342
Juazeiro, BA (IPA 10)		0.150 4×							2003/1012786
		500	7	dry bulb	0.18	0.04	0.22		
CDR/F/2000/265/BRX		0.300							
Brazil, 2000	EC	4×	500	7	dry bulb	0.21	0.06	0.27	2001/5002342
Juazeiro, BA (IPA 11)		0.150 4×							2003/1012786
		500	7	dry bulb	0.41	0.09	0.50		
CDR/F/2000/266/BRX		0.300							
Brazil, 2000	WG	4×	–	3	dry bulb	< 0.02	< 0.02	< 0.04	2001/5002345
–		0.150							2003/5000096
–		4×	–	3	dry bulb	0.02	< 0.02	0.04	
CDR/F/2000/268/BRU		0.300							
Brazil, 2000	WG	4×	–	7	dry bulb	0.08	< 0.02	0.10	2001/5002345
–		0.150							2003/5000096
–		4×	–	7	dry bulb	0.24	0.04	0.28	
CDR/F/2000/593/BRX		0.300							
Brazil, 2000	WG	4×	–	7	dry bulb	0.04	< 0.02	0.06	2001/5002345
–		0.150							2003/5000096
–		4×	–	7	dry bulb	0.12	< 0.02	0.14	
CDR/F/2000/270/BRX		0.300							
Brazil, 2000	WG	4×	–	0	dry bulb	< 0.02	< 0.02	< 0.04	2001/5002345
–		0.150		7	dry bulb	< 0.02	< 0.02	< 0.04	2003/5000096
–				14	dry bulb	< 0.02	< 0.02	< 0.04	
CDR/F/2000/267/BRT			–	21	dry bulb	< 0.02	< 0.02	< 0.04	
				28	dry bulb	< 0.02	< 0.02	< 0.04	

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Germany, 2005	WG	2×	616–	0	dry bulb	0.02	< 0.02	0.04	2006/1015882
Schifferstadt		0.103–	632	7	dry bulb	< 0.02	< 0.02	< 0.04	
(Bristol)		0.106		14	dry bulb	< 0.02	< 0.02	< 0.04	
RU-F-1705 RPNW 1/1				21	dry bulb	< 0.02	< 0.02	< 0.04	
Germany, 2005	WG	2×	375–	0	dry bulb	< 0.02	< 0.02	< 0.04	2006/1015882
Schifferstadt		0.094–	608	7	dry bulb	< 0.02	< 0.02	< 0.04	
(Takmark)		0.1018		14	dry bulb	< 0.02	< 0.02	< 0.04	
RU-F-1705 RPNW 1/2				21	dry bulb	< 0.02	< 0.02	< 0.04	
Germany, 2005	WG	2×	400	0	dry bulb	0.25	< 0.02	0.27	2006/1015882
Neusling		0.100		7	dry bulb	0.04	< 0.02	0.06	
(Tamara)				14	dry bulb	< 0.02	< 0.02	< 0.04	
RU-F-1705 BY DE				21	dry bulb	< 0.02	< 0.02	< 0.04	
UK, 2005	WG	2×	500	0	dry bulb	0.06	< 0.02	0.08	2005/1034014
Bicester		0.1005		6	dry bulb	0.05	< 0.02	0.07	
(Sturon)				13	dry bulb	0.02	< 0.02	0.04	
753/ONI/1				20	dry bulb	< 0.02	< 0.02	< 0.04	
Belgium, 2005	WG	2×	500	0	dry bulb	0.02	< 0.02	0.04	2005/1034014
Wangenies		0.1005		7	dry bulb	< 0.02	< 0.02	< 0.04	
(Hyskin)				14	dry bulb	< 0.02	< 0.02	< 0.04	
G019-05 F				21	dry bulb	< 0.02	< 0.02	< 0.04	
Germany, 2005	WG	2×	500	0	dry bulb	0.03	< 0.02	0.05	2005/1034014
Gündlingen		0.1005		7	dry bulb	0.03	< 0.02	0.05	
(Victory)				14	dry bulb	0.03	< 0.02	0.05	
AT-05/005-1				21	dry bulb	< 0.02	< 0.02	< 0.04	
France, 2005	WG	2×	500	0	dry bulb	0.08	< 0.02	0.10	2005/1034014
Remaucourt		0.1005		7	dry bulb	< 0.02	< 0.02	< 0.04	
(Hyfield)				14	dry bulb	< 0.02	< 0.02	< 0.04	
05 F CL FR P19				21	dry bulb	< 0.02	< 0.02	< 0.04	
France, 2005	WG	2×	500	0	dry bulb	0.04	< 0.02	0.06	2005/1034014
Livron sur Drôme		0.1005		7	dry bulb	< 0.02	< 0.02	< 0.04	
(Elody)				14	dry bulb	< 0.02	< 0.02	< 0.04	
05 F CL FR P18				21	dry bulb	< 0.02	< 0.02	< 0.04	
Italy, 2005	WG	2×	500	0	dry bulb	0.08	< 0.02	0.10	2005/1034014
Bologna		0.1005		7	dry bulb	< 0.02	< 0.02	< 0.04	
(Alix)				14	dry bulb	< 0.02	< 0.02	< 0.04	
0554R				21	dry bulb	< 0.02	< 0.02	< 0.04	
Spain, 2005	WG	2×	500	0	dry bulb	< 0.02	< 0.02	< 0.04	2005/1034014
Utrera		0.1005		7	dry bulb	< 0.02	< 0.02	< 0.04	
(Alix)				14	dry bulb	< 0.02	< 0.02	< 0.04	
05ES/077R				21	dry bulb	< 0.02	< 0.02	< 0.04	

Pyraclostrobin

[illegible]

[illegible]

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Greece, 2006	EC	3×	400	0	dry bulb	0.04	< 0.01	0.05	2007/1016464
Drepano		0.100		3	dry bulb	0.01	< 0.01	0.02	
(1119 Cipolla				7	dry bulb	< 0.01	< 0.01	< 0.02	
A6022 GR1				14	dry bulb	< 0.01	< 0.01	< 0.02	
France, 2006	EC	3×	400	0	dry bulb	0.07	< 0.02	0.09	2008/1068912
Handschuheim		0.100		3	dry bulb	0.07	< 0.02	0.09	
(Tarmak)				7	dry bulb	0.03	< 0.02	0.05	
A6021 AN1				14	dry bulb	0.03	< 0.02	0.05	
Germany, 2006	EC	3×	400	0	dry bulb	0.25	< 0.02	0.27	2008/1068912
Eddesse		0.100		4	dry bulb	0.17	< 0.02	0.19	
(Marco)				6	dry bulb	0.17	< 0.02	0.19	
A6021 HA1				12	dry bulb	0.09	< 0.02	0.11	
Germany, 2006	EC	3×	400	0	dry bulb	0.06	< 0.02	0.08	2008/1068912
Lentzke		0.100		4	dry bulb	< 0.02	< 0.02	< 0.04	
(Copra F1)				7	dry bulb	< 0.02	< 0.02	< 0.04	
A6021 DE1				15	dry bulb	< 0.02	< 0.02	< 0.04	
Germany, 2006	EC	3×	400	0	dry bulb	< 0.02	0.02	0.04	2008/1068912
Werder		0.100		3	dry bulb	< 0.02	< 0.02	< 0.04	
(Stuttgarter)				8	dry bulb	< 0.02	< 0.02	< 0.04	
A6021 DE2				14	dry bulb	< 0.02	< 0.02	< 0.04	
Germany, 2007	EC	3×	400	0	dry bulb	0.24	0.01	0.25	2009/1013324
Gündlingen		0.100		3	dry bulb	0.12	0.01	0.13	
(Heytech)				7	dry bulb	0.11	0.01	0.12	
A7037 GE1				13	dry bulb	0.10	< 0.01	0.11	
France, 2007	EC	3×	400	0	dry bulb	0.15	0.01	0.16	2009/1013324
Thorée les Pins		0.100		3	dry bulb	0.18	0.02	0.20	
(Stuttgarter)				7	dry bulb	0.07	< 0.01	0.08	
A7037 BM1				14	dry bulb	0.05	0.01	0.06	
Belgium, 2007	EC	3×	400	0	dry bulb	0.08	0.02	0.10	2009/1013324
Borlo-Gingelom		0.100		3	dry bulb	0.07	< 0.01	0.08	
(Hoza)				7	dry bulb	0.04	0.01	0.05	
A7037 BE1				14	dry bulb	0.05	< 0.01	0.06	
UK, 2007	EC	3×	400	0	dry bulb	0.03	< 0.01	0.04	2009/1013324
Bicester		0.100		2	dry bulb	0.04	0.01	0.05	
(Red Spark)				7	dry bulb	0.06	0.01	0.07	
A7037 UK1				14	dry bulb	0.05	< 0.01	0.06	
France, 2006	EC	3×	391-	0	dry bulb	0.03	< 0.02	0.05	2008/1002744
Realville		0.100-	402	7	dry bulb	0.04	< 0.02	0.06	
(Stuttgarter)		0.1027		14	dry bulb	0.06	< 0.02	0.08	
BSF 0661-01				21	dry bulb	0.05	< 0.02	0.07	
Spain, 2006	EC	3×	372-	0	dry bulb	0.09	< 0.02	0.11	2008/1002744

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Burjassot (Babosa)		0.095- 0.1022	400	7 14	dry bulb	0.04 < 0.02	< 0.02 < 0.02	0.06 < 0.04	
BSF 0661-01				21	dry bulb	< 0.02	< 0.02	< 0.04	
Spain, 2005	EC	3×	400	0	dry bulb	< 0.02	< 0.02	< 0.04	2006/1035427
Utrera (Elody)		0.100		7 14	dry bulb	< 0.02 < 0.02	< 0.02 < 0.02	< 0.04 < 0.04	2007/1016350
05ES/090R				21	dry bulb	< 0.02	< 0.02	< 0.04	
Italy, 2005	EC	3×	400	0	dry bulb	< 0.02	< 0.02	< 0.04	2006/1035427
Roveredo di Guà (Densy)		0.100		7 14	dry bulb	< 0.02 < 0.02	< 0.02 < 0.02	< 0.04 < 0.04	2007/1016350
05IT/092R				21	dry bulb	< 0.02	< 0.02	< 0.04	
Greece, 2005	EC	3×	400	0	dry bulb	< 0.02	< 0.02	< 0.04	2006/1035427
Epanomi (Banko)		0.100		7 14	dry bulb	< 0.02 < 0.02	< 0.02 < 0.02	< 0.04 < 0.04	2007/1016350
05GR/093R				20	dry bulb	< 0.02	< 0.02	< 0.04	

* average of triplicate analyses.

n.a. not available.

nd not detected.

Green onions

In the USA and Canada, in total seven field trials in green onions were conducted in the growing seasons 1999, 2005 and 2007. A WG formulation was foliar applied six times at rates of 0.168 kg ai/ha per application. Green onion samples were collected 6–7 days after the last application and were analysed with the methods D9808 and D9908 (determination via LC/MS each).

In Northern Europe, in total five field trials in Welsh onions were conducted in the growing seasons 2004 and 2005. A WG was foliar applied two times at rates of about 0.100 kg ai/ha per application. Welsh onion samples were collected at 0, 7, 10, 14 and 21 days after the last application. Residues were analysed with BASF method no. 445/0.

A summary of the residue trials with their most relevant data is presented in Table 18.

Table 18 Results of residue trials with pyraclostrobin conducted as a foliar application to green onions in USA and Canada in 1999, 2005 and 2007 (Versoi, PL., Abdel-Baky, S, Riley, M, 2000, BASF DocID 1999/5158; Johnston, RL, Jones III, JE, 2005, BASF DocID 2005/5000019; White, MT, 2007, BASF DocID 2007/7009932; Veit, P, Weber, S, 2005, BASF DocID 2005/1026058; Veit, P, Weber, S, 2005, BASF DocID 2005/1029625; Anonymous, 2007, 2005/1036094).

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Green onion									
USA, 1999	WG	6×	204–	7	w. p. w/o	0.42	0.09	0.51	1999/5158
Uvalde, TX		0.167–	215		roots ^a				
(Texas Early White)		0.176							
RCN 99177									
USA, 1999	WG	6×	280–	7	w. p. w/o	0.52	0.06	0.58	1999/5158

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Porterville, CA (Southport White 404)		0.167– 0.171	289		roots ^a				
RCN 99178									
USA, 1999	WG	6×	280–	7	w. p. w/o	0.05	< 0.02	0.07	1999/5158
Fresno, CA (K-99 Bunching)		0.168– 0.174	291		roots ^a				
RCN 99179									
USA, 2005	WG	6×	163–	7	w. p. w/o	0.58	0.13	0.71	2005/5000019
Gardner, ND (Lisbon)		0.16– 0.17	190		roots ^a				
RCN R05104									
Canada, 2005	WG	6×	208–	6	w. p. w/o	0.60	0.10	0.70	2005/5000019
Sherrington, QC (Performer)		0.17– 0.18	232		roots ^a				
RCN R05110									
USA, 2007	WG	6×	287	7	w. p. w/o	0.33	0.05	0.38	2007/7009932
Uvalde county (Sweet Sunrise)		0.170			roots ^a				
R070115									
USA, 2007	WG	6×	287	7	w. p. w/o	0.05	< 0.02	0.07	2007/7009932
Tulare county (Bunching onion)		0.170			roots ^a				
R070116									
Welsh onion									
Germany, 2004	WG	2×	590–	0	w. plant ^a	0.27	< 0.02	0.29	2005/1026058
Schifferstadt (Elody)		0.0823– 0.1005	600	7	w. plant ^a	0.04	< 0.02	0.06	2005/1029625
RU-F-19 04				10	w. plant ^a	< 0.02	< 0.02	< 0.04	2005/1036094
				14	w. plant ^a	< 0.02	< 0.02	< 0.04	
				21	w. plant ^a	< 0.02	< 0.02	< 0.04	
Germany, 2004	WG	2×	600–	0	w. plant ^a	0.45	< 0.02	0.47	2005/1026058
Schifferstadt (Elody)		0.1005– 0.1021	610	7	w. plant ^a	0.04	< 0.02	0.06	2005/1029625
RU-F-19 04				10	w. plant ^a	< 0.02	< 0.02	< 0.04	2005/1036094
				14	w. plant ^a	< 0.02	< 0.02	< 0.04	
				21	w. plant ^a	< 0.02	< 0.02	< 0.04	
Germany, 2005	WG	2×	440–	0	w. plant ^a	0.23	< 0.02	0.25	2006/1015882
Schifferstadt (Kaigaro)		0.102– 0.111	610	7	w. plant ^a	< 0.02	< 0.02	< 0.04	
RU-F-16 05				14	w. plant ^a	< 0.02	< 0.02	< 0.04	
				21	w. plant ^a	< 0.02	< 0.02	< 0.04	
Germany, 2005	WG	2×	388–	0	w. plant ^a	0.30	< 0.02	0.32	2006/1015882
Schifferstadt (Kaigaro)		0.0974– 0.1005	600	7	w. plant ^a	0.04	< 0.02	0.06	
RU-F-16 05				14	w. plant ^a	< 0.02	< 0.02	< 0.04	
				21	w. plant ^a	< 0.02	< 0.02	< 0.04	

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Germany, 2005	WG	2×	400	7	w. plant ^a	< 0.02	< 0.02	< 0.04	2006/1015882
Neusling (Tamara)		0.1005		14	w. plant ^a	< 0.02	< 0.02	< 0.04	
RU-F-16 05									

^a whole plant without roots.

Garlic

In Brazil, in total 8 field trials in garlic were conducted in the growing seasons 1999 and 2000. A WG and an EC formulations were foliar applied four times at rates of 0.10–0.25 kg ai/ha per application. Garlic samples of these trials collected and analysed. A summary of the residue trials with their most relevant data is presented in Table 19.

Table 19 Results of residue trials with pyraclostrobin conducted in garlic

GARLIC Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Brazil, 2000	WG	4×	500	7	bulb	< 0.02	< 0.02	< 0.04	2003/5000094
Ponta Grossa, PR (Cacador)		0.125 4×							
CDR/F/2000/369/ BR5		0.250							
Brazil, 2000	WG	4×	500	7	bulb	0.09	< 0.02	0.11	2003/5000094
Frei Rogério, SC (Quitéria)		0.125 4×							
CDR/F/2000/370/ Fito		0.250							
Brazil, 2000	WG	4×	500	0	bulb	0.04	< 0.02	0.06	2003/5000094
Frei Rogério, SC (Quitéria)		0.125		7	bulb	0.04	< 0.02	0.06	
CDR/F/2000/371/ Fito			500	14	bulb	0.04	< 0.02	0.06	
Brazil, 2000	WG	4×	500	21	bulb	< 0.02	< 0.02	< 0.04	
Engenheiro Coelho, SP (Giant)		0.125 4×							
CDR/F/2000/372/ Sho		0.250							
Brazil, 1999	EC	4×	500	7	bulb	0.05	< 0.02	0.07	2001/5002342
Ponta Grossa, PR (Cacador)		0.100 4×							2003/1012786
CDR/F/2000/374/ BR5		0.200				< 0.02	< 0.02	< 0.04	
Brazil, 1999	EC	4×	500	7	bulb	0.03	< 0.02	0.05	2001/5002342
Tabuão, SC (Cacador)		0.100 4×							2003/1012786
CDR/F/2000/375/ BR5		0.200				0.05	< 0.02	0.07	
Brazil, 2000	EC	4×	500	0	bulb	< 0.02	< 0.02	< 0.04	2001/5002342
Engenheiro Coelho, SP (Giant)		0.100		7	bulb	< 0.02	< 0.02	< 0.04	2003/1012786
CDR/F/2000/373/Sho				14	bulb	< 0.02	< 0.02	< 0.04	
				21	bulb	< 0.02	< 0.02	< 0.04	
				28	bulb	< 0.02	< 0.02	< 0.04	

GARLIC Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Brazil, 1999	EC	4×	400	7	bulb	< 0.02	< 0.02	< 0.04	2001/5002342
Frei Rogério, SC		0.100							2003/1012786
(Quitéria)		4×	400	7	bulb	0.04	0.03	0.07	
CDR/F/2000/376/Fito		0.200							

Fruiting vegetables, Cucurbits

Cucumber

In the USA, four cucumber trials were conducted in the 2007 growing season. Cucumber samples were collected 0 and 1 day after the last application (0-DALA) from all supervised trials and analysed with the method D9908.

In Northern and Southern Europe and in Brazil, in total 25 field trials of cucumber were conducted in the 2000, 2004, 2005, 2006 and 2007 growing seasons. EC and WG formulations were foliar applied 3 or 4 times at rates of about 0.100-0.200 kg ai/ha per application. Cucumber samples were commonly collected at 0, 1, 3, 7 and 14 days after the last application. Residues were analysed with BASF method no. 445/0, 535/0, 535/1 and D9908.

A summary of the residue trials with their most relevant data is presented in Table 20.

Table 20 Results of residue trials with pyraclostrobin conducted as a foliar application to cucumbers in USA and Europe

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 2007	WG	4×	187	0	fruit	0.02	< 0.02	0.04	2007/7013459
Uvalde county		0.224		1	fruit	0.02	< 0.02	0.04	
(Turbo)				5	fruit	< 0.02	< 0.02	< 0.04	
R070162				10	fruit	< 0.02	< 0.02	< 0.04	
USA, 2007		4×	187	0	fruit	0.06	< 0.02	0.08	2007/7013459
Wharton county		0.224		1	fruit	0.05	< 0.02	0.07	
(Pinsett 76)									
R070163									
USA, 2007	WG	4×	187	0	fruit	0.03	< 0.02	0.05	2007/7013459
Tfit county		0.224		1	fruit	0.05	< 0.02	0.07	
(Daytona)									
R070164									
USA, 2007	WG	4×	187	0	fruit	0.10	< 0.02	0.12	2007/7013459
Seminole county		0.224		1	fruit	0.03	< 0.02	0.05	
(Bush Whopper II)									
R070165									
Brazil, 2000	EC	4×	400	7	fruit	< 0.02	< 0.02	< 0.04	2001/5002342
Tapuira, MG		0.100							2003/1012786
(Safira)		4×	400	7	fruit	< 0.02	< 0.02	< 0.04	
CDR/F/2000/155/BRV		0.200							

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Brazil, 2000	EC	4×	400	7	fruit	< 0.02	< 0.02	< 0.04	2001/5002342
Elias Fausto, SP (Caipira)		0.100							2003/1012786
		4×	400	7	fruit	0.03	< 0.02	0.05	
CDR/F/2000/156/ BRU		0.200							
Brazil, 2000	EC	4×	400	0	fruit	0.02	< 0.02	0.04	2001/5002342
Marilia, SP (Guarani)		0.100		3	fruit	0.02	< 0.02	0.04	2003/1012786
				7	fruit	0.02	< 0.02	0.04	
CDR/F/2000/157/ BRT				14	fruit	0.02	< 0.02	0.04	
Brazil, 2000	EC	4×	400	7	fruit	< 0.02	< 0.02	< 0.04	2001/5002342
Morretes, PR (Guarani)		0.100							2003/1012786
		4×	400	7	fruit	< 0.02	< 0.02	< 0.04	
CDR/F/2000/158/ BRT		0.200							
Spain, 2005	EC	3×	400	0	fruit	< 0.02	< 0.02	< 0.04	2006/1037826
Utrera (Suso)		0.100		1	fruit	< 0.02	< 0.02	< 0.04	
				3	fruit	< 0.02	< 0.02	< 0.04	
ALO/14/05				7	fruit	< 0.02	< 0.02	< 0.04	
France, 2006	EC	3×	400	0	fruit	0.02	< 0.01	0.03	2007/1016462
St-Paul-les-Roma ns		0.100		1	fruit	0.02	< 0.01	0.03	
				3	fruit	< 0.01	< 0.01	< 0.02	
(Tanja) A6026 BD1				7	fruit	< 0.01	< 0.01	< 0.02	
Spain, 2006	EC	3×	400	0	fruit	0.09	< 0.01	0.10	2007/1016462
Canet de Mar (Torto)		0.100		1	fruit	0.09	< 0.01	0.10	
				4	fruit	0.08	< 0.01	0.09	
A6026 ES1				7	fruit	0.06	< 0.01	0.07	
Germany, 2006	EC	3×	400	0	fruit	< 0.02	< 0.02	< 0.04	2008/1068913
Wustrau (Profi F1)		0.100		1	fruit	< 0.02	< 0.02	< 0.04	
				3	fruit	< 0.02	< 0.02	< 0.04	
A6065 DE1				7	fruit	< 0.02	< 0.02	< 0.04	
Germany, 2006	EC	3×	400	0	fruit	0.13	0.05	0.18	2008/1068913
Werder (Profi F1)		0.100		1	fruit	0.10	0.07	0.17	
				3	fruit	0.06	0.07	0.13	
A6065 DE2				7	fruit	0.03	0.03	0.06	
Germany, 2007	EC	3×	400	0	fruit	0.20	0.02	0.22	2009/1013326
Jeinsen (Salima)		0.100		1	fruit	0.19	0.03	0.22	2009/1048400
				3	fruit	0.14	0.02	0.16	
L070553				7	fruit	0.04	< 0.02	0.06	
France, 2007	EC	3×	400	0	fruit	0.03	< 0.02	0.05	2009/1013326
Thorée les Pins (Gynial)		0.100		1	fruit	0.03	< 0.02	0.05	2009/1048400
				3	fruit	0.04	0.04	0.08	
L070554				7	fruit	0.02	< 0.02	0.04	
France, 2006	EC	3×	399–	0	fruit	0.11	< 0.02	0.13	2007/1046116
Allones (Marketer)		0.102–	414	1	fruit	0.03	< 0.02	0.05	
		0.1059		3	fruit	0.02	< 0.02	0.04	

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
BSF 0657-01				7	fruit	< 0.02	< 0.02	< 0.04	
Germany, 2006		3×	399–	0	fruit	0.24	< 0.02	0.26	2007/1046116
Rheingönheim		0.1012–	414	1	fruit	0.09	< 0.02	0.11	
(Raider)		0.1074		3	fruit	0.06	< 0.02	0.08	
BSF 0657-02				7	fruit	0.04	< 0.02	0.06	
Spain, 2006	EC	3×	397–	0	fruit	0.03	< 0.02	0.05	2007/1046116
Burjassot		0.1015–	436	1	fruit	0.02	< 0.02	0.04	
(Potomac)		0.1115		3	fruit	< 0.02	< 0.02	< 0.04	
BSF 0657-03				6	fruit	< 0.02	< 0.02	< 0.04	
Italy, 2007	EC	3×	376–	0	fruit	< 0.02	< 0.02	< 0.04	2008/1012072
Zapponeta		0.0954–	404	1	fruit	< 0.02	< 0.02	< 0.04	2009/1114999
(Ashley)		0.1025		3	fruit	< 0.02	< 0.02	< 0.04	
BSF 0698-01				7	fruit	< 0.02	< 0.02	< 0.04	
Cucumber,	glasshouse								
Spain, 2004	WG	3×	600	0	fruit	0.01	< 0.01	0.02	2005/1016642
Utrera		0.1005		1	fruit	< 0.01	< 0.01	< 0.02	
(Suso)				3	fruit	< 0.01	< 0.01	< 0.02	
04ES/009R				7	fruit	< 0.01	< 0.01	< 0.02	
Italy, 2004	WG	3×	600	0	fruit	0.03	< 0.01	0.04	2005/1016642
Campofilome		0.1005		1	fruit	0.02	< 0.01	0.03	
(Darina)				4	fruit	< 0.01	< 0.01	< 0.02	
04IT/011R				7	fruit	< 0.01	< 0.01	< 0.02	
Spain, 2005	WG	3×	600	0	fruit	0.05	< 0.01	0.06	2005/1027639
Utrera		0.1005		1	fruit	0.03	< 0.01	0.04	
(Suso)				4	fruit	0.02	< 0.01	0.03	
05ES/009R				7	fruit	0.01	< 0.01	0.02	
Greece, 2005	WG	3×	600	0	fruit	0.04	< 0.01	0.05	2005/1027639
Vasilika		0.1005		1	fruit	0.04	< 0.01	0.05	
(Skotino F1)				3	fruit	0.03	< 0.01	0.04	
05GR/011R				7	fruit	0.01	< 0.01	0.02	
Spain, 2005	EC	3×	600	0	fruit	0.03	< 0.01	0.04	2005/1027639
Utrera		0.100		1	fruit	0.02	< 0.01	0.03	
(Suso)				4	fruit	< 0.01	< 0.01	< 0.02	
05ES/009R				7	fruit	< 0.01	< 0.01	< 0.02	
Greece, 2005	EC	3×	600	0	fruit	0.04	< 0.01	0.05	2005/1027639
Vasilika		0.100		1	fruit	0.02	< 0.01	0.03	
(Skotino F1)				3	fruit	0.01	< 0.01	0.02	
05GR/011R				7	fruit	< 0.01	< 0.01	< 0.02	
France, 2005	EC	3×	393–	0	fruit	0.06	< 0.02	0.08	2007/1046117
Vivy		0.103–	421	1	fruit	0.04	< 0.02	0.06	
(Garlon)		0.108		3	fruit	< 0.02	< 0.02	< 0.04	
BSF/0658-01				7	fruit	< 0.02	< 0.02	< 0.04	
Germany, 2006	EC	3×	410–	0	fruit	0.05	< 0.02	0.07	2007/1046117
Pattensen		0.105–	440	1	fruit	0.04	< 0.02	0.06	
(Alamir)		0.113		3	fruit	0.02	< 0.02	0.04	
BSF/0658-02				7	fruit	< 0.02	< 0.02	< 0.04	

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Spain, 2006	EC	3×	400–	0	fruit	0.04	< 0.02	0.06	2007/1046117
Ramonete		0.102–	442	1	fruit	0.04	< 0.02	0.06	
(Lucena)		0.113		3	fruit	< 0.02	< 0.02	< 0.04	
BSF/0658-03				6	fruit	< 0.02	< 0.02	< 0.04	
Italy, 2006	EC	3×	384–	0	fruit	0.03	< 0.02	0.05	2007/1046117
Mediglia		0.098–	416	1	fruit	< 0.02	< 0.02	< 0.04	
(Ashley)		0.106		3	fruit	< 0.02	< 0.02	< 0.04	
BSF/0658-04				7	fruit	< 0.02	< 0.02	< 0.04	

Summer squash

In the USA, four summer squash were conducted in the growing season 2007. A WG formulation was foliar applied four times at a rate of about 0.224 kg ai/ha per application. Summer squash samples were collected 0 and 1 day after the last application (0–) from all supervised trials and analysed with the method D9908.

In Northern and Southern Europe, in total 15 field trials of summer squash were conducted in the growing seasons 2004, 2005, 2006 and 2007. EC and WG formulations were foliar applied three times at rates of about 0.100 kg ai/ha per application. Summer squash samples were commonly collected at 0, 1, 3 and 7 days after the last application. Residues were analysed with BASF method no. 445/0, 535/0, 535/1 and D9908.

A summary of the residue trials with their most relevant data is presented in Table 21.

Table 21 Results of residue trials with pyraclostrobin conducted as a foliar application to summer squash in USA and Europe

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 2007	WG	4×	187	0	fruit	0.09	< 0.02	0.11	2007/7013459
Willacy county		0.224		1	fruit	0.08	< 0.02	0.10	
(President)									
R070166									
USA, 2007	WG	4×	187	0	fruit	0.09	< 0.02	0.11	2007/7013459
Pepin county		0.224		1	fruit	0.08	0.03	0.11	
(Justice III)									
R070167									
USA, 2007	WG	4×	187	0	fruit	0.12	< 0.02	0.14	2007/7013459
Ottawa county		0.224		1	fruit	0.06	< 0.02	0.08	
(Spineless)									
R070168									
USA, 2007	WG	4×	187	0	fruit	0.22	< 0.02	0.24	2007/7013459
Fresno county		0.224		1	fruit	0.14	< 0.02	0.16	
(Black Beauty)				5	fruit	0.07	< 0.02	0.09	
R070169				10	fruit	0.06	< 0.02	0.08	

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
France, 2005	EC	3×	400	0	fruit	0.05	< 0.02	0.07	2006/1037826
St-Paul-les-		0.100		1	fruit	0.04	< 0.02	0.06	
(Diamand)				3	fruit	0.03	< 0.02	0.05	
FBD/11/05				7	fruit	0.02	< 0.02	0.04	
Greece, 2005	EC	3×	400	0	fruit	0.14	< 0.02	0.16	2006/1037826
Veria		0.100		1	fruit	0.05	< 0.02	0.07	
(Zara)				3	fruit	0.02	< 0.02	0.04	
GRE/10/05				7	fruit	< 0.02	< 0.02	< 0.04	
Italy, 2005	EC	3×	400	0	fruit	0.47	< 0.02	0.49	2006/1037826
Rivalta Bormida		0.100		1	fruit	0.33	< 0.02	0.35	
(Isotta)				3	fruit	0.19	< 0.02	0.21	
ITA/29/05				7	fruit	0.05	< 0.02	0.07	
Italy, 2006	EC	3×	400	0	fruit	0.21	< 0.01	0.22	2007/1016462
Rivalta Bormida		0.100		1	fruit	0.17	< 0.01	0.18	
(Isotta)				3	fruit	0.05	< 0.01	0.06	
A6026 IT1				7	fruit	0.03	< 0.01	0.04	
Greece, 2006	EC	3×	400	0	fruit	0.08	< 0.01	0.09	2007/1016462
Agia Marina		0.100		1	fruit	0.03	< 0.01	0.04	
(Zara)				3	fruit	0.02	< 0.01	0.03	
A6026 GR1				8	fruit	0.02	< 0.01	0.03	
France, 2006	EC	3×	400	0	fruit	0.08	< 0.02	0.10	2008/1068913
Handschuheim		0.100		1	fruit	0.06	< 0.02	0.08	
(Radiant F1)				3	fruit	0.05	< 0.02	0.07	
A6065 AN1				7	fruit	0.04	< 0.02	0.06	
Germany, 2006	EC	3×	400	0	fruit	0.11	0.07	0.18	2008/1068913
Jeinsen		0.100		1	fruit	0.14	0.09	0.23	
(Ambros)				4	fruit	0.06	0.02	0.08	
A6065 HA1				7	fruit	0.07	0.02	0.09	
UK, 2007	EC	3×	400	0	fruit	0.04	< 0.02	0.06	2009/1013326
Evesham		0.100		1	fruit	0.06	< 0.02	0.08	2009/1048400
(Ambassador)				3	fruit	0.03	0.02	0.05	
L070555				7	fruit	0.02	< 0.02	0.04	
The Netherlands	EC	3×	400	0	fruit	0.06	< 0.02	0.08	2009/1013326
2007		0.100		1	fruit	0.03	< 0.02	0.05	2009/1048400
MS Ottersum				3	fruit	0.03	< 0.02	0.05	
(Storr's Green)				7	fruit	0.03	< 0.02	0.05	
L070556									
Summer squash,	glasshouse								
Spain, 2004	WG	3×	600	0	fruit	0.03	< 0.01	0.04	2005/1016642
Los Palacios		0.1005		1	fruit	0.03	< 0.01	0.04	
(Hojara)				3	fruit	0.03	< 0.01	0.04	
04ES/010R				7	fruit	0.02	< 0.01	0.03	

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Italy, 2004	WG	3×	600	0	fruit	0.13	< 0.01	0.14	2005/1016642
Sperlonga		0.1005		1	fruit	0.28	< 0.01	0.29	
(Greyzini)				3	fruit	0.08	< 0.01	0.09	
04IT/012R				7	fruit	0.05	< 0.01	0.06	
Italy, 2005	WG	3×	600	0	fruit	0.06	< 0.01	0.07	2005/1027639
Garibaldi R.		0.1005		1	fruit	0.07	< 0.01	0.08	
(Suso)				3	fruit	0.05	< 0.01	0.06	
05IT/010R				7	fruit	0.02	< 0.01	0.03	
Greece, 2005	WG	3×	600	0	fruit	0.16	< 0.01	0.17	2005/1027639
Vasilika		0.1005		1	fruit	0.10	< 0.01	0.11	
(Arrow)				3	fruit	0.05	< 0.01	0.06	
05GR/012R				7	fruit	0.02	< 0.01	0.03	
Italy, 2005	WG	3×	600	0	fruit	0.10	< 0.01	0.11	2005/1027639
Garibaldi R.		0.100		1	fruit	0.06	< 0.01	0.07	
(Suso)				3	fruit	0.04	< 0.01	0.05	
05IT/010R				7	fruit	0.02	< 0.01	0.03	
Greece, 2005	WG	3×	600	0	fruit	0.14	< 0.01	0.15	2005/1027639
Vasilika		0.100		1	fruit	0.11	< 0.01	0.12	
(Arrow)				3	fruit	0.05	< 0.01	0.06	
05GR/012R				7	fruit	0.02	< 0.01	0.03	

Cantaloupe

In the USA and Canada, in total 16 field trials in cantaloupe were conducted in the growing seasons 1998, 1999, 2004 and 2007. EC and WG formulations were foliar applied six times at rates of about 0.220 kg ai/ha per application. Cantaloupe samples were harvested on the day (0-day PHI) as well as 1 DALA from all trials and analysed with methods D9808. A summary of the residue trials with their most relevant data is presented in Table 22.

Table 22 Results of residue trials with pyraclostrobin conducted as a foliar application to cantaloupe in USA and Canada

CANTALOUPE Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg as/ha]	Spray volume [L/ha]						
USA, 1999	EC	6×	360–	0	fruit	0.14	< 0.02	0.16	1999/5145
Fresno, CA		0.220–	385	0	fruit	0.13	< 0.02	0.15	
(Hales Jumbo)		0.231							
RCN 99250		6×	368–	0	fruit	0.06	< 0.02	0.08	
		0.221–	376	0	fruit	0.10	< 0.02	0.12	
		0.225							
USA, 1998	EC	6×	113–	0	fruit	0.11	< 0.02	0.13	1999/5083
Chula, GA		0.217–	149						
(Edisto 47)		0.229							
RCN 98006									
USA, 1998	EC	6×	209–	0	fruit	0.10	< 0.02	0.12	1999/5083

CANTALOUPE Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg as/ha]	Spray volume [L/ha]						
Conklin, MI (Superstar) RCN 98012		0.223– 0.224	215						
USA, 1998 Colony, OK (Tesoro) RCN 98015	EC	6× 0.220– 0.224	166– 182	0	fruit	0.07	< 0.02	0.09	1999/5083
USA, 1998 Porterville, CA (PMR-45) RCN 98017	EC	6× 0.224	276– 282	0	fruit	0.13	0.03	0.16	1999/5083
USA, 1998 Orland, CA (Canary Yellow) RCN 98018	EC	6× 0.223– 0.228	247– 257	0	fruit	0.10	< 0.02	0.12	1999/5083
USA, 1998 Kerman, CA (Gold Eagle) RCN 98020	EC	6× 0.221– 0.232	185– 188	0	fruit	0.09	< 0.02	0.11	1999/5083
Canada, 2004 Abbotsford, QC (Athena) RCN 2004127	WG	6× 0.21– 0.22	244– 296	0	fruit	0.32	0.04	0.36	2005/5000021
USA, 2004 Dumfries, MN (Primo) RCN 2004128	WG	6× 0.22– 0.23	235– 237	0	fruit	0.09	< 0.02	0.11	2005/5000021
USA, 2007 Uvalde county (Navigator) R070170	WG	4× 0.224	187	0 1	fruit fruit	0.09 0.05	< 0.02 < 0.02	0.11 0.07	2007/7013456
USA, 2007 Wharton county (Mainstream) R070171	WG	4× 0.224	187	0 1	fruit fruit	0.12 0.10	0.03 0.03	0.15 0.13	2007/7013456
USA, 2007 Tift county (Athena) R070172	WG	4× 0.224	187	0 1	fruit fruit	0.05 0.05	< 0.02 0.03	0.07 0.08	2007/7013456
USA, 2007 Madera county (Hales Best)	WG	4× 0.224	187	0 5	fruit fruit	0.14 0.12 0.07	< 0.02 < 0.02 < 0.02	0.16 0.14 0.09	2007/7013456

CANTALOUPE Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Study No. DocID.
	Formulation	Rate [kg as/ha]	Spray volume [L/ha]						
R070173				10	fruit	0.06	< 0.02	0.08	
USA, 2007	WG	4×	187	0	fruit	0.10	< 0.02	0.12	2007/7013456
Glenn county (Ananas)		0.224		1	fruit	0.06	< 0.02	0.08	
R070174									
USA, 2007	WG	4×	187	0	fruit	0.28	< 0.02	0.30	2007/7013456
Fresno county (Hales Best)		0.224		1	fruit	0.26	< 0.02	0.28	
R070175									

Melons

In Northern and Southern Europe, in total 26 trials in melons (16 field trials and 8 glasshouse trials) were conducted in the growing seasons 2000, 2005, 2006, 2007 and 2008. EC and WG formulations were foliar applied 3–4 times at rates of about 0.100 or 0.125 kg ai/ha per application. For the analysis plant material was sampled within 3 hours after the last application and at 3, 7 and 14 days ($\pm$ 1 day) thereafter. Simulating industrial processes fruit specimens from glasshouse trials were processed into peel, pulp (flesh). Residues were analysed with BASF method no. 445/0 and 535/1. The results are summarised in Table 23.

Table 23 Summary of pyraclostrobin residues in melons in Spain

MELON Country, Year Location (variety) Trial No.	Application				Residues (mg/kg)					Ref. Report No
	Formulation	No.	kg as / ha	kg as / hl	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
Melons,	glasshouse									
Spain, 2000	WG	4	0.123–	0.013	fruit w. peel	0	0.06	< 0.02	0.08	2002/
Sevilla, Andalucia			0.126		fruit w. peel	3	0.03	< 0.02	0.05	1004081
(Sancho)					fruit flesh	3	< 0.02	< 0.02	< 0.04	
00S022R					peel	3	0.10	< 0.02	0.12	
					fruit w. peel	7	0.06	< 0.02	0.08	
					fruit w. peel	13	0.02	< 0.02	0.04	
Spain, 2000	WG	4	0.123–	0.013	fruit w. peel	0	0.05	< 0.02	0.07	2002/
Cadiz, Andalucia			0.126		fruit w. peel	3	< 0.02	< 0.02	< 0.04	1004081
(Primal)					fruit flesh	3	< 0.02	< 0.02	< 0.04	
00S023R					peel	3	0.04	< 0.02	0.06	
					fruit w. peel	7	< 0.02	< 0.02	< 0.04	
					fruit w. peel	14	< 0.02	< 0.02	< 0.04	
Spain, 2000	WG	4	0.121–	0.013	fruit w. peel	0	0.06	< 0.02	0.08	2002/
Cadiz, Andalucia			0.125		fruit w. peel	4	0.06	< 0.02	0.08	1004081
(Primal)					fruit flesh	4	< 0.02	< 0.02	< 0.04	

MELON	Application				Residues (mg/kg)					Ref. Report No
Country, Year Location (variety) Trial No.	Formulation	No.	kg as / ha	kg as / hl	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
00S024R					peel	4	0.15	< 0.02	0.17	
					fruit w. peel	7	0.05	< 0.02	0.07	
					fruit w. peel	15	0.05	< 0.02	0.07	
Spain, 2000	WG	4	0.122–	0.013	fruit w. peel	0	0.02	< 0.02	0.04	2002/
Cadiz, Andalucia			0.126		fruit w. peel	3	0.03	< 0.02	0.05	1004081
(Galia)					fruit flesh	3	< 0.02	< 0.02	< 0.04	
00S025R					peel	3	0.09	< 0.02	0.11	
					fruit w. peel	8	0.02	< 0.02	0.04	
					fruit w. peel	14	< 0.02	< 0.02	< 0.04	
Spain, 2000	WG	4	0.123–	0.013	fruit w. peel	0	0.04	< 0.02	0.06	2002/
Sevilla, Andalucia			0.127		fruit w. peel	3	0.04	< 0.02	0.06	1004081
(Sancho)					fruit flesh	3	< 0.02	< 0.02	< 0.04	
00S026					peel	3	0.04	< 0.02	0.06	
					fruit w. peel	7	0.02	< 0.02	0.04	
					fruit w. peel	14	< 0.02	< 0.02	< 0.04	
00S026R										
Spain, 2000	WG	4	0.122–	0.013	fruit w. peel	0	0.05	< 0.02	0.07	2002/
Sevilla, Andalucia			0.126		fruit w. peel	3	0.07	< 0.02	0.09	1004081
(Makdimon)					fruit flesh	3	< 0.02	< 0.02	< 0.04	
00S027R					peel	3	0.08	< 0.02	0.10	
					fruit w. peel	7	0.04	< 0.02	0.06	
					fruit w. peel	14	0.05	< 0.02	0.07	
Spain, 2000	WG	4	0.125–	0.013–	fruit w. peel	0	0.10	< 0.02	0.12	2002/
Almeria, Andalucia			0.129		fruit w. peel	4	0.07	< 0.02	0.09	1004081
(Sirio)					fruit flesh	4	< 0.02	< 0.02	< 0.04	
00S028R					peel	4	0.20	< 0.02	0.22	
					fruit w. peel	7	0.08	< 0.02	0.10	
					fruit w. peel	14	0.05	< 0.02	0.07	
Spain, 2000	WG	4	0.125–	0.013	fruit w. peel	0	0.02	< 0.02	0.04	2002/
Almeria, Andalucia			0.128		fruit w. peel	4	0.02	< 0.02	0.04	1004081
(Sirio)					fruit flesh	4	< 0.02	< 0.02	< 0.04	
00S029					peel	4	0.05	< 0.02	0.07	
					fruit w. peel	7	0.05	< 0.02	0.07	
					fruit w.	14	< 0.02	< 0.02	< 0.04	

MELON	Application				Residues (mg/kg)					Ref. Report No
Country, Year Location (variety) Trial No.	Formulation	No.	kg as / ha	kg as / hl	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
					peel					
Spain, 2006	EC	3	0.100	0.025	fruit	0	< 0.02	< 0.02	< 0.04	2006/
Utrera					fruit	3	< 0.02	< 0.02	< 0.04	1035428
(Makdimon)					fruit	6	< 0.02	< 0.02	< 0.04	
05ES/094R										
Spain, 2005	EC	3	0.100	0.025	fruit	0	0.25	< 0.02	0.27	2006/
Maribañez					fruit	3	0.10	< 0.02	0.12	1035428
(Pinoñate)					fruit	7	0.15	< 0.02	0.17	
05ES/095R										
France, 2005	EC	3	0.100	0.025	fruit	0	0.08	< 0.02	0.10	2006/
Boisset Gaujac					fruit	3	< 0.02	< 0.02	< 0.04	1035428
(Behugo)					fruit	7	< 0.02	< 0.02	< 0.04	
05FR/096R										
Italy, 2005	EC	3	0.100	0.025	fruit	0	0.06	< 0.02	0.08	2006/
S. Omero					fruit	3	0.07	< 0.02	0.09	1035428
(Baggio)					fruit	7	< 0.02	< 0.02	< 0.04	
05IT/097R										
Italy, 2005	EC	3	0.100	0.025	fruit	0	0.05	< 0.02	0.07	2006/
Isola S. Antonio					fruit	3	0.03	< 0.02	0.05	1037828
(Bingo)					fruit	7	0.04	0.02	0.06	
ITA/12/05										
Spain, 2005	EC	3	0.100	0.025	fruit	0	< 0.02	< 0.02	< 0.04	2006/
Utrera					fruit	3	0.02	< 0.02	0.04	1037828
(Sancho)					fruit	7	< 0.02	< 0.02	< 0.04	
ALO/12/05										
Spain, 2005	EC	3	0.100	0.025	fruit	0	0.04	< 0.02	0.06	2006/
Arahal					fruit	3	< 0.02	< 0.02	< 0.04	1037828
(Piel de sapo)					fruit	7	0.03	< 0.02	0.05	
ALO/13/05										
France, 2005	EC	3	0.100	0.025	fruit	0	0.06	< 0.02	0.08	2006/
St. Donnat-s.-					fruit	4	0.03	< 0.02	0.05	1037828
l'Herbasse					fruit	7	0.02	< 0.02	0.04	
(Anasta)										
FBD/10/05										
France, 2006	EC	3	0.100	0.025	fruit	0	0.05	< 0.01	0.06	2007/
Grisolles					fruit	3	0.03	< 0.01	0.04	1016465
(Cezanne)					fruit	7	0.01	< 0.01	0.02	
A6023 TL1										
Spain, 2006	EC	3	0.100	0.025	fruit	0	0.03	< 0.01	0.04	2007/
Toroella de					fruit	3	0.02	< 0.01	0.03	1016465
Montrgi					fruit	6	0.01	< 0.01	0.02	
(Futuro)										
A6023 ES1										
Italy, 2006	EC	3	0.100	0.025	fruit	0	0.15	0.02	0.17	2007/

MELON	Application				Residues (mg/kg)					Ref. Report No
Country, Year Location (variety) Trial No.	Formulation	No.	kg as / ha	kg as / hl	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
Sale					fruit	3	0.11	0.03	0.14	1016465
(Baggio)					fruit	6	0.07	0.03	0.10	
A6023 IT1										
Greece, 2006	EC	3	0.100	0.025	fruit	0	0.12	< 0.01	0.13	2007/
Vathilakos					fruit	3	0.08	< 0.01	0.09	1016465
(Gally F1)					fruit	7	0.06	< 0.01	0.07	
A6023 GR1										
France, 2006	EC	3	0.100	0.025	fruit	0	0.07	< 0.02	0.09	2008/
Thorée les Pins					fruit	3	0.06	< 0.02	0.08	1068910
(Geronimo)					fruit	6	0.04	< 0.02	0.06	
A6024 BM1										
Germany, 2006	EC	3	0.100	0.025	fruit	0	0.03	< 0.02	0.05	2008/
Jeinsen					fruit	3	0.02	< 0.02	0.04	1068910
(-)					fruit	7	0.03	< 0.02	0.05	
A6024 HA1										
France, 2007	EC	3	0.100	0.025	fruit	0	0.09	0.02	0.11	2009/
Thorée les Pins					fruit	3	0.10	< 0.02	0.12	1013325
(Amigo)					fruit	7	0.10	< 0.02	0.12	
L070558										
France, 2008	EC	3	0.100	0.025	fruit	0	0.12	< 0.01	0.13	2009/
Fessenheim					fruit	1	0.07	< 0.01	0.08	1075224
(Opéra)					fruit	3	0.08	< 0.01	0.09	
L080376					fruit	7	0.02	< 0.01	0.03	
France, 2008	EC	3	0.088–	0.022–	fruit	0	0.03	< 0.01	0.04	2009/
Thorée les Pins			0.100	0.025	fruit	1	0.05	< 0.01	0.06	1075224
(Amigo)					fruit	3	0.04	< 0.01	0.05	
L080377					fruit	7	0.02	< 0.01	0.03	
France, 2008	EC	3	0.100	0.025	fruit	0	0.08	< 0.01	0.09	2010/
Thorée les Pins					fruit	4	0.05	< 0.01	0.06	1051718
(Amigo)					fruit	7	0.03	< 0.01	0.04	
L080446										

Stalk and stem vegetables

Artichokes

In Europe, in total 19 field trials in globe artichokes were conducted in the growing seasons 2005, 2006 and 2007. EC and WG formulations were foliar applied 2–3 times at rates of about 0.100 kg ai/ha per application. Artichoke samples (flower heads and shoots without roots) were collected 0, 3 and 7 days after the last application (0–) from each trial and analysed with methods 445/0 and 535/0. A summary of the residue trials with their most relevant data is presented in Table 24.

Table 24 Results of residue trials with pyraclostrobin conducted as a foliar application to artichoke in Northern and Southern Europe

[illegible]

Pyraclostrobin

[illegible]

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Germany, 2007	EC	3×	400	0	heads	0.48	< 0.01	0.49	2009/1013323
Jeinsen		0.100		3	heads	0.27	< 0.01	0.28	
(Green Globe)				7	heads	0.16	< 0.01	0.17	
L070564									
Italy, 2007	EC	3×	400	0	heads	1.36	0.05	1.41	2009/1013323
Brindisi		0.100		3	heads	1.44	0.10	1.54	
(Brindisino)				7	heads	1.17	0.20	1.37	
L070565									
France, 2007	EC	3×	400	0	heads	0.62	0.01	0.63	2009/1013323
Grenade sur		0.100		3	heads	0.34	0.02	0.36	
(Makau)				7	heads	0.25	0.03	0.28	
L070566									
Spain, 2007	EC	3×	400	0	heads	0.30	< 0.01	0.31	2009/1013323
Sant Boi de		0.100		4	heads	0.25	< 0.01	0.26	
(Spinoso di				7	heads	0.18	< 0.01	0.19	
L070912									

Cereal grains

Oats

In Canada and US, 12 field trials in oat were conducted in the growing seasons 2004 and 2005. An EC formulation was foliar applied two times at rates of about 0.160 kg ai/ha per application. Oat samples of grain and straw were collected at about 21 days after the last application () and analysed with BASF method D9908.

In Brazil, in total eight field trials in oats were conducted in the growing season 1999. SE and EC formulations were foliar applied once at rates of 0.166 or 0.200 kg ai/ha per application (in some trials up to 0.400 kg as/application were used). Grain samples were commonly collected at 30 DALA and residues were analysed with BASF method no. D9908.

A summary of the residue trials with their most relevant data is presented in Table 25 and Table 36.

Table 25 Residues in oat grain from foliar applications of pyraclostrobin to oat in supervised trials in the USA and Canada)

OAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 2005	EC	2×	2× 227–	20	grain	0.59	0.16	0.75	2006/7006724
Wayne, NY		0.16–	233		grain	0.43	0.10	0.53	
(AC Alymer)		0.17							
RCN R05126		2×	2× 233–	20					
		0.17	234						
USA, 2004	EC	2×	2× 131–	21	grain	0.33	0.09	0.43	2006/7006724
Tift, GA		0.16–	136		grain	0.31	0.09	0.40	
(Horizon 314)		0.18							

OAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
RCN R05127		2×	2× 159–	21					
		0.17	172						
USA, 2005	EC	2×	2× 166–	21	grain	0.08	0.03	0.11	2006/7006724
Clinton, IL		0.16–	167		grain	0.40	0.15	0.55	
(Seed oats)		0.17							
RCN R05128		2×	2× 118–	21					
		0.17	156						
USA, 2005	EC	2×	2× 188–	20	grain	0.36	0.13	0.50	2006/7006724
Pepin, WI		0.17	189		grain	0.40	0.14	0.54	
(Vista)		2×	2× 188	20					
RCN R05129		0.17							
USA, 2005	EC	2×	2× 142–	21	grain	0.10	0.02	0.12	2006/7006724
Stutsman, ND		0.17	186		grain	0.11	0.03	0.13	
(Morton)		2×	2× 95–	21					
RCN R05130		0.17	117						
USA, 2004	EC	2×	2× 189	21	grain	0.13	0.04	0.17	2006/7006724
Hall, NE		0.17			grain	0.14	0.03	0.17	
(Jerry)		2×	2× 187–	21					
RCN R05131		0.17	188						
USA, 2005	EC	2×	2× 149	14	grain	0.12	0.04	0.16	2006/7006724
Cass, ND		0.17		14	grain	0.13	0.04	0.17	
(Morton)		2×	2× 149–	21	grain	0.08	< 0.02	0.10	
RCN R05132		0.17	160	21	grain	0.09	< 0.02	0.11	
				28	grain	0.12	0.03	0.15	
				28	grain	0.10	0.02	0.12	
				36	grain	0.15	0.05	0.20	
				36	grain	0.11	0.04	0.15	
USA, 2005	EC	2×	2× 126–	26	grain	0.33	0.12	0.45	2006/7006724
Caddo, OK		0.17	132	26	grain	0.31	0.11	0.42	
(Jerry)		2×	2× 126–						
RCN R05133		0.17	128						
Canada, 2005	EC	2×	2× 202–	21	grain	< 0.02	0.13	0.15	2006/7006724
St-Cesaire, QB		0.16–	228	21	grain	< 0.02	0.17	0.19	
(Rigodon)		0.17	2×	2×					
RCN R05134			0.17–	234					
			0.18						
Canada, 2005	EC	2×	2× 200–	20	grain	0.26	0.07	0.33	2006/7006724
Rosthern, SK		0.17	204	20	grain	0.17	0.06	0.24	
(Furlong)		2×	2× 196–						
RCN R05135		0.17	201						
Canada, 2005	EC	2×	2× 199–	20	grain	0.29	0.05	0.34	2006/7006724
Minto, MB		0.17	208	20	grain	0.30	0.05	0.35	
(Triple Crown)		2×	2× 205–						
RCN R05136		0.17	209						

OAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Canada, 2005	EC	2×	2× 226-	21	grain	0.36	0.09	0.44	2006/7006724
Innisfail, AB		0.17	234	21	grain	0.35	0.09	0.44	
(Ac Lu)		2×	2× 223-						
RCN R05137		0.16-	252						
		0.17							
Brazil, 1999	SE	1×	1× 200	30	grain	0.25	0.13	0.38	2000/5236
Passo Fundo, RS		0.166							2003/5000120
(UPF 16)		1×	1× 200	30	grain	0.09	0.04	0.12	2003/1013067
CDR/F/2000/013/San		0.333							
tagro									
Brazil, 1999	SE	1×	1× 200	0	grain	0.36	< 0.02	0.37	2000/5236
Santo Augusto, RS		0.166		7	grain	< 0.02	< 0.02	< 0.04	2003/5000120
(--)				15	grain	0.18	0.04	0.22	2003/1013067
CDR/F/2000/014/BR2				30	grain	0.05	< 0.02	0.07	
				45	grain	0.05	< 0.02	0.07	
Brazil, 1999	SE	1×	1× 200	30	grain	0.23	0.12	0.35	2000/5236
Ponta Grossa, PR		0.166							2003/5000120
(UPF 16)		1×	1× 200	30	grain	0.29	0.15	0.44	2003/1013067
CDR/F/2000/015/BR5		0.333							
Brazil, 1999	SE	1×	1× 200	30	grain	0.20	0.10	0.29	2000/5236
Não Me Toque, RS		0.166							2003/5000120
(UPF 15)		1×	1× 200	30	grain	0.09	0.03	0.12	2003/1013067
CDR/F/2000/903/BR		0.333							
2									
Brazil, 1999	EC	1×	1× 200	0	grain	0.67	0.02	0.69	2000/5241
Passo Fundo, RS		0.200		7	grain	0.26	0.03	0.29	2003/1013066
(UPF 16)				15	grain	0.08	0.02	0.10	
CDR/F/2000/001/San				30	grain	0.04	< 0.02	0.05	
tagro				45	grain	< 0.02	< 0.02	< 0.04	
Brazil, 1999	EC	1×	1× 200	30	grain	0.14	0.05	0.20	2000/5241
Não Me Toque, RS		0.200							2003/1013066
(UPF 15)		1×	1× 200	30	grain	0.20	0.10	0.30	
CDR/F/2000/002/BR		0.400							
2									
Brazil, 1999	EC	1×	1× 200	30	grain	0.42	0.17	0.60	2000/5241
Ponta Grossa, PR		0.200							2003/1013066
(UPF 16)		1×	1× 200	30	grain	0.84	0.32	1.17	
CDR/F/2000/003/BR		0.400							
5									
Brazil, 1999	EC	1×	1× 200	30	grain	0.06	< 0.02	0.07	2000/5241

OAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Passo Fundo, RS		0.200							2003/1013066
(UPF 16)		1×	1× 200	30	grain	0.12	0.02	0.14	
CDR/F/2000/904/San		0.400							
tagro									

Barley

In the USA, Canada, 50 field trials on barley were conducted in the growing seasons 1998, 1999, 2000, 2001, 2004 and 2005. An EC formulation was foliar applied two times at rates of about 0.170–0.224 kg ai/ha per application. The samples were collected and analysed with BASF method no. 445/0, 421/0, D9808 and 535/1.

In Brazil, in total eight field trials in barley were conducted in the growing season 1999. SE and EC formulations were foliar applied once at rates of 0.166 or 0.200 kg pyraclostrobin/ha per application (in some trials up to 0.400 kg as/application were used). Grain samples were commonly collected at 30 DALA and analysed with BASF method no. D9908.

A summary of the residue trials with their most relevant data is presented in Table 26 and Table 37.

Table 26 Residues in barley grain from foliar applications of pyraclostrobin to barley in supervised trials in the USA and Canada and Northern and Southern Europe

BARLEY Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 1998	EC	2×	2× 307-	47	grain	0.14	0.05	0.19	1999/5079
Germansville, PA		0.226–	308						
(Ontario)		0.228							
RCN 98209									
USA, 1998	EC	2×	2× 190-	42	grain	0.05	< 0.02	0.07	1999/5079
Arkansas, WI		0.228–	191						
(Robust)		0.229							
RCN 98210									
USA, 1998	EC	2×	2× 149	43	grain	< 0.02	< 0.02	< 0.04	1999/5079
Geneva, MN		0.224							
(Morex)									
RCN 98211									
USA, 1998	EC	2×	2× 141-	40	grain	0.03	< 0.02	0.05	1999/5079
Campbell, MN		0.224–	142	47	grain	0.03	< 0.02	0.05	
(Robust)		0.226		54	grain	0.03	< 0.02	0.05	
RCN 98212				61	grain	0.02	< 0.02	0.04	
				68	grain	< 0.02	< 0.02	< 0.04	
USA, 1998	EC	2×	2× 93–	45	grain	< 0.02	< 0.02	< 0.04	1999/5079
Britton, SD		0.224	94						
(Robust)									
RCN 98213									
USA, 1998	EC	2×	2× 93–	43	grain	< 0.02	< 0.02	< 0.04	1999/5079

BARLEY Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Gardner, ND (Robust) RCN 98214		0.224	94						
USA, 1998 Northwood, ND (Robust) RCN 98215	EC	2× 0.222– 0.224	2× 139– 141	43	grain	< 0.02	< 0.02	< 0.04	1999/5079
USA, 1998 Velva, ND (Stander) RCN 98216	EC	2× 0.224– 0.228	2× 140– 142	45	grain	< 0.02	< 0.02	< 0.04	1999/5079
USA, 1998 Austin, CO (Triumph) RCN 98217	EC	2× 0.221– 0.223	2× 184– 186	63	grain	< 0.02	< 0.02	< 0.04	1999/5079
USA, 1998 Porterville, CA (UC 603) RCN 98218		2× 0.224– 0.225	2× 281– 286	43	grain	0.07	0.02	0.09	1999/5079
USA, 1998 Jerome, ID (Lud) RCN 98219	EC	2× 0.224	2× 188	53	grain	< 0.02	< 0.02	< 0.04	1999/5079
USA, 1998 Ephrata, WA (Baronesse) RCN 98220	EC	2× 0.224	2× 186	52	grain	< 0.02	< 0.02	< 0.04	1999/5079
Canada, 1998 St. Paul (AC Burman) RCN 98221	EC	2× 0.231– 0.237	2× 259– 273	42	grain	0.05	< 0.02	0.07	1999/5079
Canada, 1998 Portage La Prairie, (Manley) RCN 98222	EC	2× 0.224	2× 109	55	grain	< 0.02	< 0.02	< 0.04	1999/5079
Canada, 1998 Portage La Prairie, (Manley) RCN 98223		2× 0.224	2× 109	41	grain	< 0.02	< 0.02	< 0.04	1999/5079
Canada, 1998 Minto, MB (Stratus) RCN 98224	E C	2× 0.224	2× 200– 201	40	grain	< 0.02	< 0.02	< 0.04	1999/5079

BARLEY Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Canada, 1998 Minto, MB (Bedford) RCN 98225	EC	2× 0.224	2× 200- 203	40	grain	0.03	0.02	0.05	1999/5079
Canada, 1998 Saskatoon, SK (Harrington) RCN 98226	EC	2× 0.224	2× 110- 112	41	grain	< 0.02	< 0.02	< 0.04	1999/5079
USA, 1998 Saskatoon, SK (Harrington) RCN 98227	EC	2× 0.223– 0.228	2× 149- 151	42 49 57 63 70	grain grain grain grain grain	0.04 0.02 0.03 0.03 0.03	0.02 < 0.02 < 0.02 < 0.02 < 0.02	0.06 0.04 0.05 0.05 0.05	1999/5079
Canada, 1998 Leduc, AB (AC Lacombe) RCN 98228	EC	2× 0.224	2× 100- 101	70	grain	0.13	0.05	0.18	1999/5079
Canada, 1998 Leduc, AB (Brier) RCN 98229		2× 0.224– 0.235	2× 99– 101	38	grain	< 0.02	< 0.02	< 0.04	1999/5079
Canada, 1998 Lacombe, AB (Harrington) RCN 98230	EC	2× 0.224	2× 197- 201	43	grain	0.04	< 0.02	0.06	1999/5079
Canada, 1998 Lacombe, AB (Harrington) RCN 98231	EC	2× 0.224	2× 100- 199	50	grain	< 0.02	< 0.02	< 0.04	1999/5079
Canada, 1998 Fairview, AB (Oxbow) RCN 98232	EC	2× 0.224– 0.235	2× 117– 121	44	grain	< 0.02	< 0.02	< 0.04	1999/5079
Canada, 1998 Fairview, AB (Oxbow) RCN 98233	EC	2× 0.224– 0.325	2× 116- 123	43	grain	< 0.02	< 0.02	< 0.04	1999/5079
USA, 2004 Collins, CO (Moravian 14) C010 TRT 02	EC	2× 0.163– 0.166	2× 278- 283	15 15	grain grain	0.50 0.50	0.31 0.32	0.81 0.82	2007/7008566
C010 TRT 03		2×	2× 273-	21	grain	0.22	0.16	0.38	

BARLEY Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
		0.160– 0.163	277	21	grain	0.23	0.15	0.38	
USA, 2004	EC	2×	2× 328-	14	grain	0.38	0.16	0.54	2007/7008566
Kimberly, ID		0.163–	342	14	grain	0.39	0.17	0.56	
(812 Winter)		0.169							
ID05 TRT 02									
ID05 TRT 03		2×	2× 326-	21	grain	0.08	0.04	0.12	
		0.161–	329	21	grain	0.07	0.04	0.11	
		0.163							
USA, 2005	EC	2×	2× 287-	15	grain	0.57	0.31	0.88	2007/7008566
Wellington, CO		0.169–	290	15	grain	0.62	0.36	0.98	
(Moravian 37)		0.170							
CO03 TRT 02									
CO03 TRT 03		2×	2× 281-	22	grain	0.25	0.18	0.43	
		0.165–	288	22	grain	0.23	0.17	0.40	
		0.169							
USA, 2005	EC	2×	2× 330-	14	grain	0.52	0.35	0.87	2007/7008566
Kimberly, ID		0.165–	332	14	grain	0.56	0.36	0.92	
(812 Winter)		0.167							
ID02 TRT 02									
ID02 TRT 03		2×	2× 328-	23	grain	0.28	0.21	0.49	
		0.163–	335	23	grain	0.23	0.18	0.41	
		0.169							
Belgium, 1998	EC	2×	2× 296-	34	grain	0.04	0.03	0.07	1999/11509
Kortenaken		0.244–	310	40	grain	0.05	0.02	0.07	
(Riviera)		0.255							
AGR/05/98	SE	2×	2× 304-	34	grain	< 0.02	< 0.02	< 0.04	
		0.244	305	40	grain	< 0.02	< 0.02	< 0.04	
	SE	2×	2× 303-	34	grain	< 0.02	< 0.02	< 0.04	
		0.243–	305	40	grain	< 0.02	< 0.02	< 0.04	
		0.244							
Germany, 1998	EC	2×	2× 273-	35	grain	< 0.02	< 0.02	< 0.04	1999/11509
Meckenheim		0.225–	296	41	grain	0.02	< 0.02	0.04	
(Scarlett)		0.244							
DU2/05/98	SE	2×	2× 281-	35	grain	0.03	< 0.02	0.05	
		0.225–	303	41	grain	0.03	< 0.02	0.05	
		0.242							
	SE	2×	2× 291-	35	grain	0.05	< 0.02	0.07	
		0.233–	303	41	grain	0.04	< 0.02	0.06	
		0.242							
Sweden, 1998	EC	2×	2× 297-	42	grain	< 0.02	< 0.02	< 0.04	1999/11509
Bjärred		0.245–	303						
(Scarlett)		0.250							
HUS/03/98	SE	2×	2× 300-	42	grain	0.03	< 0.02	0.05	

BARLEY Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
		0.240–	312						
		0.250							
	SE	2×	2× 297-	42	grain	0.03	< 0.02	0.05	
		0.238–	332						
		0.266							
Great Britain, 1998	EC	2×	2× 294-	35	grain	0.04	< 0.02	0.06	1999/11509
Brackley		0.243–	307	42	grain	0.04	0.02	0.06	
(Fighter)		0.253							
OAT/02/98	SE	2×	2× 289-	35	grain	0.07	0.03	0.10	
		0.232–	297	42	grain	0.05	0.02	0.07	
		0.238							
	SE	2×	2× 291-	35	grain	0.06	0.03	0.09	
		0.233–	303	42	grain	0.07	0.03	0.10	
		0.243							
Great Britain, 1998	EC	2×	2× 297-	35	grain	0.06	< 0.02	0.08	1999/11509
Atherstone		0.247–	310	42	grain	0.07	< 0.02	0.09	
(Muscat)		0.257							
OAT/03/98	SE	2×	2× 294-	35	grain	0.12	0.03	0.15	
		0.235–	311	42	grain	0.12	0.03	0.15	
		0.285							
	SE	2×	2× 295-	35	grain	0.09	< 0.02	0.11	
		0.236–	304	42	grain	0.10	< 0.02	0.12	
		0.244							
Spain, 1999	EC	2×	2× 308-	41	grain	0.03	< 0.02	0.05	1999/11824
Trajano		0.254–	312						
(Apex)		0.257							
ALO/03/99									
Spain, 1999	EC	2×	2× 270-	35	grain	0.05	0.03	0.08	1999/11824
Paterna		0.223–	307						
(Irene)		0.253		43	grain	0.03	0.02	0.05	
ALO/04/99									
Spain, 1999	EC	2×	2× 305-	35	grain	0.02	< 0.02	0.04	1999/11824
Paterna		0.252–	313						
(Tina)		0.258							
ALO/05/99									
Germany, 1999	EC	2×	2× 299-	42	grain	0.09	0.04	0.13	1999/11824
Großharrie		0.246–	306						
(Landi)		0.253							
D05/03/99									
France, 1999	EC	2×	2× 300-	35	grain	0.04	0.03	0.07	1999/11824
Neuville Saint Vaast		0.247–	302	43	grain	0.03	0.03	0.06	
(Scarlett)		0.249							
FR2/05/99									
Sweden, 1999	EC	2×	2× 289-	35	grain	0.29	0.08	0.37	1999/11824
Bjärred		0.239–	327	43	grain	0.22	0.08	0.30	

[illegible]

BARLEY Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
France, 2001	EC	2×	2× 294-	36	grain	0.03	0.02	0.05	2002/1004077
Legardère sur Leze		0.245-	306	43	grain	0.03	< 0.02	0.05	
(Nevada)		0.255							
A1050 TL1									
France	EC	2×	2× 295-	35	grain	< 0.02	< 0.02	< 0.04	2002/1004077
2001		0.246-	304	42	grain	0.04	0.04	0.08	
Duras		0.253							
(Intro)									
A1050 DR1									
France, 2001	EC	2×	2× 296-	27	grain	0.06	0.04	0.10	2002/1004077
Duras		0.246-	314	36	grain	0.05	0.04	0.09	
(Astoria)		0.262		42	grain	0.07	0.05	0.12	
A1050 DR2									
Brazil, 1999	SE	1×	1× 200	0	grain	0.92	0.02	0.94	2000/5236
Não Me Toque, RS		0.166		7	grain	0.21	0.11	0.32	2003/5000120
(BR-2)				15	grain	0.36	0.18	0.53	2003/1013067
CDR/F/2000/017/San				30	grain	0.06	0.02	0.08	
tagro				45	grain	0.04	0.02	0.06	
Brazil, 1999	SE	1×	1× 200	30	grain	0.08	0.02	0.10	2000/5236
Não Me Toque, RS		0.166							2003/5000120
(BR-2)		1×	1× 200	30	grain	0.15	0.04	0.19	2003/1013067
CDR/F/2000/902/San		0.333							
tagro									
Brazil, 1999	SE	1×	1× 200	30	grain	0.09	0.05	0.14	2000/5236
Encruzilhada do Sul,		0.166							2003/5000120
(BR-2)		1×	1× 200	30	grain	0.56	0.20	0.76	2003/1013067
CDR/F/2000/020/San		0.333							
tagro									
Brazil, 1999	SE	1×	1× 200	30	grain	0.05	0.05	0.11	2000/5236
Não Me Toque, RS		0.166							2003/5000120
(BR-2)		1×	1× 200	30	grain	0.02	0.02	0.04	2003/1013067
CDR/F/2000/018/BR		0.333							
2									
Brazil, 1999	EC	1×	1× 200	30	grain	0.07	0.03	0.10	2000/5241
Não Me Toque, RS		0.200							2003/1013066
(BR-2)		1×	1× 200	30	grain	0.21	0.07	0.28	
CDR/F/2000/900/San		0.400							
tagro									
Brazil, 1999	EC	1×	1× 200	30	grain	0.04	0.03	0.07	2000/5241
Encruzilhada do Sul,		0.200							2003/1013066
(BR-2)		1×	1× 200	30	grain	0.19	0.16	0.35	
CDR/F/2000/008/San		0.400							
tagro									
Brazil, 1999	EC	1×	1× 200	30	grain	0.08	0.08	0.16	2000/5241

BARLEY Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Não Me Toque, RS (BR-2)		0.200							2003/1013066
CDR/F/2000/006/BR 2		1× 0.400	1× 200	30	grain	0.11	0.10	0.21	
Brazil, 1999	EC	1×	1× 200	0	grain	0.80	0.02	0.82	2000/5241
Não Me Toque, RS (BR-2)		0.200		7	grain	0.37	0.14	0.52	2003/1013066
CDR/F/2000/005/San tagro				15	grain	0.32	0.15	0.48	
				30	grain	0.08	0.03	0.10	
				45	grain	0.05	0.04	0.09	

Rye

In the USA, five field trials in rye were conducted in the growing seasons 1999. Rye at five locations throughout the major rye-growing regions of the United States were treated with an EC formulation. In grain and straw samples of these trials collected at about 55- 66 DALA and analysed with BASF method no. 445/0. A summary of the residue trials with their most relevant data is presented in Table 27 and Table 38.

Table 27 Residues in rye grain from foliar applications of pyraclostrobin to rye in supervised trials in the USA, Canada and Northern and Southern Europe

RYE Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 1998 Ivor, VA (Winter King) RCN 98117	EC	2× 0.230– 0.234	2× 283– 291	66	grain	< 0.02	< 0.02	< 0.04	1999/5107
USA, 1998 Britton, SD (Dacold) RCN 98118	EC	2× 0.224	2× 92–93	58	grain	< 0.02	< 0.02	< 0.04	1999/5107
USA, 1998 Larned, KS (Elbon) RCN 98119	EC	2× 0.225– 0.229	2× 189– 194	55	grain	< 0.02	< 0.02	< 0.04	1999/5107
USA, 1998 Velva, ND (Dackold) RCN 98120	EC	2× 0.222– 0.224	2× 139– 140	59	grain	< 0.02	< 0.02	< 0.04	1999/5107
USA, 1998 Velva, ND (Dackold) RCN 98121	EC	2× 0.221– 0.224	2× 138– 140	59	grain	< 0.02	< 0.02	< 0.04	1999/5107

Wheat

In the USA, Canada and Europe, in total 59 field trials in wheat were conducted in the growing seasons 1998, 1999, 2000, 2008 and 2009. EC, SE and OD formulation was applied at rates of about

0.150–0.250 kg ai/ha per application. Wheat grain samples were commonly collected at about 35 days after the last application () and analysed with BASF method no. 445/0, 421/0, D9904, D9908 and 535/1.

In Hungary, Brazil and Argentina, in total 12 trials in wheat were conducted in the growing seasons 1999, 2000 and 2001. EC and SE formulations were foliar applied one or two times at rates of between 0.125 or 0.60 kg ai/ha per application. Wheat grain samples were commonly collected at about 30 (or 40+) days after the last application () and analysed with BASF method no. 445/0 and D9908.

A summary of the residue trials with their most relevant data is presented in Table 28 and Table 39.

Table 28 Residues in wheat grain from foliar applications of pyraclostrobin to wheat in supervised trials in the USA, Canada, Northern and Southern Europe, Argentina and Brazil

WHEAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 1998	EC	2×	2× 188	53	grain	< 0.02	< 0.02	< 0.04	1999/5096
Cary, NC		0.225							
(Coke 9835)									
RCN 98175									
USA, 1998	EC	2×	2× 67– 79	40	grain	< 0.02	< 0.02	< 0.04	1999/5096
Cary, NC		0.222–							
(Cardinal)		0.244							
RCN 98176									
USA, 1998	EC	2×	2× 138–	41	grain	< 0.02	< 0.02	< 0.04	1999/5096
Colony, OK		0.222–	194						
(Custer)		0.224							
RCN 98177									
USA, 1998	EC	2×	2× 141–	43	grain	< 0.02	< 0.02	< 0.04	1999/5096
Colony, OK		0.224–	196						
(Custer)		0.226							
RCN 98178									
USA, 1998	EC	2×	2× 263–	43	grain	< 0.02	< 0.02	< 0.04	1999/5096
Groom, TX		0.225	264						
(Tam 200)									
RCN 98179									
USA, 1998	EC	2×	2× 244–	44	grain	< 0.02	< 0.02	< 0.04	1999/5096
Groom, TX		0.225	263						
(Tam 200)									
RCN 98180									
USA, 1998	EC	2×	2× 187–	51	grain	< 0.02	< 0.02	< 0.04	1999/5096
Levelland, TX		0.225–	193						
(Tam 202)		0.231							
RCN 98181									
USA, 1998	EC	2×	2× 186–	41	grain	< 0.02	< 0.02	< 0.04	1999/5096

Pyraclostrobin

[illegible]

WHEAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Canada, 1998	EC	2×	2× 108–	40	grain	< 0.02	< 0.02	< 0.04	1999/5096
Saskatoon, SK		0.221–	110	47	grain	< 0.02	< 0.02	< 0.04	
(AC Barrie)		0.224		54	grain	< 0.02	< 0.02	< 0.04	
RCN 98202				61	grain	< 0.02	< 0.02	< 0.04	
				68	grain	< 0.02	< 0.02	< 0.04	
Canada, 1998	EC	2×	2× 148–	46	grain	< 0.02	< 0.02	< 0.04	1999/5096
Saskatoon, SK		0.220–	149						
(Teal)		0.222							
RCN 98203									
Canada, 1998	EC	2×	2× 151	45	grain	< 0.02	< 0.02	< 0.04	1999/5096
Saskatoon, SK		0.224–							
(Teal)		0.229							
RCN 98204									
Canada, 1998	EC	2×	2× 199–	40	grain	< 0.02	< 0.02	< 0.04	1999/5096
Minto, MB		0.223–	200						
(Cora)		0.224							
RCN 98205									
Canada, 1998	EC	2×	2× 198–	40	grain	< 0.02	< 0.02	< 0.04	1999/5096
Minto, MB		0.225	203						
(AC Barrie)									
RCN 98206									
Canada, 1998	EC	2×	2× 110	47	grain	< 0.02	< 0.02	< 0.04	1999/5096
Portage La		0.223–							
Prairie, MB		0.226							
(AC Domain)									
RCN 98207									
USA, 2008	EC	2×	2× 187	69	grain	< 0.02	< 0.02	< 0.04	2009/7000170
Ephrata, WA		0.168							
(Kelby)		2×	2× 19	69	grain	< 0.02	< 0.02	< 0.04	
R080597		0.168							
		2×	2× 9	69	grain	< 0.02	< 0.02	< 0.04	
		0.168							
The Netherlands	EC	2×	2× 290–	35	grain	0.04	< 0.02	0.06	1999/11509
1998		0.239–	304	44	grain	< 0.02	< 0.02	< 0.04	
Siebgewald		0.251		51	grain	< 0.02	< 0.02	< 0.04	
(Brigadier)	SE	2×	2× 294–	35	grain	< 0.02	< 0.02	< 0.04	
AGR/04/98		0.236–	309	44	grain	< 0.02	< 0.02	< 0.04	
		0.247		51	grain	< 0.02	< 0.02	< 0.04	
	SE	2×	2× 289–	35	grain	0.02	< 0.02	0.04	
		0.231–	297	44	grain	< 0.02	< 0.02	< 0.04	
		0.238		51	grain	< 0.02	< 0.02	< 0.04	
Spain, 1998	EC	2×	2× 279–	42	grain	< 0.02	< 0.02	< 0.04	1999/11509
Maribanez		0.230–	295						

WHEAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
(Cartaga)		0.243							
ALO/07/98	SE	2×	2× 299–	42	grain	< 0.02	< 0.02	< 0.04	
		0.239–	314						
		0.252							
	SE	2×	2× 303–	42	grain	< 0.02	< 0.02	< 0.04	
		0.243–	305						
		0.244							
Spain, 1998	EC	2×	2× 301–	42	grain	< 0.02	< 0.02	< 0.04	1999/11509
Alcala de		0.248–	302						
Guadaira		0.249							
(Cajense)	SE	2×	2× 301–	42	grain	< 0.02	< 0.02	< 0.04	
ALO/08/98		0.241–	304						
		0.244							
	SE	2×	2× 300–	42	grain	< 0.02	< 0.02	< 0.04	
		0.240–	307						
		0.246							
Spain, 1998	EC	2×	2× 284–	42	grain	< 0.02	< 0.02	< 0.04	1999/11509
Alcala de		0.235–	286						
Guadaira		0.236							
(Vitrou)	SE	2×	2× 304–	42	grain	< 0.02	< 0.02	< 0.04	
ALO/09/98		0.244–	310						
		0.248							
	SE	2×	2× 299–	42	grain	< 0.02	< 0.02	< 0.04	
		0.239–	301						
		0.241							
Germany, 1998	EC	2×	2× 280–	42	grain	< 0.02	< 0.02	< 0.04	1999/11509
Großharrie		0.231–	321	49	grain	< 0.02	< 0.02	< 0.04	
(Pepital)		0.265							
D05/02/98	SE	2×	2× 298–	42	grain	< 0.02	< 0.02	< 0.04	
		0.239–	304	49	grain	< 0.02	< 0.02	< 0.04	
		0.244							
	SE	2×	2× 299–	42	grain	< 0.02	< 0.02	< 0.04	
		0.239–	303	49	grain	< 0.02	< 0.02	< 0.04	
		0.243							
France, 1998	EC	2×	2× 300–	42	grain	< 0.02	< 0.02	< 0.04	1999/11509
Neuville Saint Vaast		0.248–	308	50	grain	< 0.02	< 0.02	< 0.04	
(Balthazar)		0.254							
FR2/03/98	SE	2×	2× 303–	42	grain	< 0.02	< 0.02	< 0.04	
		0.243–	305	50	grain	< 0.02	< 0.02	< 0.04	
		0.244							
	SE	2×	2× 297–	42	grain	< 0.02	< 0.02	< 0.04	
		0.238–	315	50	grain	< 0.02	< 0.02	< 0.04	
		0.252							
Great Britain, 1998	EC	2×	2× 235–	33	grain	0.04	< 0.02	0.06	1999/11509
1998		0.194–	273	47	grain	< 0.02	< 0.02	< 0.04	
Maykirk		0.226							

WHEAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
(Riband)	SE	2×	2× 282–	33	grain	0.05	< 0.02	0.07	
OAT/01/98		0.226–	289	47	grain	0.03	< 0.02	0.05	
		0.232							
	SE	2×	2× 294–	33	grain	0.05	< 0.02	0.07	
		0.236–	307	47	grain	0.02	< 0.02	0.04	
		0.246							
Germany, 1998	EC	2×	2× 297–	64	grain	< 0.02	< 0.02	< 0.04	1999/11825
Blumberg		0.245–	307						
(Flair)		0.253							
ACK/02/98									
France, 1998	EC	2×	2× 288–	43	grain	< 0.02	< 0.02	< 0.04	1999/11825
St. Maximin		0.238–	310						
(Ardente)		0.256							
FR3/03/98									
Sweden, 1998	EC	2×	2× 297–	42	grain	< 0.02	< 0.02	< 0.04	1999/11825
Bjärred									
(Meridien)		0.254–	308						
HUS/04/98		0.256							
Denmark, 1999	EC	2×	2× 308–	35	grain	< 0.02	< 0.02	< 0.04	1999/11824
Fuenen		0.253–	309	42	grain	< 0.02	< 0.02	< 0.04	
(Dragon)		0.254							
ALB/01/99									
Germany	EC	2×	2× 305–	34	grain	< 0.02	< 0.02	< 0.04	1999/11824
Oberding		0.252–	317	41	grain	< 0.02	< 0.02	< 0.04	
(Kanzler)		0.261							
D07/01/99									
France, 1999	EC	2×	2× 278–	35	grain	< 0.02	< 0.02	< 0.04	1999/11824
Nimes/Gard		0.229–	294	42	grain	< 0.02	< 0.02	< 0.04	
(Arstar)		0.242							
FR3/05/99									
Great Britain	EC	2×	2× 292–	36	grain	< 0.02	< 0.02	< 0.04	1999/11824
1999		0.241–	307	43	grain	< 0.02	< 0.02	< 0.04	
Kinesbridge		0.253							
(Hussar)									
OAT/08/99									
Great Britain	EC	2×	2× 290–	36	grain	0.03	< 0.02	0.05	1999/11824
1999		0.240–	293	42	grain	< 0.02	< 0.02	< 0.04	
Brackley		0.242							
(Consort)									
OAT/09/99									
The Netherlands	SE	2×	2× 306–	35	grain	< 0.02	< 0.02	< 0.04	2001/1000986
2000		0.238–	308	42	grain	< 0.02	< 0.02	< 0.04	

WHEAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
MS Ottersum (Vivant)	SE	0.239 2×	2×	35	grain	< 0.02	< 0.02	< 0.04	
AGR/01/00		0.222– 0.238	313	42	grain	< 0.02	< 0.02	< 0.04	
	SE	2×	2×	35	grain	0.02	< 0.02	0.04	
		0.231– 0.242	311	42	grain	< 0.02	< 0.02	< 0.04	
	SE	2×	2×	35	grain	0.05	< 0.02	0.07	
		0.236– 0.246	316	42	grain	< 0.02	< 0.02	< 0.04	
Germany, 2000 Bad Sassendorf (Batis)	SE	2×	2×	42	grain	< 0.02	< 0.02	< 0.04	2001/1000986
D08/01/00	SE	2×	2×	42	grain	< 0.02	< 0.02	< 0.04	
		0.222– 0.230	301						
	SE	2×	2×	42	grain	< 0.02	< 0.02	< 0.04	
		0.233– 0.234	302						
	SE	2×	2×	42	grain	< 0.02	< 0.02	< 0.04	
		0.233– 0.236	305						
Great Britain 2000 Bicester	SE	2×	2×	35	grain	< 0.02	< 0.02	< 0.04	2001/1000986
(Equinox)	SE	2×	2×	35	grain	< 0.02	< 0.02	< 0.04	
OAT/01/00		0.223– 0.227	298	42	grain	< 0.02	< 0.02	< 0.04	
	SE	2×	2×	35	grain	< 0.02	< 0.02	< 0.04	
		0.232– 0.233	300	42	grain	< 0.02	< 0.02	< 0.04	
	SE	2×	2×	35	grain	0.04	< 0.02	0.06	
		0.230– 0.241	310	42	grain	< 0.02	< 0.02	< 0.04	
Germany, 2009 Stetten a. H. (Asano)	OD	2×	2×	42	grain	< 0.01	< 0.01	< 0.02	2009/1111384
L090099	SE	0.150 2×	2×	48	grain	< 0.01	< 0.01	< 0.02	
		0.170		48	grain	< 0.01	< 0.01	< 0.02	
France, 2009 S. Martin (Orvantis)	OD	2×	2×	57	grain	< 0.01	< 0.01	< 0.02	2009/1111384
L090100	SE	0.150 2×	2×	57	grain	< 0.01	< 0.01	< 0.02	
		0.170							
Greece, 2009 Lakia (Meridiano)	OD	2×	2×	28	grain	< 0.01	< 0.01	< 0.02	2009/1111384
L090101	SE	0.150 2×	2×	35	grain	< 0.01	< 0.01	< 0.02	
				42	grain	< 0.01	< 0.01	< 0.02	
	SE	2×	2×	28	grain	< 0.01	< 0.01	< 0.02	

WHEAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
		0.170		35	grain	< 0.01	< 0.01	< 0.02	
				42	grain	< 0.01	< 0.01	< 0.02	
Spain, 2009	OD	2×	2× 200	35	grain	0.01	< 0.01	0.02	2009/1111384
Quintanar del Rey		0.150		42	grain	0.01	< 0.01	0.02	
(Pane)	SE	2×	2× 200	35	grain	< 0.01	< 0.01	< 0.02	
L090102		0.170		42	grain	< 0.01	< 0.01	< 0.02	
Argentina	SE	2×	—	38	grain	< 0.02	< 0.02	< 0.04	2002/1007833
1999/2000		0.163							
Tandil		2×	—	38	grain	< 0.02	< 0.02	< 0.04	
(Poncho)		0.327							
Argentina	SE	1×	—	1	grain	0.06	< 0.02	0.08	2002/1007832
2000/2001		0.153		35	grain	0.03	< 0.02	0.05	
Tandil									
(Baguette)									
Argentina	SE	1×	—	53	grain	< 0.02	< 0.02	< 0.04	2002/1007855
2001		0.125							
Tandil		1×	—	53	grain	< 0.02	< 0.02	< 0.04	
(Baguette 10)		0.250							
Hungary	SE	1×	1× 200	35	grain	< 0.02	nd	n.a.	2002/1011467
2001		0.125		35	grain	< 0.02	nd	n.a.	
Ozd Vasvar				35	grain	< 0.02	nd	n.a.	
(Kompolti-3)									
Brazil, 1999	SE	1×	1× 200	0	grain	0.37	< 0.02	0.39	2000/5236
Santa Cruz do		0.200		7	grain	0.37	0.04	0.41	2003/5000120
Sul, RS				15	grain	0.09	< 0.02	0.10	2003/1013067
(OR 1)				30	grain	0.04	0.02	0.06	
CDR/F/2000/021/ Santagro				45	grain	< 0.02	< 0.02	< 0.04	
Brazil, 1999	SE	1×	1× 200	30	grain	0.04	0.02	0.06	2000/5236
1999		0.200							2003/5000120
Santo Augusto, RS		1×	1× 200	30	grain	0.10	0.05	0.14	2003/1013067
(CEP 32)		0.399							
CDR/F/2000/022/ BR2									
Brazil, 1999	SE	1×	1× 200	30	grain	0.02	< 0.02	0.04	2000/5236
Ponta Grossa, PR		0.200							2003/5000120
(BR-35)		1×	1× 200	30	grain	0.04	0.02	0.06	2003/1013067
CDR/F/2000/023/ BR5		0.399							
Brazil, 1999	SE	1×	1× 200	30	grain	0.03	< 0.02	0.04	2000/5236
Erebango, RS		0.200							2003/5000120

WHEAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
(CEP 27)		1×	1× 200	30	grain	0.17	0.04	0.21	2003/1013067
CDR/F/2000/024/ Santagro		0.399							
Brazil, 1999	EC	1×	1× 200	0	grain	0.36	< 0.02	0.38	2000/5241
Santa Cruz do		0.300		7	grain	0.37	0.04	0.41	2003/1013066
Sul, RS				15	grain	0.09	< 0.02	0.11	
(OR 1)				30	grain	0.13	0.05	0.17	
CDR/F/2000/009/ Santagro				45	grain	< 0.02	< 0.02	< 0.04	
Brazil, 1999	EC	1×	1× 200	30	grain	0.04	0.02	0.06	2000/5241
Santo Augusto, RS		0.300							2003/1013066
(CEP 32)		1×	1× 200	30	grain	0.17	0.03	0.20	
CDR/F/2000/010/ BR2		0.600							
Brazil, 1999	EC	1×	1× 200	30	grain	0.09	0.03	0.12	2000/5241
Santa Cruz do		0.300							2003/1013066
Sul, RS		1×	1× 200	30	grain	0.29	0.10	0.38	
(OR 1)		0.600							
CDR/F/2000/901/ Santagro									
Brazil, 1999	EC	1×	1× 200	30	grain	< 0.02	< 0.02	< 0.04	2000/5241
Ponta Grossa, PR		0.300							2003/1013066
(BR-35)		1×	1× 200	30	grain	< 0.02	< 0.02	< 0.04	
CDR/F/2000/012/ BR5		0.600							

nd not detected,

n.a. not applicable

Sorghum

In the USA, in total 12 field trials in sorghum were conducted in the growing season 2007. EC plus SE formulation was applied once at a rate of 20 g ai/100 kg seed and foliar applied once at rates of 0.22–0.23 kg ai/ha. Samples were collected and analysed by LC/MS/MS using BASF analytical method D9908 (version II). A summary of the residue trials with their most relevant data is presented in Table 29 and Table 40.

Table 29 Residues in sorghum grain from a seed treatment plus foliar applications of pyraclostrobin to sorghum in supervised trials in the USA

SORGHUM Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 2007	FS	20 g		76	grain	0.34	0.08	0.42	2008/7005427
Clarke, GA		as/100							
(TR459)	+	kg seed							
R060567		+							
	EC	0.22	215	76					

SORGHUM Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 2007 Jackson, AR (TR459) R060568	FS + +	20 g as/100 kg seed +	 	64	grain	< 0.02	< 0.02	< 0.04	2008/7005427
	EC	0.23	189						
USA, 2007 Jefferson, IA (TR459) R060569	FS + +	20 g as/100 kg seed +	 	65	grain	< 0.02	< 0.02	< 0.04	2008/7005427
	EC	0.22	318						
USA, 2007 Clinton, IL (TR459) R060570	FS + +	20 g as/100 kg seed +	 	49	grain	0.02	< 0.02	0.04	2008/7005427
	EC	0.23	310						
USA, 2007 Stafford, KS (TR459) R060571	FS + +	20 g as/100 kg seed +	 	46	grain	0.03	< 0.02	0.05	2008/7005427
	EC	0.22	201						
USA, 2007 Freeborn, MN (TR459) R060572	FS + +	20 g as/100 kg seed +	 	91	grain	0.02	< 0.02	0.04	2008/7005427
	EC	0.22	201						
USA, 2007 Caddo, OK (TR459) R060573	FS + +	20 g as/100 kg seed +	 	61	grain	0.02	< 0.02	0.04	2008/7005427
	EC	0.22	227						
USA, 2007 Uvalde, TX (TR459) R060574	FS + +	20 g as/100 kg seed +	 	122	grain	0.08	0.02	0.10	2008/7005427
	EC	0.22	231						
USA, 2007 Armstrong, TX (TR459) R060576	FS + +	20 g as/100 kg seed +	 	49	grain	0.05	0.03	0.08	2008/7005427
	EC	0.22	224						
USA, 2007 Carson, TX (TR459)	FS +	20 g as/100 kg seed	 	49	grain	0.03	0.03	0.06	2008/7005427

[illegible]

PECAN	Application				Residues (mg/kg)					Ref. Report No
Country, Year Location (variety) Trial No.	Formulation	No.	kg ai/ ha	kg ai/h L	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
USA	WG	4	0.135	0.019–	nutmeat	14	< 0.02	< 0.02	< 0.04	1999/5152
Tillman county, OK, (Natives)		4	0.135	0.008–	nutmeat	14	< 0.02	< 0.02	< 0.04	
RCN 99336				0.009						

Almonds

In almonds a total of five trials were conducted in representative growing areas in the United States in 2003. A WG formulation was applied four times with an application rate of 0.135 kg as/ha. In all trials, nutmeat samples were taken at normal crop maturity (24–26 DALA). In case of almonds, also hulls were analysed with BASF method D9908.

In almonds a total of five trials were conducted in representative growing areas in the United States in 1999. A WG formulation was applied four times with an application rate of 0.135 kg as/ha. In all trials, nutmeat samples were taken at normal crop maturity (148 DALA). Also hulls were analysed and a residue decline trial was conducted. The samples were analysed with BASF method no. 421/0. A summary of the residue trials with their most relevant data is presented in Table 31 and Table 41.

Table 31 Residues in almond nutmeat from foliar applications of pyraclostrobin to almond in supervised trials in the USA.

ALMOND	Application				Residues (mg/kg)					Ref. Report No
Country, Year Location (variety) Trial No.	Formulation	No.	kg ai / ha	kg ai/h L	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
USA, 2003	WG	4	0.135	0.023–	nutmeat	25	< 0.02	< 0.02	< 0.04	2004/
Terra Bella, CA				0.024						5000223
(Monterey)		4	0.135	0.01	nutmeat	25	< 0.02	< 0.02	< 0.04	
RCN 2003131										
USA, 2003	WG	4	0.135	0.014–	nutmeat	24	< 0.02	< 0.02	< 0.04	2004/
Wasco, CA				0.02						5000223
(Non-pareil)		4	0.135	0.01	nutmeat	24	< 0.02	< 0.02	< 0.04	
RCN 2003132										
USA, 2003	WG	4	0.135	0.02	nutmeat	26	< 0.02	< 0.02	< 0.04	2004/
Madera, CA		4	0.135	0.007	nutmeat	26	< 0.02	< 0.02	< 0.04	5000223
(Butte)										
RCN 2003133										
USA, 2003	WG	4	0.135	0.02–	nutmeat	25	< 0.02	< 0.02	< 0.04	2004/
Glenn, CA				0.03						5000223
(Non-pareil)		4	0.135	0.007	nutmeat	25	< 0.02	< 0.02	< 0.04	
RCN 2003134										
USA, 2003	WG	4	0.135	0.020	nutmeat	25	< 0.02	< 0.02	< 0.04	2004/
Hughson, CA		4	0.135	0.007	nutmeat	25	< 0.02	< 0.02	< 0.04	5000223
(Carmel)										
RCN 2003135										
USA, 1999	WG	4	0.135	0.016–	nutmeat	148	< 0.02	< 0.02	< 0.04	1999/5161
Tulare, CA				0.017						

ALMOND	Application				Residues (mg/kg)					Ref. Report No
Country, Year Location (variety) Trial No.	Formulation	No.	kg ai / ha	kg ai/h L	Matrix	Day	pyraclost robin	BF 500-3	Total residue	
(Monterey)		4	0.135	0.006–	nutmeat	148	< 0.02	< 0.02	< 0.04	
RCN 99135				0.007						
USA, 1999	WG	4	0.135	0.018	nutmeat	108	< 0.02	< 0.02	< 0.04	1999/5161
Kern county, CA		4	0.135	0.007	nutmeat	108	< 0.02	< 0.02	< 0.04	
(Non-pariel)										
RCN 99136										
USA, 1999	WG	4	0.135	0.015	nutmeat	116	< 0.02	< 0.02	< 0.04	1999/5161
Fresno county, CA		4	0.135	0.006	nutmeat	116	< 0.02	< 0.02	< 0.04	
(Non-pareil)										
RCN 99137										
USA, 1999	WG	4	0.135	0.014–	nutmeat	115	< 0.02	< 0.02	< 0.04	1999/5161
Madera county, CA , (Non-pareil)		4	0.135	0.015 0.006	nutmeat	115	< 0.02	< 0.02	< 0.04	
RCN 99138										
USA, 1999	WG	4	0.135	0.020–	nutmeat	120	< 0.02	< 0.02	< 0.04	1999/5161
Butte county, CA				0.021		127	< 0.02	< 0.02	< 0.04	
(Non-pareil)						134	< 0.02	< 0.02	< 0.04	
RCN 99139						141	< 0.02	< 0.02	< 0.04	
						148	< 0.02	< 0.02	< 0.04	
		4	0.135	0.009	nutmeat	120	< 0.02	< 0.02	< 0.04	
						127	< 0.02	< 0.02	< 0.04	
						134	< 0.02	< 0.02	< 0.04	
						141	< 0.02	< 0.02	< 0.04	
						148	< 0.02	< 0.02	< 0.04	

Oil seeds

Cotton

During the 2004 growing season, a total of twelve trials were conducted on cotton in the USA. At each test location, a single at planting in-furrow application of pyraclostrobin was made to cotton at 0.22–0.23 kg as/ha, followed 96–159 days later by three broadcast foliar applications at 0.22–0.27 kg as/ha, for a total rate of 0.89–0.96 kg as/ha. Cotton undelinted seed samples were collected from all trials, and cotton gin by-products RAC samples. In one trial conducted in Arkansas during the 2004 growing season, pyraclostrobin was applied at planting in-furrow at 1.12 kg as/ha, followed 102 days later by three sequential broadcast foliar sprays at 1.12 kg as/ha/application, with 7-day retreatment interval, for a total seasonal rate of 4.48 kg as/ha/season. Seed cotton samples were harvested at 30 days after the last application and analysed using BASF analytical method no. D9908. The results are summarized in Table 32 and Table 42.

Table 32 Residues in cotton seed from a planting in-furrow application plus foliar applications of pyraclostrobin to cotton in supervised trials in the USA.

COTTON Country/ year (variety) trial code	Application				Residues (mg/kg)					Ref. Report Year Study No.
	Formulation	No.	kg ai / ha	kg ai / hl	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
USA, 2004 Crittenden, AR (ST4793RR)	WG	4 ^a	1.12	0.95– 1.84	undelinted seed	30	0.11	0.03	0.14	2005/ 5000013
RCN2004183					Crude oil		< 0.02	< 0.02	< 0.04	
					Refined oil		< 0.02	< 0.02	< 0.04	
USA, 2004 Tifton, GA (DPL444BG/RR)	WG	4 ^a	0.22– 0.23	0.126– 0.311	undelinted seed	29	0.02	< 0.02	0.04	2005/ 5000012
RCN2004171										
USA, 2004 Crittenden, AR (DP424BGII/RR)	WG	4 ^a	0.22– 0.23	0.186– 0.377	undelinted seed	30	0.03	< 0.02	0.05	2005/ 5000012
RCN2004172										
USA, 2004 Washington, MS (PM 1218 BG/RR)	WG	4 ^a	0.22– 0.23	0.148– 0.469	undelinted seed	30	0.02	< 0.02	0.04	2005/ 5000012
RCN2004173										
USA, 2004 Rapides, LA (S4646 B2R)	WG	4 ^a	0.23	0.23– 0.451	undelinted seed	33	0.08	< 0.02	0.10	2005/ 5000012
RCN2004174										
USA, 2004 Uvalde, TX (DeltaPine 458 BRR)	WG	4 ^a	0.22– 0.23	0.155– 0.349	undelinted seed	30	0.06	< 0.02	0.08	2005/ 5000012
RCN2004175										
USA, 2004 Pawnee, KS (DP 2280 BG- RR)	WG	4 ^a	0.22– 0.23	0.115– 0.404	undelinted seed	30	0.02	< 0.02	0.04	2005/ 5000012
RCN2004176										
USA, 2004 Hockley, TX (FM989BR)	WG	4 ^a	0.22– 0.27	0.118– 0.532	undelinted seed	32	< 0.02	< 0.02	< 0.04	2005/ 5000012
RCN2004177										
USA, 2004 Lubbock, TX (FM989BR)	WG	4 ^a	0.23	0.120– 0.489	undelinted seed	31	< 0.02	< 0.02	< 0.04	2005/ 5000012
RCN2004178										
USA, 2004 Caddo, OK (Paymaster 2280)	WG	4 ^a	0.22– 0.23	0.167– 0.261	undelinted seed	30	0.10	< 0.02	0.12	2005/ 5000012
RCN2004179										
USA, 2004	WG	4 ^a	0.22–	0.120–	undelinted	30	< 0.02	< 0.02	< 0.04	2005/

COTTON Country/ year (variety) trial code	Application				Residues (mg/kg)					Ref. Report Year Study No.
	Formulation	No.	kg ai / ha	kg ai / hl	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
Glenn, CA (Delta Pine) RCN2004180			0.23	0.500	seed					5000012
USA, 2004 Kings, CA (Phytogen 72) RCN2004181	WG	4 ^a	0.22–	0.060–	undelinted	30	0.13	0.03	0.16	2005/ 5000012
USA, 2004 Tulare, CA (Phytogen 72) RCN2004182	WG	4 ^a	0.22–	0.060–	undelinted	30	0.06	< 0.02	0.08	2005/ 5000012

^a Application 1: in-furrow / at planting to dry seed.

Rapeseed

In the USA and Canada, 16 rapeseed field trials were conducted in the growing seasons 2005. An EC formulation was foliar applied two times at rates of about 0.110 kg ai/ha or 0.220 kg ai/ha per application. Commercially mature canola bulk seed samples were harvested 21 days after the last application and analysed with method D9908. A summary of the residue trials with their most relevant data is presented in Table 33.

Table 33 Results of residue trials with pyraclostrobin conducted as a foliar application to canola in the USA and Canada in.

RAPESEED Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 2005 Marshall, SD (HYOLA357RR) R05024	EC	2× 0.224	2× 187	22	seed	< 0.02	< 0.02	< 0.04	2006/7006722
USA, 2005 Cass, SD (Clearfield) R05025	EC	2× 0.221– 0.225	2× 185– 189	0 10 22	seed seed seed	0.04 0.03 < 0.02	< 0.02 < 0.02 < 0.02	0.06 0.05 < 0.04	2006/7006722
				30 39	seed seed	< 0.02 < 0.02	< 0.02 < 0.02	< 0.04 < 0.04	
USA, 2005 Stutsman, ND (46A76) R05026	EC	2× 0.227– 0.230	2× 191– 193	22	seed	0.03	< 0.02	0.05	2006/7006722
USA, 2005 Payette, ID (Hyola 308) R05027	EC	2× 0.228– 0.229	2× 286	21	seed	< 0.02	< 0.02	< 0.04	2006/7006722
Canada, 2005 Minto, MB	EC	2× 0.225–	2× 206– 208	0 10	seed seed	0.28 0.07	0.06 0.03	0.36 0.10	2006/7006722

RAPESEED Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. .
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
(RR34-65)		0.226		21	seed	0.04	< 0.02	0.06	
R05028				30	seed	0.03	< 0.02	0.05	
				41	seed	0.03	< 0.02	0.05	
				41	seed	< 0.02	< 0.02	< 0.04	
Canada, 2005	EC	2×	2× 203–	21	seed	< 0.02	< 0.02	< 0.04	2006/7006722
Rosthern, SK		0.221–	204						
(SP Banner)		0.223							
R05029		2×	2× 202–	21	seed	0.03	< 0.02	0.05	
		0.671	204	21	meal	0.03	< 0.02	0.05	
				21	refined oil	0.04	0.03	0.07	
Canada, 2005	EC	2×	2× 216–	22	seed	0.08	0.05	0.13	2006/7006722
Boissevain, MB		0.225–	220						
(DeKalb 34-55)		0.230							
R05030									
Canada, 2005	EC	2×	2× 201–	21	seed	< 0.02	< 0.02	< 0.04	2006/7006722
Hepburn, SK		0.222–	203						
(45H72 Clearfield)		0.225							
R05031									
Canada, 2005	EC	2×	2× 201–	21	seed	< 0.02	< 0.02	< 0.04	2006/7006722
Laird, SK		0.225–	206						
(289 CL)		0.226							
R05032									
Canada, 2005	EC	2×	2× 280	21	seed	0.20	0.05	0.25	2006/7006722
Innisfail, AB		0.231							
(Advanta 110)									
R05033									
Canada, 2005	EC	2×	2× 284–	21	seed	0.10	0.05	0.14	2006/7006722
Innisfail, AB		0.226–	287						
(1862)		0.227							
R05034									
Canada, 2005	EC	2×	2× 199–	20	seed	0.10	0.03	0.13	2006/7006722
Fort SK, AB		0.223–	204						
(SP Banner)		0.229							
R05035		2×	2× 198–	20	seed	0.06	< 0.02	0.08	
		0.111–	201						
		0.113							
Canada, 2005	EC	2×	2× 196–	20	seed	0.14	0.03	0.17	2006/7006722
Fort SK, AB		0.221–	206						
(SP451RR)		0.231							
R05036		2×	2× 197–	20	seed	0.08	0.03	0.11	
		0.110–	205						
		0.115							
Canada, 2005	EC	2×	2× 199–	22	seed	0.04	< 0.02	0.06	2006/7006722

Sunflower

Table 34 Results of residue trials with pyraclostrobin conducted as a foliar application to sunflowers in the USA and Canada.

[illegible]

SUNFLOWER Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500- 3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
RCN 2001287									
USA, 2001	WG	2×	2× 182–	20	seed	0.06	< 0.02	0.08	2001/5002552
Palmyra, SD		0.213–	189			0.05	< 0.02	0.07	
(Mycogen 8388)		0.224							
RCN 2001288									
USA, 2001	WG	2×	2× 453–	21	seed	0.06	< 0.02	0.06	2001/5002552
Levelland, TX		0.213–	467			< 0.02	< 0.02	< 0.04	
(Triumph		0.224							
567DW)		2×	2× 451–	21	seed	1.40	0.35	1.75	
		1.08–	462			0.63	0.17	0.80	
RCN 2001289		1.11		21	meal	< 0.02	< 0.02	< 0.04	
						< 0.02	< 0.02	< 0.04	
				21	refined oil	< 0.02	< 0.02	< 0.04	
						< 0.02	< 0.02	< 0.04	
Canada, 2001	WG	2×	2× 110–	21	seed	0.22	0.03	0.25	2001/5002552
Douglas, MB		0.221–	111			0.11	< 0.02	0.13	
(Ag Canada 6111)		0.224							
RCN 2001290									
USA, 2004		2×	2× 224–	21	seed	< 0.02	< 0.02	< 0.04	2005/5000022
Carlyle, IL		0.220	229			< 0.02	< 0.02	< 0.04	
(Mycogen									
8N429 CL)									
RCN 2004152									

Animal feeds

Alfalfa

In the USA and Canada, 12 alfalfa field trials were conducted in the growing season 2007. A WG formulation was applied 2–3 times at a rate of about 0.170 kg ai/ha per application. From all trials, samples of forage and hay were also harvested targeting approximately 28 ± 7 days after the second cut of the same alfalfa and quantitated by LC/MS/MS using BASF analytical method D9908 (version II). A summary of the residue trials with their most relevant data is presented in Table 35.

Table 35 Results of residue trials with pyraclostrobin conducted as a foliar application to alfalfa in the USA and Canada.

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostro bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Alfalfa									
USA, 2007	WG	3×	3× 290-	15	forage 1st cut	1.86	0.26	2.12	2008/7005 483
Lehigh, PA		0.17	312	16	forage 2 nd cut	4.62	0.78	5.40	
(Ameristand 403T)		(T2)		47	forage 3 rd cut	0.02	< 0.02	0.04	

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostro- bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
R070118				48	forage 3 rd cut	< 0.02	< 0.02	< 0.04	
				15	hay 1 st cut	5.36	0.79	6.15	
				16	hay 2 nd cut	12.33	1.99	14.32	
				47	hay 3 rd cut	0.05	< 0.02	0.07	
				48	hay 3 rd cut	0.06	< 0.02	0.08	
		3×	3 × 306–	22	forage 1 st cut	0.70	0.15	0.85	
		0.17	315	23	forage 2 nd cut	1.91	0.31	2.22	
		(T3)		54	forage 3 rd cut	< 0.02	< 0.02	< 0.04	
				22	hay 1 st cut	1.89	0.36	2.25	
				23	hay 2 nd cut	4.39	0.66	5.05	
				54	hay 3 rd cut	0.02	< 0.02	0.04	
		2×	2 × 314	15	forage 1 st cut	1.88	0.22	2.10	
		0.17		16	forage 2 nd cut	4.70	0.74	5.44	
		(T4)		47	forage 3 rd cut	0.02	< 0.02	0.04	
				15	hay 1 st cut	5.43	0.58	6.01	
				16	hay 2 nd cut	12.87	1.91	14.78	
				47	hay 3 rd cut	0.07	< 0.02	0.09	
		2×	2 × 309–	22	forage 1 st cut	0.53	0.10	0.63	
		0.17	313	23	forage 2 nd cut	1.19	0.18	1.37	
		(T5)		54	forage 3 rd cut	< 0.02	< 0.02	< 0.04	
				22	hay 1 st cut	1.60	0.23	1.83	
				23	hay 2 nd cut	3.38	0.45	3.83	
				54	hay 3 rd cut	0.04	< 0.02	0.06	
USA, 2007	WG	3×	3 × 207–	14	forage 1 st cut	5.88	0.81	6.69	2008/7005 483
Louisa, VA		0.17	210	14	forage 2 nd cut	6.61	0.80	7.41	
(Starbuck)		(T2)		47	forage 3 rd cut	0.03	< 0.02	0.05	
R070119				70	forage 3 rd cut	0.17	0.04	0.21	
				14	hay 1 st cut	10.95	1.56	12.51	
				14	hay 2 nd cut	19.83	2.36	22.19	
				47	hay 3 rd cut	0.03	< 0.02	0.05	
				70	hay 3 rd cut	0.04	< 0.02	0.06	
		3×	3 × 206–	21	forage 1 st cut	0.18	0.04	0.22	
		0.17	213	21	forage 2 nd cut	0.62	0.08	0.70	
		(T3)		55	forage 3 rd cut	< 0.02	< 0.02	< 0.04	
				21	hay 1 st cut	0.10	< 0.02	0.12	
				21	hay 2 nd cut	1.76	0.19	1.95	
				55	hay 3 rd cut	0.04	< 0.02	0.06	
		2×	2 × 206–	14	forage 1 st cut	3.71	0.31	4.02	

Pyraclostrobin

1011

[illegible]

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostro- bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Canada, 2007	WG	3×	3× 261–	14	forage 1 st cut	0.38	0.10	0.48	2008/7005 483
Verchères, QC		0.16– 0.17	279	14	forage 2 nd cut	1.23	0.20	1.43	
(WL237)		(T2)		43	forage 3 rd cut	< 0.02	< 0.02	< 0.04	
R070121				46	forage 3 rd cut	< 0.02	< 0.02	< 0.04	
				14	hay 1 st cut	1.21	0.28	1.49	
				14	hay 2 nd cut	4.05	0.81	4.86	
				43	hay 3 rd cut	0.03	< 0.02	0.05	
				46	hay 3 rd cut	0.03	< 0.02	0.05	
		3×	3× 272–	20	forage 1 st cut	0.13	0.03	0.16	
		0.17– 0.18	289	20	forage 2 nd cut	1.12	0.25	1.37	
		(T3)		76	forage 3 rd cut	0.02	< 0.02	0.04	
				20	hay 1 st cut	0.38	0.11	0.49	
				20	hay 2 nd cut	3.60	0.82	4.42	
				76	hay 3 rd cut	0.03	< 0.02	0.05	
		2×	2× 279–	14	forage 1 st cut	0.40	0.09	0.49	
		0.17	280	14	forage 2 nd cut	1.12	0.23	1.35	
		(T4)		70	forage 3 rd cut	< 0.02	< 0.02	< 0.04	
				14	hay 1 st cut	1.13	0.25	1.38	
				14	hay 2 nd cut	4.23	0.85	5.08	
				70	hay 3 rd cut	0.05	< 0.02	0.07	
		2×	2× 272–	20	forage 1 st cut	0.12	0.03	0.14	
		0.17	281	20	forage 2 nd cut	1.04	0.23	1.27	
		(T5)		76	forage 3 rd cut	0.02	< 0.02	0.04	
				20	hay 1 st cut	0.34	0.10	0.44	
				20	hay 2 nd cut	3.67	0.86	4.53	
				76	hay 3 rd cut	0.07	0.02	0.09	
USA, 2007	WG	3×	3× 233–	15	forage 1 st cut	2.41	0.16	2.57	2008/7005 483
Jefferson, IA		0.17	248	14	forage 2 nd cut	1.32	0.11	1.43	
(MP1000)		(T2)		48	forage 3 rd cut	< 0.02	< 0.02	< 0.04	
R070122				44	forage 3 rd cut	< 0.02	< 0.02	< 0.04	
				15	hay 1 st cut	9.33	0.46	9.79	
				14	hay 2 nd cut	5.24	0.32	5.56	
				48	hay 3 rd cut	0.07	< 0.02	0.09	
				44	hay 3 rd cut	0.12	< 0.02	0.14	
		3×	3× 227–	22	forage 1 st cut	0.71	0.06	0.77	
		0.17	233	21	forage 2 nd cut	0.65	0.08	0.73	
		(T3)		50	forage 3 rd cut	< 0.02	< 0.02	< 0.04	
				22	hay 1 st cut	2.20	0.18	2.38	

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostro- bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
				21	hay 2 nd cut	3.90	0.37	4.27	
				50	hay 3 rd cut	0.03	< 0.02	0.05	
		2×	2× 233–	15	forage 1 st cut	2.12	0.14	2.26	
		0.17	237	14	forage 2 nd cut	1.90	0.14	2.04	
		(T4)		43	forage 3 rd cut	< 0.02	< 0.02	< 0.04	
				15	hay 1 st cut	6.38	0.37	6.75	
				14	hay 2 nd cut	7.10	0.43	7.53	
				43	hay 3 rd cut	0.04	< 0.02	0.06	
		2×	2× 225–	22	forage 1 st cut	1.05	0.07	1.12	
		0.16– 0.17	230	21	forage 2 nd cut	1.33	0.14	1.47	
		(T5)		50	forage 3 rd cut	< 0.02	< 0.02	< 0.04	
				22	hay 1 st cut	2.43	0.18	2.61	
				21	hay 2 nd cut	4.57	0.45	5.02	
				50	hay 3 rd cut	0.05	< 0.02	0.07	
Canada, 2007	WG	3×	3× 247–	13	forage 1 st cut	4.11	0.87	4.98	2008/7005 483
Portage La Prairie, MB		0.17	251	16	forage 2 nd cut	3.23	0.74	3.97	
(Common #1)		(T2)		15	hay 1 st cut	16.68	3.09	19.77	
R070123				14	hay 2 nd cut	9.49	2.24	11.73	
		3×	3× 246–	22	forage 1 st cut	1.09	0.19	1.28	
		0.16– 0.17	248	21	forage 2 nd cut	2.12	0.36	2.48	
		(T3)		22	hay 1 st cut	4.75	0.89	5.64	
				21	hay 2 nd cut	6.49	1.23	7.72	
		2×	2× 249–	13	forage 1 st cut	2.95	0.48	3.43	
		0.17	251	16	forage 2 nd cut	3.07	0.68	3.75	
		(T4)		13	hay 1 st cut	12.42	2.16	14.58	
				16	hay 2 nd cut	9.22	2.08	11.30	
		2×	2× 248–	20	forage 1 st cut	1.25	0.21	1.46	
		0.16– 0.17	249	22	forage 2 nd cut	2.47	0.32	2.79	
		(T5)		20	hay 1 st cut	5.31	1.04	6.35	
				22	hay 2 nd cut	9.30	1.40	10.70	
USA, 2007	WG	3×	3× 235–	14	forage 1 st cut	5.34	0.81	6.15	2008/7005 483
Pepin, WI		0.17	236	15	forage 2 nd cut	1.27	0.11	1.38	
(Garst 6415)		(T2)		49	forage 3 rd cut	0.06	0.02	0.08	
R070124				47	forage 3 rd cut	0.06	< 0.02	0.08	
				14	hay 1 st cut	11.51	1.45	12.96	
				15	hay 2 nd cut	11.37	1.54	12.91	
				49	hay 3 rd cut	0.39	0.08	0.47	

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostro- bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
				47	hay 3 rd cut	0.23	0.05	0.28	
		3×	3× 236–	21	forage 1 st cut	2.87	0.34	3.21	
		0.17	238	22	forage 2 nd cut	0.41	0.05	0.46	
		(T3)		61	forage 3 rd cut	0.06	0.02	0.08	
				21	hay 1 st cut	15.39	1.48	16.87	
				22	hay 2 nd cut	1.85	0.24	2.09	
				61	hay 3 rd cut	0.16	0.05	0.21	
		2×	2× 232–	14	forage 1 st cut	3.59	0.52	4.11	
		0.17	238	15	forage 2 nd cut	1.56	0.11	1.67	
		(T4)		54	forage 3 rd cut	0.10	0.02	0.12	
				14	hay 1 st cut	12.92	2.36	15.28	
				15	hay 2 nd cut	6.96	0.51	7.47	
				54	hay 3 rd cut	0.34	0.08	0.42	
		2×	2× 236–	21	forage 1 st cut	2.69	0.31	3.00	
		0.17	239	22	forage 2 nd cut	0.42	0.05	0.47	
		(T5)		61	forage 3 rd cut	0.04	< 0.02	0.06	
				21	hay 1 st cut	8.78	1.11	9.89	
				22	hay 2 nd cut	2.76	0.24	3.00	
				61	hay 3 rd cut	0.17	0.04	0.21	
USA, 2007	WG	3×	3× 195–	14	forage 1 st cut	1.70	0.13	1.83	2008/7005 483
Freeborn, MN		0.17	215	14	forage 2 nd cut	0.92	0.07	0.99	
(Viking 3000)		(T2)		48	forage 3 rd cut	0.02	< 0.02	0.04	
R070125				47	forage 3 rd cut	0.04	< 0.02	0.06	
				14	hay 1 st cut	3.46	0.52	3.98	
				14	hay 2 nd cut	3.86	0.32	4.18	
				48	hay 3 rd cut	0.12	0.03	0.14	
				47	hay 3 rd cut	0.15	0.03	0.19	
		3×	3× 187–	21	forage 1 st cut	0.69	0.10	0.79	
		0.16– 0.17	198	21	forage 2 nd cut	0.49	0.06	0.55	
		(T3)		50	forage 3 rd cut	0.06	< 0.02	0.08	
				21	hay 1 st cut	1.94	0.32	2.26	
				21	hay 2 nd cut	1.32	0.20	1.52	
				50	hay 3 rd cut	0.35	0.10	0.45	
		2×	2× 198–	14	forage 1 st cut	1.37	0.18	1.55	
		0.17	213	14	forage 2 nd cut	1.15	0.10	1.25	
		(T4)		43	forage 3 rd cut	0.06	< 0.02	0.08	
				14	hay 1 st cut	3.48	0.52	4.00	
				14	hay 2 nd cut	2.93	0.33	3.26	
				43	hay 3 rd cut	0.14	0.04	0.18	

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostro- bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
		2×	2× 196–	21	forage 1 st cut	0.67	0.10	0.77	
		0.17	198	21	forage 2 nd cut	0.62	0.07	0.69	
		(T5)		50	forage 3 rd cut	0.06	< 0.02	0.08	
				21	hay 1 st cut	1.46	0.25	1.71	
				21	hay 2 nd cut	1.84	0.25	2.09	
				50	hay 3 rd cut	0.15	0.03	0.18	
USA, 2007	WG	3×	3× 232–	13	forage 1 st cut	1.82	0.23	2.05	2008/7005 483
Stutsman, ND		0.17	237	12	forage 2 nd cut	2.45	0.35	2.80	
(Mycogen 4A421)		(T2)		70	forage 3 rd cut	0.10	0.03	0.12	
R070126				43	forage 3 rd cut	0.14	0.05	0.18	
				13	hay 1 st cut	4.14	0.70	4.84	
				12	hay 2 nd cut	7.67	1.27	8.94	
				70	hay 3 rd cut	0.19	0.05	0.24	
				43	hay 3 rd cut	0.30	0.10	0.40	
		3×	3× 231–	20	forage 1 st cut	0.83	0.12	0.95	
		0.17	243	20	forage 2 nd cut	1.82	0.21	2.03	
		(T3)		54	forage 3 rd cut	0.14	0.04	0.18	
				20	hay 1 st cut	2.93	0.48	3.41	
				20	hay 2 nd cut	4.78	0.63	5.41	
				54	hay 3 rd cut	0.34	0.10	0.44	
		2×	2× 238–	13	forage 1 st cut	1.30	0.17	1.47	
		0.17	240	12	forage 2 nd cut	3.20	0.35	3.55	
		(T4)		46	forage 3 rd cut	0.11	0.03	0.14	
				13	hay 1 st cut	6.73	0.98	7.71	
				12	hay 2 nd cut	9.84	1.48	11.32	
				46	hay 3 rd cut	0.27	0.06	0.33	
		2×	2× 235–	20	forage 1 st cut	0.44	0.07	0.51	
		0.17	238	20	forage 2 nd cut	1.17	0.15	1.32	
		(T5)		54	forage 3 rd cut	0.11	0.03	0.14	
				20	hay 1 st cut	2.00	0.33	2.33	
				20	hay 2 nd cut	2.73	0.39	3.12	
				54	hay 3 rd cut	0.27	0.07	0.34	
USA, 2007	WG	3×	3× 202–	12	forage 1 st cut	3.60	0.66	4.26	2008/7005 483
Cache, UT		0.17– 0.18	204	14	forage 2 nd cut	1.43	0.22	1.65	
(355 Multileaf)		(T2)		54	forage 3 rd cut	0.15	0.03	0.18	
R070127				43	forage 3 rd cut	0.20	0.04	0.23	
				12	hay 1 st cut	6.08	1.08	7.16	

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostro- bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
				14	hay 2 nd cut	5.82	0.97	6.79	
				54	hay 3 rd cut	0.54	0.09	0.63	
				43	hay 3 rd cut	0.56	0.09	0.66	
		3×	3× 191–	19	forage 1 st cut	0.83	0.30	1.13	
		0.17– 0.18	210	21	forage 2 nd cut	0.46	0.12	0.58	
		(T3)		55	forage 3 rd cut	0.09	0.02	0.11	
				19	hay 1 st cut	1.76	0.57	2.33	
				21	hay 2 nd cut	1.77	0.43	2.20	
				55	hay 3 rd cut	0.42	0.10	0.52	
		2×	2× 188–	12	forage 1 st cut	4.46	0.89	5.35	
		0.17	204	14	forage 2 nd cut	1.65	0.30	1.95	
		(T4)		48	forage 3 rd cut	0.15	0.03	0.18	
				12	hay 1 st cut	9.18	1.62	10.80	
				14	hay 2 nd cut	6.81	1.42	8.23	
				48	hay 3 rd cut	0.27	0.05	0.32	
		2×	2× 196–	19	forage 1 st cut	0.58	0.18	0.76	
		0.17– 0.18	216	21	forage 2 nd cut	0.84	0.17	1.01	
		(T5)		55	forage 3 rd cut	0.16	0.04	0.20	
				19	hay 1 st cut	1.34	0.42	1.76	
				21	hay 2 nd cut	2.61	0.56	3.17	
				55	hay 3 rd cut	0.39	0.12	0.51	
USA, 2007	WG	3×	3× 231–	13	forage 1 st cut	1.54	0.22	1.76	2008/7005 483
Stanislaus, CA		0.16– 0.17	235	16	forage 2 nd cut	1.22	0.17	1.39	
(Magna 5)		(T2)		46	forage 3 rd cut	0.03	< 0.02	0.05	
R070128				48	forage 3 rd cut	0.03	< 0.02	0.05	
				13	hay 1 st cut	6.25	1.19	7.44	
				16	hay 2 nd cut	4.92	1.03	5.95	
				46	hay 3 rd cut	0.68	0.19	0.87	
				48	hay 3 rd cut	0.16	0.04	0.20	
		3×	3× 233–	22	forage 1 st cut	0.52	0.13	0.65	
		0.17	237	21	forage 2 nd cut	0.29	0.05	0.34	
		(T3)		49	forage 3 rd cut	0.02	< 0.02	0.04	
				22	hay 1 st cut	2.93	0.83	3.76	
				21	hay 2 nd cut	1.17	0.21	1.38	
				49	hay 3 rd cut	0.11	0.04	0.15	
		2×	2× 232–	13	forage 1 st cut	0.40	0.08	0.48	
		0.17	236	16	forage 2 nd cut	0.50	0.09	0.59	
		(T4)		44	forage 3 rd cut	< 0.02	< 0.02	< 0.04	

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostro- bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
				13	hay 1 st cut	2.46	0.41	2.87	
				16	hay 2 nd cut	2.48	0.40	2.88	
				44	hay 3 rd cut	0.05	< 0.02	0.07	
		2×	2× 233–	22	forage 1 st cut	0.56	0.13	0.69	
		0.17	234	21	forage 2 nd cut	0.23	0.05	0.28	
		(T5)		49	forage 3 rd cut	< 0.02	< 0.02	< 0.04	
				22	hay 1 st cut	2.62	0.51	3.13	
				21	hay 2 nd cut	1.44	0.21	1.65	
				49	hay 3 rd cut	0.05	< 0.02	0.07	
USA, 2007	WG	3×	3× 203–	14	forage 1 st cut	0.65	0.08	0.73	2008/7005 483
Power, ID		0.17– 0.18	213	14	forage 2 nd cut	1.24	0.10	1.34	
(355 Multileaf)		(T2)		44	forage 3 rd cut	0.13	0.03	0.16	
R070129				49	forage 3 rd cut	0.11	0.02	0.13	
				14	hay 1 st cut	2.63	0.31	2.94	
				14	hay 2 nd cut	4.45	0.35	4.80	
				44	hay 3 rd cut	0.35	0.06	0.41	
				49	hay 3 rd cut	0.34	0.05	0.39	
		3×	3× 194–	23	forage 1 st cut	0.04	< 0.02	0.06	
		0.17– 0.18	212	22	forage 2 nd cut	1.07	0.13	1.20	
		(T3)		57	forage 3 rd cut	0.09	0.03	0.12	
				23	hay 1 st cut	0.22	0.05	0.27	
				22	hay 2 nd cut	2.57	0.32	2.89	
				57	hay 3 rd cut	0.10	0.02	0.12	
		2×	2× 202	14	forage 1 st cut	0.76	0.07	0.83	
		0.17		14	forage 2 nd cut	1.26	0.10	1.36	
		(T4)		49	forage 3 rd cut	0.11	0.03	0.14	
				14	hay 1 st cut	3.57	0.22	3.79	
				14	hay 2 nd cut	4.45	0.27	4.72	
				49	hay 3 rd cut	0.25	0.05	0.30	
		2×	2× 200–	23	forage 1 st cut	0.05	< 0.02	0.07	
		0.17	203	22	forage 2 nd cut	0.85	0.13	0.98	
		(T5)		57	forage 3 rd cut	0.11	0.03	0.14	
				23	hay 1 st cut	0.21	0.05	0.26	
				22	hay 2 nd cut	2.69	0.35	3.04	
				57	hay 3 rd cut	0.41	0.09	0.50	

Table 36A Residues in oat straw from foliar applications of pyraclostrobin to oats in supervised trials in the USA and Canada

OAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostro- bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 2005	EC	2×	2× 227–	20	straw	2.66	0.68	3.34	2006/7006724
Wayne, NY		0.16–	233	20	straw	2.58	0.72	3.30	
(AC Alymer)		0.17							
RCN R05126									
USA, 2004	EC	2×	2× 131–	21	straw	2.33	0.80	3.13	2006/7006724
Tift, GA		0.16–	136	21	straw	2.14	0.70	2.84	
(Horizon 314)		0.18							
RCN R05127									
USA, 2005	EC	2×	2× 166–	21	straw	2.63	0.72	3.35	2006/7006724
Clinton, IL		0.16–	167	21	straw	3.23	0.83	4.06	
(Seed oats)		0.17							
RCN R05128									
USA, 2005	EC	2×	2× 188–	20	straw	8.93	2.97	11.90	2006/7006724
Pepin, WI		0.17	189	20	straw	11.08	3.83	14.90	
(Vista)									
RCN R05129									
USA, 2005	EC	2×	2× 142–	21	straw	2.32	0.51	2.84	2006/7006724
Stutsman, ND		0.17	186	21	straw	1.65	0.33	1.99	
(Morton)									
RCN R05130									
USA, 2004	EC	2×	2× 189	21	straw	4.76	1.14	5.90	2006/7006724
Hall, NE		0.17		21	straw	3.69	0.83	4.52	
(Jerry)									
RCN R05131									
USA, 2005	EC	2×	2× 149	14	straw	2.83	0.53	3.36	2006/7006724
Cass, ND		0.17		14	straw	2.99	0.43	3.42	
(Morton)				21	straw	1.15	0.17	1.33	
RCN R05132				21	straw	1.53	0.23	1.76	
				28	straw	2.72	0.51	3.22	
				28	straw	2.98	0.63	3.60	
				36	straw	2.87	0.55	3.42	

OAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostro- bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
				36	straw	2.10	0.45	2.55	
USA, 2005	EC	2×	2× 126–	26	straw	2.82	0.80	3.62	2006/7006724
Caddo, OK		0.17	132	26	straw	3.57	0.81	4.38	
(Jerry)									
RCN R05133									
Canada, 2005	EC	2×	2× 202–	21	straw	3.61	0.68	4.29	2006/7006724
St-Cesaire, QB		0.16–	228	21	straw	5.02	0.74	5.76	
(Rigodon)		0.17							
RCN R05134									
Canada, 2005	EC	2×	2× 200–	20	straw	2.59	0.37	2.97	2006/7006724
Rosthern, SK		0.17	204	20	straw	3.19	0.59	3.78	
(Furlong)									
RCN R05135									
Canada, 2005	EC	2×	2× 199–	20	straw	4.64	0.90	5.53	2006/7006724
Minto, MB		0.17	208	20	straw	6.62	1.07	7.69	
(Triple Crown)									
RCN R05136									
Canada, 2005	EC	2×	2× 226–	21	straw	3.80	0.90	4.69	2006/7006724
Innisfail, AB		0.17	234	21	straw	4.06	0.88	4.94	
(Ac Lu)									
RCN R05137									

Table 36B Residues in oat hay from foliar applications of pyraclostrobin to oats in supervised trials in the USA and Canada

OAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostro- bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 2005	EC	2×	2× 233–	7	hay	6.81	1.66	8.47	2006/7006724
Wayne, NY		0.17	234	7	hay	6.70	1.37	8.07	
(AC Alymer)									
RCN R05126									
USA, 2004	EC	2×	2× 159–	7	hay	2.00	0.40	2.39	2006/7006724

[illegible]

Table 37A Residues in barley straw from foliar applications of pyraclostrobin to barley in supervised trials in the USA, Canada, Northern and Southern Europe.

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BARLEY Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostro- bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 2004	EC	2×	2× 278–	15	straw	2.73	0.87	3.60	2007/7008566
Collins, CO		0.163–	283	15	straw	3.00	1.0	4.00	
(Moravian 14)		0.166							
C010 TRT 02									
C010 TRT 03		2×	2× 273–	21	straw	1.47	0.68	2.15	
		0.160–	277	21	straw	0.95	0.48	1.43	
		0.163							
USA, 2004	EC	2×	2× 328–	14	straw	1.49	0.61	2.10	2007/7008566
Kimberly, ID		0.163–	342	14	straw	1.26	0.42	1.68	
(812 Winter)		0.169							
ID05 TRT 02									
ID05 TRT 03		2×	2× 326–	21	straw	0.47	0.19	0.66	
		0.161–	329	21	straw	0.47	0.18	0.65	
		0.163							
USA, 2005	EC	2×	2× 287–	15	straw	2.22	0.56	2.78	2007/7008566
Wellington, CO		0.169–	290	15	straw	2.26	0.55	2.81	
(Moravian 37)		0.170							
CO03 TRT 02									
CO03 TRT 03		2×	2× 281–	22	straw	1.13	0.31	1.44	
		0.165–	288	22	straw	1.19	0.31	1.50	
		0.169							
USA, 2005	EC	2×	2× 330–	14	straw	1.48	0.47	1.95	2007/7008566
Kimberly, ID		0.165–	332	14	straw	2.14	0.77	2.91	
(812 Winter)		0.167							
ID02 TRT 02									
ID02 TRT 03		2×	2× 328–	23	straw	0.98	0.42	1.40	
		0.163–	335	23	straw	0.75	0.26	1.01	
		0.169							
Belgium, 1998	EC	2×	2× 296–	34	straw	1.85	0.39	2.24	1999/11509
Kortenaken		0.244–	310	40	straw	1.81	0.42	2.23	
(Riviera)		0.255							
AGR/05/98									
	SE	2×	2× 304–	34	straw	2.04	0.42	2.46	
		0.244	305	40	straw	1.44	0.27	1.71	
	SE	2×	2× 303–	34	straw	1.57	0.25	1.82	
		0.243–	305	40	straw	2.69	0.29	2.98	
		0.244							
Germany, 1998	EC	2×	2× 273–	35	straw	2.59	0.43	3.02	1999/11509
Meckenheim		0.225–	296	41	straw	0.68	0.18	0.86	
(Scarlett)		0.244							
DU2/05/98									
	SE	2×	2× 281–	35	straw	2.55	0.36	2.91	
		0.225–	303	41	straw	1.48	0.25	1.73	
		0.242							

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BARLEY Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostro- bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Spain, 1999	EC	2×	2× 305–	35	straw	4.87	1.74	6.61	1999/11824
Paterna		0.252–	313						
(Tina)		0.258							
ALO/05/99									
Germany, 1999	EC	2×	2× 299–	42	straw	2.77	0.63		1999/11824
Großharrie		0.246–	306						
(Landi)		0.253							
D05/03/99									
								3.40	
France, 1999	EC	2×	2× 300–	35	straw	1.72	0.31	2.03	1999/11824
Neuville Saint Vaast		0.247–	302	43	straw	0.64	0.10	0.74	
(Scarlett)		0.249							
FR2/05/99									
Sweden, 1999	EC	2×	2× 289–	35	straw	5.68	1.58	7.26	1999/11824
Bjärred		0.239–	327	43	straw	3.72	1.36	5.08	
(Scarlett)		0.270							
HUS/02/99									
Great Britain, 1999	EC	2×	2× 306–	35	straw	0.82	0.12	0.94	1999/11824
Atherstone		0.252–	324	42	straw	0.84	0.17	1.01	
(Musket)		0.268							
OAT/10/99									
Germany, 1998	EC	2×	2× 281–	35	straw	4.38	0.39	4.77	1999/11825
Meckenheim		0.232–	301	41	straw	2.58	0.50	3.08	
(Scarlett)		0.249							
DU2/08/98									
Sweden, 1998	EC	2×	2× 310–	42	straw	0.78	0.23	1.01	1999/11825
Bjärred		0.256–	317						
(Scarlett)		0.261							
HUS/05/98									
France, 2000	SE	2×	2× 291–	42	straw	3.61	0.63	4.24	2001/1000986
Neuville Saint Vaast		0.226–	297	49	straw	2.46	0.55	3.02	
(Esterel)		0.231							
FR2/08/00									
	SE	2×	2× 297–	42	straw	2.65	0.63	3.29	
		0.226–	316	49	straw	3.02	0.75	3.77	
		0.241							
	SE	2×	2× 310	42	straw	3.72	0.76	4.48	
		0.241		49	straw	3.28	0.78	4.06	
	SE	2×	2× 306–	42	straw	2.09	0.56	2.66	
		0.237–	312	49	straw	2.91	0.58	3.48	
		0.242							
Sweden, 2000	SE	2×	2× 301–	34	straw	0.56	0.26	0.81	2001/1000986

BARLEY Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostro- bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Bjärred		0.236–	323	41	straw	1.10	0.45	1.56	
(Barke)		0.250							
HUS/01/00									
	SE	2×	2× 306–	34	straw	0.58	0.28	0.86	
		0.234–	315	41	straw	0.66	0.26	0.92	
		0.240							
	SE	2×	2× 299–	34	straw	0.82	0.18	1.00	
		0.232–	315	41	straw	1.23	0.25	1.49	
		0.245							
	SE	2×	2× 311–	34	straw	0.61	0.11	0.73	
		0.241–	314	41	straw	0.81	0.19	1.00	
		0.244							
France, 2001	EC	2×	2× 298–	42	straw	1.69	0.54	2.23	2002/1004077
Saint Paul les Romans		0.248–	304	63	straw	< 0.02	< 0.02	< 0.04	
(Aurélie)		0.253							
A1050 BD1									
France, 2001	EC	2×	2× 303–	35	straw	0.59	0.04	0.63	2002/1004077
Sainte Colombe		0.252–	304	42	straw	0.66	0.10	0.76	
(Baraka)		0.254							
A1050 SA1									
France, 2001	EC	2×	2× 294–	36	straw	2.23	0.62	2.85	2002/1004077
Legardère sur Leze		0.245–	306	43	straw	2.84	0.94	3.79	
(Nevada)		0.255							
A1050 TL1									
France	EC	2×	2× 295–	35	straw	1.17	0.55	1.72	2002/1004077
2001		0.246–	304	42	straw	1.03	0.66	1.68	
Duras		0.253							
(Intro)									
A1050 DR1									
France, 2001	EC	2×	2× 296–	27	straw	6.59	1.83	8.43	2002/1004077
Duras		0.246–	314	36	straw	3.86	1.96	5.82	
(Astoria)		0.262		42	straw	5.80	2.59	8.39	
A1050 DR2									

Table 37B Residues in barley hay and plant parts from foliar applications of pyraclostrobin to barley in supervised trials in the USA and Canada and Northern and Southern Europe

BARLEY Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostro- bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 1998	EC	2×	2× 307–	9	hay	17.03	2.96	19.99	1999/5079

BARLEY Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostro- bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Germansville, PA		0.226-	308						
(Ontario)		0.228							
RCN 98209									
USA, 1998	EC	2×	2× 190–	14	hay	19.11	2.39	21.50	1999/5079
Arkansaw, WI		0.228–	191						
(Robust)		0.229							
RCN 98210									
USA, 1998	EC	2×	2× 149	14	hay	12.19	1.82	14.01	1999/5079
Geneva, MN		0.224							
(Morex)									
RCN 98211									
USA, 1998	EC	2×	2× 141–	14	hay	11.49	2.04	13.53	1999/5079
Campbell, MN		0.224–	142	19	hay	8.11	1.31	9.42	
(Robust)		0.226		24	hay	7.42	1.22	8.64	
RCN 98212				29	hay	6.18	1.02	7.20	
				34	hay	4.97	0.96	5.93	
USA, 1998	EC	2×	2× 93–	14	hay	2.55	0.43	2.98	1999/5079
Britton, SD		0.224	94						
(Robust)									
RCN 98213									
USA, 1998	EC	2×	2× 93–	14	hay	1.18	0.20	1.38	1999/5079
Gardner, ND		0.224	94						
(Robust)									
RCN 98214									
USA, 1998	EC	2×	2× 139–	14	hay	1.00	0.22	1.22	1999/5079
Northwood, ND		0.222–	141						
(Robust)		0.224							
RCN 98215									
USA, 1998	EC	2×	2× 140–	14	hay	1.13	0.17	1.30	1999/5079
Velva, ND		0.224–	142						
(Stander)		0.228							
RCN 98216									
USA, 1998	EC	2×	2× 184–	14	hay	1.52	0.27	1.79	1999/5079
Austin, CO		0.221–	186						
(Triumph)		0.223							
RCN 98217									
USA, 1998		2×	2× 281–	14	hay	1.60	0.40	2.00	1999/5079
Porterville, CA		0.224–	286	43	straw	2.41	0.71	3.11	
(UC 603)		0.225							
RCN 98218									
USA, 1998	EC	2×	2× 188	13	hay	1.04	0.22	1.26	1999/5079
Jerome, ID		0.224							

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Pyraclostrobin

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BARLEY Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostro- bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
	SE	2×	2× 291–	0	plant w/o roots	6.70	0.10	6.80	
		0.233–	303	20	ears	0.23	0.05	0.28	
		0.242		20	haulms	1.68	0.13	1.81	
Sweden, 1998	EC	2×	2× 297–	0	plant w/o roots	5.99	0.14	6.13	1999/11509
Bjärred		0.245–	303	22	ears	0.11	0.05	0.16	
(Scarlett)		0.250		22	haulms	0.46	0.07	0.53	
HUS/03/98				35	ears	0.06	0.04	0.10	
				35	haulms	0.53	0.09	0.62	
	SE	2×	2× 300–	0	plant w/o roots	6.22	0.16	6.38	
		0.240–	312	22	ears	0.12	0.06	0.18	
		0.250		22	haulms	0.36	0.06	0.42	
				35	ears	0.06	0.04	0.10	
				35	haulms	0.58	0.10	0.68	
	SE	2×	2× 297–	0	plant w/o roots	3.01	0.05	3.06	
		0.238–	332	22	ears	0.09	0.38	0.47	
		0.266		22	haulms	0.39	0.05	0.44	
				35	ears	0.06	0.03	0.09	
				35	haulms	0.34	0.05	0.39	
Great Britain, 1998	EC	2×	2× 294–	0	plant w/o roots	6.89	0.20	7.09	1999/11509
Brackley		0.243–	307	22	ears	0.39	0.14	0.53	
(Fighter)		0.253		22	haulms	1.81	0.52	2.33	
OAT/02/98									
	SE	2×	2× 289–	0	plant w/o roots	6.83	0.14	6.97	
		0.232–	297	22	ears	0.40	0.15	0.55	
		0.238		22	haulms	1.73	0.44	2.17	
	SE	2×	2× 291–	0	plant w/o roots	7.51	0.13	7.64	
		0.233–	303	22	ears	0.52	0.15	0.67	
		0.243		22	haulms	1.58	0.28	1.86	
Great Britain, 1998	EC	2×	2× 297–	0	plant w/o roots	3.35	0.12	3.47	1999/11509
Atherstone		0.247–	310	21	ears	0.37	0.08	0.45	
(Muscat)		0.257		21	haulms	1.18	0.13	1.31	
OAT/03/98									
	SE	2×	2× 294–	0	plant w/o roots	5.68	0.11	5.79	
		0.235–	311	21	ears	0.42	0.12	0.54	
		0.285		21	haulms	1.21	0.15	1.36	
	SE	2×	2× 295–	0	plant w/o roots	5.10	0.10	5.20	

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Pyraclostrobin

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Pyraclostrobin

BARLEY Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostro- bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
	SE	2×	2× 311–	0	plant w/o roots	5.40	0.05	5.45	
		0.241–	314	20	ears	0.24	0.08	0.32	
		0.244		20	haulms	0.51	0.09	0.60	
France, 2001	EC	2×	2× 298–	0	plant w/o roots	6.30	0.43	6.72	2002/1004077
Saint Paul les Romans		0.248–	304	20	shoots w/o roots	1.43	0.27	1.70	
(Aurélien)		0.253		20	ears	0.07	0.08	0.15	
A1050 BD1				27	shoots w/o roots	0.93	0.24	1.17	
				27	ears	0.02	0.03	0.05	
				35	shoots w/o roots	0.67	0.21	0.88	
				35	ears	< 0.02	< 0.02	< 0.04	
France, 2001	EC	2×	2× 303–	0	plant w/o roots	3.23	< 0.02	3.25	2002/1004077
Sainte Colombe		0.252–	304	20	shoots w/o roots	0.53	0.06	0.59	
(Baraka)		0.254		20	ears	0.44	0.08	0.53	
A1050 SA1				28	shoots w/o roots	0.87	0.09	0.96	
				28	ears	0.07	< 0.02	0.09	
France, 2001	EC	2×	2× 294–	0	plant w/o roots	7.68	0.40	8.08	2002/1004077
Legardère sur Leze		0.245–	306	22	shoots w/o roots	2.02	0.34	2.37	
(Nevada)		0.255		22	ears	0.11	0.06	0.17	
A1050 TL1				29	shoots w/o roots	3.22	0.57	3.79	
				29	ears	0.07	0.04	0.11	
France	EC	2×	2× 295–	0	plant w/o roots	7.75	0.30	8.05	2002/1004077
2001		0.246–	304	21	shoots w/o roots	1.29	0.49	1.78	
Duras		0.253		21	ears	0.15	0.08	0.22	
(Intro)				28	shoots w/o roots	1.23	0.42	1.65	
A1050 DR1				28	ears	0.08	0.05	0.13	
France, 2001	EC	2×	2× 296–	0	plant w/o roots	5.47	0.58	6.05	2002/1004077
Duras		0.246–	314	21	shoots w/o roots	7.64	1.63	9.26	
(Astoria)		0.262		21	ears	1.01	0.52	1.53	
A1050 DR2				27	straw	6.59	1.83	8.43	

Table 38 Residues in rye straw from foliar applications of pyraclostrobin to rye in supervised trials in the USA.

RYE Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 1998	EC	2×	2× 283–	66	straw	0.14	0.03	0.17	1999/5107
Ivor, VA		0.230–	291						
(Winter King)		0.234							
RCN 98117									
USA, 1998	EC	2×	2× 92–93	58	straw	0.31	0.09	0.40	1999/5107
Britton, SD		0.224							
(Dacold)									
RCN 98118									
USA, 1998	EC	2×	2× 189–	55	straw	0.11	0.06	0.17	1999/5107
Larned, KS		0.225–	194						
(Elbon)		0.229							
RCN 98119									
USA, 1998	EC	2×	2× 139–	59	straw	0.27	0.11	0.38	1999/5107
Velva, ND		0.222–	140						
(Dacold)		0.224							
RCN 98120									
USA, 1998	EC	2×	2× 138–	59	straw	0.17	0.09	0.26	1999/5107
Velva, ND		0.221–	140						
(Dacold)		0.224							
RCN 98121									

Table 39 Residues in wheat hay and straw from foliar applications of pyraclostrobin to wheat in supervised trials in the USA, Canada, Northern and Southern Europe and Argentina

WHEAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 1998	EC	2×	2× 188	14	hay	0.73	0.13	0.84	1999/5096
Cary, NC		0.225		53	straw	0.23	0.09	0.32	
(Coke 9835)									
RCN 98175									
USA, 1998	EC	2×	2× 67–79	14	hay	0.76	0.15	0.91	1999/5096
Cary, NC		0.222–		40	straw	0.56	0.23	0.79	
(Cardinal)		0.244							
RCN 98176									
USA, 1998	EC	2×	2× 138–	14	hay	1.81	0.72	2.53	1999/5096
Colony, OK		0.222–	194	41	straw	0.90	0.51	1.41	
(Custer)		0.224							
RCN 98177									
USA, 1998	EC	2×	2× 141–	14	hay	2.27	0.75	3.02	1999/5096
Colony, OK		0.224–	196	43	straw	0.74	0.48	1.22	

WHEAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
(Custer)		0.226							
RCN 98178									
USA, 1998	EC	2×	2× 263–	14	hay	1.60	0.73	2.33	1999/5096
Groom, TX		0.225	264	43	straw	1.55	0.82	2.37	
(Tam 200)									
RCN 98179									
USA, 1998	EC	2×	2× 244–	14	hay	1.02	0.40	1.42	1999/5096
Groom, TX		0.225	263	44	straw	1.11	0.60	1.71	
(Tam 200)									
RCN 98180									
USA, 1998	EC	2×	2× 187–	14	hay	2.24	0.93	3.17	1999/5096
Levelland, TX		0.225–	193	51	straw	1.57	0.92	2.49	
(Tam 202)		0.231							
RCN 98181									
USA, 1998	EC	2×	2× 186–	14	hay	3.07	1.23	4.30	1999/5096
Levelland, TX		0.225–	189	41	straw	3.85	1.58	5.43	
(Tam 200)		0.229							
RCN 98182									
USA, 1998	EC	2×	2× 93–94	15	hay	1.49	0.58	2.07	1999/5096
Larned, KS		0.221–		19	hay	1.23	0.53	1.76	
(#2163)		0.225		24	hay	1.28	0.52	1.80	
RCN 98183				29	hay	1.41	0.58	1.99	
				34	hay	1.46	0.60	2.06	
				40	straw	1.91	0.82	2.73	
				47	straw	2.20	0.98	3.18	
				54	straw	2.05	0.91	2.96	
				61	straw	1.31	0.72	2.03	
				68	straw	0.87	0.50	1.37	
USA, 1998	EC	2×	2× 188–	14	hay	0.46	0.07	0.53	1999/5096
York, NE		0.225–	189	45	straw	0.06	0.02	0.08	
(Karl 92)		0.226							
RCN 98184									
USA, 1998	EC	2×	2× 189–	14	hay	0.89	0.11	1.00	1999/5096
Arkansaw, WI		0.226–	193	42	straw	0.13	0.03	0.16	
(Stoa)		0.231							
RCN 98185									
USA, 1998	EC	2×	2× 150	14	hay	0.91	0.22	1.13	1999/5096
Geneva, MN		0.224–		41	straw	0.20	0.08	0.28	
(Sharp)		0.226							
RCN 98186									
USA, 1998	EC	2×	2× 141	14	hay	0.54	0.16	0.70	1999/5096
Campbell, MN		0.225		19	hay	0.53	0.17	0.70	
(NDSU 2375)				24	hay	0.30	0.09	0.39	
RCN 98187				29	hay	0.37	0.12	0.49	

WHEAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
				34	hay	0.16	0.05	0.21	
				40	straw	0.10	0.04	0.14	
				47	straw	0.14	0.07	0.21	
				54	straw	0.15	0.09	0.24	
				61	straw	0.10	0.07	0.17	
				68	straw	0.11	0.08	0.19	
USA, 1998	EC	2×	2× 94	14	hay	4.55	0.92	5.47	1999/5096
Gardner, ND		0.225–		41	straw	4.10	0.89	4.99	
(2375)		0.226							
RCN 98188									
USA, 1998	EC	2×	2× 96–98	14	hay	2.03	0.54	2.57	1999/5096
Gardner, ND		0.229–		43	straw	0.85	0.31	1.16	
(Munich)		0.232							
RCN 98189									
USA, 1998	EC	2×	2× 180–	15	hay	0.44	0.09	0.53	1999/5096
Northwood, ND		0.216–	187	49	straw	0.09	0.03	0.12	
(Sharp)		0.223							
RCN 98190									
USA, 1998	EC	2×	2× 139	19	hay	0.24	0.10	0.34	1999/5096
Northwood, ND		0.222–		47	straw	0.11	0.05	0.16	
(Rugby)		0.224							
RCN 98191									
USA, 1998	EC	2×	2× 140–	14	hay	0.83	0.17	1.00	1999/5096
Velva, ND		0.224–	141	50	straw	0.22	0.07	0.29	
(Rugby)		0.225							
RCN 98192									
USA, 1998	EC	2×	2× 141–	14	hay	1.05	0.24	1.29	1999/5096
Velva, ND		0.225–	142	46	straw	0.13	0.03	0.16	
(Renville)		0.226							
RCN 98193									
USA, 1998	EC	2×	2× 94	14	hay	0.27	0.06	0.33	1999/5096
Britton, SD		0.223–		41	straw	0.07	0.02	0.09	
(2375)		0.224							
RCN 98194									
USA, 1998	EC	2×	2× 93–	14	hay	0.21	0.03	0.24	1999/5096
Britton, SD		0.224	94	47	straw	0.03	< 0.02	0.05	
(Oxen)									
RCN 98195									
USA, 1998	EC	2×	2× 187–	14	hay	0.49	0.11	0.60	1999/5096
Jerome, ID		0.224–	194	46	straw	0.12	0.06	0.18	
(Penewawa)		0.225							
RCN 98196									
Canada, 1998	EC	2×	2× 341–	14	hay	1.46	0.32	1.78	1999/5096

WHEAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Lethbridge, AB (Makwa)		0.219– 0.237	366	49	straw	1.55	0.36	1.91	
RCN 98197									
Canada, 1998	EC	2×	2× 100	14	hay	1.02	0.39	1.41	1999/5096
Lacombe, AB (AC Teal)		0.222– 0.226		53	straw	0.11	0.07	0.18	
RCN 98198									
Canada, 1998	EC	2×	2× 99–	14	hay	0.94	0.36	1.30	1999/5096
Lacombe, AB (AC Excel)		0.224– 0.225	101	57	straw	0.11	0.08	0.19	
RCN 98199									
Canada, 1998	EC	2×	2× 120–	12	hay	1.77	1.00	2.77	1999/5096
Fairview, AB (AC Majestic)		0.235– 0.240	125	50	straw	0.34	0.23	0.57	
RCN 98200									
Canada, 1998	EC	2×	2× 122–	12	hay	2.17	1.36	3.53	1999/5096
Fairview, AB (Biggar)		0.238– 0.239	124	51	straw	0.24	0.19	0.43	
RCN 98201									
Canada, 1998	EC	2×	2× 108–	14	hay	3.00	1.10	4.10	1999/5096
Saskatoon, SK (AC Barrie)		0.221– 0.224	110	19	hay	2.86	1.03	3.89	
RCN 98202				24	hay	2.56	1.02	3.58	
				29	hay	2.23	0.97	3.20	
				34	hay	1.92	0.83	2.75	
				40	straw	1.17	0.63	1.80	
				47	straw	3.51	1.61	5.12	
				54	straw	1.67	1.08	2.75	
				61	straw	1.34	0.89	2.23	
				68	straw	1.39	0.90	2.29	
Canada, 1998	EC	2×	2× 148–	14	hay	1.24	0.38	1.62	1999/5096
Saskatoon, SK (Teal)		0.220– 0.222	149	46	straw	0.95	0.44	1.39	
RCN 98203									
Canada, 1998	EC	2×	2× 151	14	hay	1.87	0.67	2.54	1999/5096
Saskatoon, SK (Teal)		0.224– 0.229		45	straw	1.69	0.82	2.51	
RCN 98204									
Canada, 1998	EC	2×	2× 199–	14	hay	0.96	0.24	1.20	1999/5096
Minto, MB (Cora)		0.223– 0.224	200	40	straw	0.37	0.11	0.48	
RCN 98205									
Canada, 1998	EC	2×	2× 198–	14	hay	1.38	0.76	2.14	1999/5096
Minto, MB (AC Barrie)		0.225	203	40	straw	0.52	0.35	0.87	

WHEAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
RCN 98206									
Canada, 1998	EC	2×	2× 110	14	hay	1.38	0.36	1.74	1999/5096
Portage La Prairie, MB (AC Domain)		0.223– 0.226		47	straw	0.32	0.14	0.46	
RCN 98207									
USA, 2008	EC	2×	2× 187	14	forage	0.52	0.10	0.62	2009/7000170
Northwood, ND (Glenn)		0.168 2×		14	hay forage	0.89 0.46	0.21 0.12	1.10 0.58	
R080595		0.168		14	hay	0.98	0.26	1.24	
		2×	2× 9–10	14	forage	0.57	0.11	0.68	
		0.168– 179		14	hay	1.03	0.25	1.28	
USA, 2008	EC	2×	2× 187	15	forage	0.34	0.11	0.45	2009/7000170
Northwood, ND (Kelby)		0.168 2×		15	hay forage	1.65 0.52	0.47 0.14	2.12 0.66	
R080596		0.168		15	hay	1.65	0.48	2.13	
		2×	2× 9	15	forage	0.55	0.14	0.69	
		0.168		15	hay	1.76	0.48	2.24	
USA, 2008	EC	2×	2× 187	14	forage	0.24	0.08	0.32	2009/7000170
Ephrata, WA (Kelby)		0.168		14	hay	1.22	0.38	1.60	
R080597				69	straw	0.07	0.04	0.11	
		2×	2× 19	14	forage	0.26	0.07	0.33	
		0.168		14	hay	1.16	0.38	1.54	
				69	straw	0.11	0.04	0.15	
		2×	2× 9	14	forage	0.27	0.08	0.35	
		0.168		14	hay	1.43	0.40	1.83	
				69	straw	0.14	0.05	0.19	
The Netherlands 1998	EC	2×	2× 290– 304	0 20	plant w/o roots ears	4.27 0.45	0.06 0.09	4.33 0.54	1999/11509
Siebgewald (Brigadier)		0.239– 0.251		20	haulms	0.84	0.09	0.93	
AGR/04/98				35	straw	1.96	0.24	2.20	
				44	straw	2.24	0.59	2.83	
				51	straw	1.03	0.24	1.27	
	SE	2×	2× 294–	0	plant w/o roots	4.04	0.07	4.11	
		0.236–	309	20	ears	0.34	0.08	0.42	
		0.247		20	haulms	0.98	0.09	1.07	
				35	straw	1.65	0.21	1.86	
				44	straw	2.18	0.25	2.43	
				51	straw	0.81	0.20	1.01	
	SE	2×	2× 289–	0	plant w/o roots	2.80	0.02	2.82	
		0.231–	297	20	ears	0.35	0.06	0.41	
		0.238		20	haulms	0.92	0.07	0.99	
				35	straw	1.31	0.15	1.46	
				44	straw	1.48	0.17	1.65	

WHEAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
				51	straw	0.93	0.19	1.12	
Spain, 1998	EC	2×	2× 279–	0	plant w/o	9.07	0.76	9.83	1999/11509
Maribanez		0.230–	295		roots				
(Cartaga)		0.243		21	ears	0.34	0.11	0.45	
ALO/07/98				21	haulms	3.20	0.74	3.94	
				33	ears	0.33	0.10	0.43	
				33	haulms	2.43	0.71	3.14	
				42	straw	5.53	1.80	7.33	
	SE	2×	2× 299–	0	plant w/o roots	10.30	0.62	10.92	
		0.239–	314	21	ears	0.39	0.13	0.52	
		0.252		21	haulms	2.66	0.80	3.46	
				33	ears	0.20	0.07	0.27	
				33	haulms	1.99	0.64	2.63	
				42	straw	4.95	1.77	6.72	
	SE	2×	2× 303–	0	plant w/o roots	10.90	0.59	11.49	
		0.243–	305	21	ears	0.40	0.10	0.50	
		0.244		21	haulms	2.71	0.55	3.26	
				33	ears	0.26	0.07	0.33	
				33	haulms	2.01	0.53	2.54	
				42	straw	5.68	1.54	7.22	
Spain, 1998	EC	2×	2× 301–	0	plant w/o	4.18	0.12	4.30	1999/11509
Alcala de		0.248–	302		roots				
Guadaira		0.249		22	ears	0.48	0.26	0.74	
(Cajense)				22	haulms	0.74	0.17	0.91	
ALO/08/98				37	ears	0.15	0.08	0.23	
				37	haulms	0.44	0.12	0.56	
				42	straw	1.53	0.61	2.14	
	SE	2×	2× 301–	0	plant w/o roots	6.22	0.19	6.41	
		0.241–	304		roots				
		0.244		22	ears	0.38	0.21	0.59	
				22	haulms	0.85	0.21	1.06	
				37	ears	0.13	0.09	0.22	
				37	haulms	0.64	0.19	0.83	
				42	straw	1.67	0.61	2.28	
	SE	2×	2× 300–	0	plant w/o	6.34	0.10	6.44	
		0.240–	307		roots				
		0.246		22	ears	0.26	0.14	0.40	
				22	haulms	0.89	0.14	1.03	
				37	ears	0.12	0.06	0.18	
				37	haulms	0.63	0.11	0.74	
				42	straw	1.73	0.56	2.29	
Spain, 1998	EC	2×	2× 284–	0	plant w/o	7.79	0.30	8.09	1999/11509
Alcala de		0.235–	286		roots				
Guadaira		0.236		22	ears	0.60	0.28	0.88	
(Vitrou)				22	haulms	0.92	0.27	1.19	
ALO/09/98				36	ears	0.17	0.10	0.27	
				36	haulms	0.67	0.17	0.84	

WHEAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
				42	straw	1.44	0.52	1.96	
	SE	2×	2× 304–	0	plant w/o	6.70	0.34	7.04	
		0.244–	310		roots				
		0.248		22	ears	0.53	0.29	0.82	
				22	haulms	1.38	0.56	1.94	
				36	ears	0.35	0.18	0.53	
				36	haulms	1.30	0.54	1.84	
				42	straw	2.20	0.99	3.19	
	SE	2×	2× 299–	0	plant w/o	6.62	0.19	6.81	
		0.239–	301		roots				
		0.241		22	ears	0.48	0.22	0.70	
				22	haulms	1.54	0.63	2.17	
				36	ears	0.29	0.14	0.43	
				36	haulms	1.12	0.46	1.58	
				42	straw	1.85	0.87	2.72	
Germany, 1998	EC	2×	2× 280–	0	plant w/o	5.35	0.15	5.50	1999/11509
Großharrie		0.231–	321		roots				
(Pepital)		0.265		21	ears	0.27	0.08	0.35	
D05/02/98				21	haulms	0.93	0.12	1.05	
				36	ears	0.32	0.08	0.40	
				36	haulms	1.42	0.16	1.58	
				42	straw	2.23	0.52	2.75	
				49	straw	1.45	0.47	1.92	
	SE	2×	2× 298–	0	plant w/o	5.75	0.12	5.87	
		0.239–	304		roots				
		0.244		21	ears	0.21	0.06	0.27	
				21	haulms	0.87	0.10	0.97	
				36	ears	0.46	0.10	0.56	
				36	haulms	1.17	0.12	1.29	
				42	straw	1.40	0.34	1.74	
				49	straw	1.73	0.44	2.17	
	SE	2×	2× 299–	0	plant w/o	8.23	0.07	8.30	
		0.239–	303		roots				
		0.243		21	ears	0.22	0.06	0.28	
				21	haulms	0.68	0.08	0.76	
				36	ears	0.43	0.08	0.51	
				36	haulms	1.00	0.10	1.10	
				42	straw	1.95	0.38	2.33	
				49	straw	1.57	0.36	1.93	
France, 1998	EC	2×	2× 300–	0	plant w/o	4.92	0.12	5.04	1999/11509
Neuville Saint Vaast		0.248–	308		roots				
(Balthazar)		0.254		22	ears	0.36	0.08	0.44	
FR2/03/98				22	haulms	0.52	0.11	0.63	
				32	ears	0.19	0.05	0.24	
				32	haulms	0.25	0.08	0.33	
				42	straw	3.14	0.24	3.38	
				50	straw	2.47	0.20	2.67	
	SE	2×	2× 303–	0	plant w/o	6.49	0.12	6.61	
		0.243–	305		roots				
		0.244		22	ears	0.26	0.07	0.33	

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WHEAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Germany, 1998	EC	2×	2× 297–	0	plant w/o	8.93	0.18	9.11	1999/11825
Blumberg		0.245–	307		roots				
(Flair)		0.253		21	ears	0.26	0.06	0.32	
ACK/02/98				21	haulms	0.77	0.21	0.98	
				35	ears	0.15	0.03	0.18	
				35	haulms	0.94	0.31	1.25	
				42	ears	0.10	0.03	0.13	
				42	haulms	0.66	0.27	0.93	
				64	straw	0.67	0.21	0.88	
France, 1998	EC	2×	2× 288–	0	plant w/o	7.77	0.53	8.30	1999/11825
St. Maximin		0.238–	310		roots				
(Ardente)		0.256		21	ears	0.10	0.02	0.12	
FR3/03/98				21	haulms	0.81	0.19	1.00	
				35	ears	0.03	< 0.02	0.05	
				35	haulms	0.40	0.10	0.50	
				43	straw	0.75	0.26	1.01	
Sweden, 1998	EC	2×	2× 297–	0	plant w/o	5.21	0.13	5.34	1999/11825
Bjärred					roots				
(Meridien)		0.254–	308	22	ears	0.15	0.06	0.21	
HUS/04/98		0.256		22	haulms	0.50	0.18	0.68	
				36	ears	0.09	0.04	0.13	
				36	haulms	1.81	0.52	2.33	
				42	straw	2.50	1.20	3.70	
Denmark, 1999	EC	2×	2× 308–	0	plant w/o	4.98	0.13	5.11	1999/11824
Fuenen		0.253–	309		roots				
(Dragon)		0.254		21	ears	0.36	0.12	0.48	
ALB/01/99				21	haulms	0.99	0.20	1.19	
				35	straw	0.59	0.13	0.72	
				42	straw	0.87	0.28	1.15	
Germany	EC	2×	2× 305–	0	plant w/o	4.71	0.10	4.81	1999/11824
Oberding		0.252–	317		roots				
(Kanzler)		0.261		20	ears	0.24	0.07	0.31	
D07/01/99				20	haulms	1.55	0.33	1.88	
				34	straw	1.10	0.44	1.54	
				41	straw	1.16	0.45	1.61	
France, 1999	EC	2×	2× 278–	0	plant w/o	5.41	0.08	5.49	1999/11824
Nimes/Gard		0.229–	294		roots				
(Arstar)		0.242		21	ears	0.33	0.11	0.44	
FR3/05/99				21	haulms	1.33	0.36	1.69	
				35	straw	2.07	0.61	2.68	
				42	straw	1.90	0.58	2.48	
Great Britain	EC	2×	2× 292–	0	plant w/o	3.54	0.06	3.60	1999/11824
1999		0.241–	307		roots				
Kinesbridge		0.253		20	ears	0.18	0.05	0.23	
(Hussar)				20	haulms	1.30	0.21	1.51	
OAT/08/99				36	straw	2.34	0.46	2.80	
				43	straw	2.33	0.61	2.94	
Great Britain	EC	2×	2× 290–	0	plant w/o	2.67	0.03	2.70	1999/11824

WHEAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
1999		0.240–	293		roots				
Brackley		0.242		22	ears	0.23	0.07	0.30	
(Consort)				22	haulms	1.00	0.16	1.16	
OAT/09/99				36	straw	1.31	0.26	1.57	
				42	straw	1.59	0.30	1.89	
The Netherlands	SE	2×	2× 306–	0	plant w/o	3.12	0.11	3.23	2001/1000986
2000		0.238–	308		roots				
MS Ottersum		0.239		21	ears	0.16	0.07	0.23	
(Vivant)				21	haulms	0.98	0.23	1.21	
AGR/01/00				35	straw	0.83	0.41	1.24	
				42	straw	0.42	0.14	0.56	
	SE	2×	2× 291–	0	plant w/o	3.16	0.11	3.27	
		0.222–	313		roots				
		0.238		21	ears	0.22	0.11	0.33	
				21	haulms	0.91	0.18	1.09	
				35	straw	1.17	0.34	1.51	
				42	straw	0.55	0.25	0.80	
	SE	2×	2× 297–	0	plant w/o	2.61	0.04	2.65	
		0.231–	311		roots				
		0.242		21	ears	0.21	0.07	0.29	
				21	haulms	1.50	0.23	1.73	
				35	straw	1.52	0.36	1.88	
				42	straw	0.40	0.21	0.61	
	SE	2×	2× 304–	0	plant w/o	3.63	0.03	3.66	
		0.236–	316		roots				
		0.246		21	ears	0.20	0.07	0.27	
				21	haulms	1.45	0.23	1.68	
				35	straw	1.56	0.35	1.92	
				42	straw	0.87	0.17	1.05	
Germany, 2000	SE	2×	2× 286–	0	plant w/o	3.95	0.10	4.05	2001/1000986
Bad Sassendorf		0.222–	295		roots				
(Batis)		0.229		21	ears	0.18	0.07	0.25	
D08/01/00				21	haulms	1.82	0.37	2.19	
				35	ears	0.19	0.08	0.27	
				35	haulms	1.92	0.42	2.34	
				42	straw	1.24	0.53	1.77	
	SE	2×	2× 291–	0	plant w/o roots	3.89	0.11	4.00	
		0.222–	301		roots				
		0.230		21	ears	0.24	0.09	0.33	
				21	haulms	2.14	0.48	2.62	
				35	ears	0.13	0.06	0.19	
				35	haulms	1.75	0.50	2.25	
				42	straw	1.52	0.67	2.19	
	SE	2×	2× 300–	0	plant w/o roots	4.70	0.13	4.83	
		0.233–	302		roots				
		0.234		21	ears	0.19	0.06	0.25	
				21	haulms	2.57	0.45	3.01	
				35	ears	0.16	0.05	0.21	
				35	haulms	2.70	0.50	3.20	

WHEAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
				42	straw	2.75	0.78	3.53	
	SE	2× 0.233–	2× 300– 305	0	plant w/o roots	4.09	< 0.02	4.11	
		0.236		21	ears	0.21	0.06	0.26	
				21	haulms	1.36	0.24	1.60	
				35	ears	0.12	0.04	0.16	
				35	haulms	1.47	0.27	1.73	
				42	straw	1.33	0.54	1.86	
Great Britain 2000	SE	2× 0.229–	2× 295– 300	0	plant w/o roots	2.00	0.05	2.05	2001/1000986
Bicester (Equinox)		0.233		20	ears	0.19	0.05	0.24	
OAT/01/00				20	haulms	0.85	0.17	1.02	
				35	straw	1.21	0.35	1.55	
				42	straw	1.11	0.38	1.49	
	SE	2×	2× 293–	0	plant w/o roots	3.45	0.08	3.53	
		0.223–	298	20	ears	0.20	0.06	0.26	
		0.227		20	haulms	1.27	0.26	1.53	
				35	straw	1.90	0.75	2.65	
				42	straw	2.23	0.80	3.04	
	SE	2×	2× 299–	0	plant w/o roots	4.19	0.03	4.21	
		0.232–	300	20	ears	0.23	0.05	0.29	
		0.233		20	haulms	1.33	0.16	1.49	
				35	straw	1.89	0.49	2.38	
				42	straw	1.97	0.51	2.48	
	SE	2×	2× 297–	0	plant w/o roots	4.41	< 0.02	4.43	
		0.230–	310						
		0.241		20	ears	0.26	0.05	0.31	
				20	haulms	1.42	0.16	1.57	
				35	straw	2.40	0.51	2.90	
				42	straw	2.79	0.57	3.36	
Germany, 2009 Stetten a. H. (Asano) L090099	OD	2× 0.150	2× 200	0	plant w/o roots	2.73	0.16	2.89	2009/1111384
				28	ears	0.13	0.06	0.19	
				28	r.o.p. w/o roots	0.40	0.09	0.50	
				36	ears	0.14	0.06	0.20	
				36	r.o.p. w/o roots	0.39	0.10	0.49	
				42	straw	0.44	0.14	0.58	
				48	straw	0.38	0.17	0.55	
	SE	2× 0.170	2× 200	0	plant w/o roots	2.85	0.21	3.06	
				28	ears	0.08	0.04	0.12	
				28	r.o.p. w/o roots	0.38	0.11	0.49	
				36	ears	0.07	0.04	0.11	
				36	r.o.p. w/o roots	0.29	0.12	0.41	
				42	straw	0.38	0.16	0.54	

Pyraclostrobin

[illegible]

WHEAT Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
Argentina	SE	2×	–	1	ears	4.72	0.34	4.06	2002/1007833
1999/2000		0.163		15	ears	0.13	0.06	0.19	
Tandil		2×	–	1	ears	3.45	0.28	3.73	
(Poncho)		0.327		15	ears	0.19	0.10	0.30	
–				38	treshed ears	0.06	< 0.02	0.08	
Argentina	SE	1×	–	1	treshed ears	13.48	1.29	15.77	2002/1007832
2000/2001		0.153		35	treshed ears	2.40	0.49	2.89	
Tandil									
(Baguette)									
–									
Argentina	SE	1×	–	1	plant w/o roots	14.15	2.53	16.68	2002/1007855
2001		0.125		15	plant w/o roots	0.37	0.18	0.55	
Tandil		1×	–	1	plant w/o roots	20.70	4.91	25.61	
(Baguette 10)		0.250		15	plant w/o roots	1.21	1.01	2.22	
–									
Hungary	SE	1×	1× 200	35	straw	1.96	nd	n.a.	2002/1011467
2001		0.125		35	straw	1.53	nd	n.a.	
Ozd Vasvar				35	straw	0.29	nd	n.a.	
(Kompolti-3)									
–									

nd not detected, n.a. not applicable

Table 40A Residues in sorghum forage from a seed treatment and a foliar application of pyraclostrobin to sorghum in supervised trials in the USA.

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	REF Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 2007	FS	20 g		20	forage	0.45	0.22	0.67	2008/7005427
Clarke, GA		as/100							
(TR459)	+	kg seed							
R060567	EC	0.22	215						
USA, 2007	FS	20 g		29	forage	0.12	0.05	0.17	2008/7005427
Jackson, AR		as/100							
(TR459)	+	kg seed							
R060568	EC	0.23	189						
USA, 2007	FS	20 g		43	forage	0.22	0.12	0.34	2008/7005427
Jefferson, IA		as/100							
(TR459)	+	kg seed							
R060569	EC	0.22	318						
USA, 2007	FS	20 g		21	forage	1.08	0.27	1.35	2008/7005427
Clinton, IL		as/100							

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostro- bin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	REF Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
(TR459)	+	kg seed							
R060570	EC	0.23	310						
USA, 2007	FS	20 g		17	forage	0.92	0.17	1.09	2008/7005427
Stafford, KS		as/100							
(TR459)	+	kg seed							
R060571	EC	0.22	201						
USA, 2007	FS	20 g		35	forage	0.14	0.07	0.21	2008/7005427
Freeborn, MN		as/100							
(TR459)	+	kg seed							
R060572	EC	0.22	201						
USA, 2007	FS	20 g		13	forage	0.44	0.12	0.56	2008/7005427
Caddo, OK		as/100		61					
(TR459)	+	kg seed							
R060573	EC	0.22	227						
USA, 2007	FS	20 g		14	forage	0.33	0.09	0.42	2008/7005427
Uvalde, TX		as/100		122	stover	< 0.02	< 0.02	< 0.04	
(TR459)	+	kg seed							
R060574		+							
	EC	0.22	231						
USA, 2007	FS	20 g		17	forage	< 0.02	< 0.02	< 0.04	2008/7005427
Armstrong, TX		as/100							
(TR459)	+	kg seed							
R060576	EC	0.22	224						
USA, 2007	FS	20 g		17	forage	0.28	0.21	0.49	2008/7005427
Carson, TX		as/100							
(TR459)	+	kg seed							
R060577	EC	0.22	225						
USA, 2007	FS	20 g		24	forage	1.33	0.40	1.73	2008/7005427
Hockley, TX		as/100							
(TR459)	+	kg seed							
R060578	EC	0.23	235						
USA, 2007	FS	20 g		29	forage	0.26	0.09	0.35	2008/7005427
Hall, NE		as/100							
(TR459)	+	kg seed							
R070280	EC	0.22	189						

Table 40B Residues in sorghum stover from a seed treatment and a foliar application of pyraclostrobin to sorghum in supervised trials in the USA

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 2007	FS	20 g		76	stover	0.11	0.05	0.16	2008/7005427
Clarke, GA		as/100							
(TR459)	+	kg seed							
R060567	EC	0.22	215						
USA, 2007	FS	20 g		64	stover	0.04	< 0.02	0.06	2008/7005427
Jackson, AR		as/100							
(TR459)	+	kg seed							
R060568	EC	0.23	189						
USA, 2007	FS	20 g		65	stover	0.04	0.02	0.34	2008/7005427
Jefferson, IA		as/100						0.06	
(TR459)	+	kg seed							
R060569	EC	0.22	318						
USA, 2007	FS	20 g		49	stover	0.08	0.05	0.13	2008/7005427
Clinton, IL		as/100							
(TR459)	+	kg seed							
R060570	EC	0.23	310						
USA, 2007	FS	20 g		46	stover	0.57	0.19	0.76	2008/7005427
Stafford, KS		as/100							
(TR459)	+	kg seed							
R060571	EC	0.22	201						
USA, 2007	FS	20 g		91	stover	0.09	0.03	0.12	2008/7005427
Freeborn, MN		as/100							
(TR459)	+	kg seed							
R060572	EC	0.22	201						
USA, 2007	FS	20 g		61	stover	0.08	0.04	0.12	2008/7005427
Caddo, OK		as/100							
(TR459)	+	kg seed							
R060573	EC	0.22	227						
USA, 2007	FS	20 g		122	stover	< 0.02	< 0.02	< 0.04	2008/7005427
Uvalde, TX		as/100							
(TR459)	+	kg seed							
R060574	EC	0.22	231						
USA, 2007	FS	20 g		49	stover	0.05	0.06	0.11	2008/7005427
Armstrong, TX		as/100							
(TR459)	+	kg seed							
R060576	EC	0.22	224						
USA, 2007	FS	20 g		49	stover	0.06	0.07	0.13	2008/7005427
Carson, TX		as/100							
(TR459)	+	kg seed							
R060577	EC	0.22	225						

CROP Country, Year Location (variety) Trial No.	Application			PHI [d]	Sample material	Residue pyraclostrobin [mg/kg]	Residue BF 500-3 [mg/kg]	Total Residue [mg/kg]	Ref. Report No. DocID.
	Formulation	Rate [kg ai/ha]	Spray volume [L/ha]						
USA, 2007 Hockley, TX (TR459)	FS	20 g as/100 kg seed		56	stover	0.19	0.14	0.33	2008/7005427
R060578	EC	0.23	235						
USA, 2007 Hall, NE (TR459)	FS	20 g as/100 kg seed		66	stover	0.06	< 0.02	0.08	2008/7005427
R070280	EC	0.22	189						

Table 41 Residues in almond hulls from foliar applications of pyraclostrobin to almond in supervised trials in the USA.

ALMOND Country, Year Location (variety) Trial No.	Application				Residues (mg/kg)					Ref. Report No
	Formulation	No.	kg ai / ha	kg ai / hl	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
USA, 2003 Terra Bella, CA (Monterey)	WG	4	0.135	0.024	hulls	25	3.10	0.30	3.40	2004/
RCN 2003131		4	0.135	0.01	hulls	25	4.79	0.40 ¹	5.19	5000223
USA, 2003 Wasco, CA (Non-pareil)	WG	4	0.135	0.014– 0.02	hulls	24	1.56	0.07	1.63	2004/
RCN 2003132		4	0.135	0.01	hulls	24	3.12	0.14	3.26	5000223
USA, 2003 Madera, CA (Butte)	WG	4	0.135	0.02	hulls	26	1.06	0.09	1.15	2004/
RCN 2003133		4	0.135	0.007	hulls	26	1.61	0.30	1.91	5000223
USA, 2003 Glenn, CA (Non-pareil)	WG	4	0.135	0.02– 0.03	hulls	25	1.09	0.11	1.20	2004/
RCN 2003134		4	0.135	0.007	hulls	25	1.23	0.14	1.37	5000223
USA, 2003 Hughson, CA (Carmel)	WG	4	0.135	0.020	hulls	25	1.14	0.14	1.28	2004/
RCN 2003135		4	0.135	0.007	hulls	25	1.14	0.15	1.29	5000223
USA, 1999 Tulare, CA (Monterey)	WG	4	0.135	0.016– 0.017	hulls	148	< 0.02	< 0.02	< 0.04	1999/5161
RCN 99135		4	0.135	0.006– 0.007	hulls	148	< 0.02	< 0.02	< 0.04	
USA, 1999 Kern county, CA (Non-pariel)	WG	4	0.135	0.018	hulls	108	0.47	0.09	0.56	1999/5161
RCN 99136		4	0.135	0.007	hulls	108	0.55	0.10	0.65	

ALMOND	Application				Residues (mg/kg)					Ref.
Country, Year Location (variety) Trial No.	Formulation	No.	kg ai / ha	kg ai / hl	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	Report No
USA, 1999	WG	4	0.135	0.015	hulls	116	0.16	0.04	0.20	1999/5161
Fresno county, CA		4	0.135	0.006	hulls	116	0.19	0.06	0.25	
(Non-pareil)										
RCN 99137										
USA, 1999	WG	4	0.135	0.014–	hulls	115	0.11	0.02	0.13	1999/5161
Madera county,				0.015						
CA , (Non-pareil)		4	0.135	0.006	hulls	115	0.21	0.03	0.24	
RCN 99138										
USA, 1999	WG	4	0.135	0.020–	hulls	120	0.33	0.08	0.41	1999/5161
Butte county, CA				0.021		127	0.58	0.11	0.69	
(Non-pareil)						134	0.61	0.12	0.73	
RCN 99139						141	0.87	0.15	1.02	
						148	0.46	0.11	0.57	
		4	0.135	0.009	hulls	120	0.55	0.12	0.67	
						127	0.88	0.17	1.05	
						134	0.86	0.16	1.02	
						141	1.34	0.25	1.59	
						148	1.06	0.22	1.28	

Table 42 Residues in gin by-products from a planting in-furrow application plus foliar applications of pyraclostrobin to cotton in supervised trials in USA

[illegible]

COTTON	Application				Residues (mg/kg)					Ref.
Country/ year (variety) trial code	Formulation	No.	kg ai / ha	kg ai / hl	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	Report No. DocID.
RCN2004177										
USA, 2004	WG	4 ^a	0.22–	0.167–	gin	30	1.54	0.26	1.80	2005/
			0.23	0.261	By- products					5000012
Caddo, OK (Paymaster 2280)										
RCN2004179										
USA, 2004	WG	4 ^a	0.22–	0.060–	gin	30	16.73	3.63	20.36	2005/
Kings, CA			0.23	0.237	By- products					5000012
(Phytogen 72)										
RCN2004181										

^a Application 1: in-furrow / at planting to dry seed.

FATE OF RESIDUES IN STORAGE AND PROCESSING

In processing

The Meeting received new information on the fate of pyraclostrobin residues during aqueous hydrolysis under conditions of pasteurisation and baking, brewing and boiling and sterilisation. Information was also provided on the fate of pyraclostrobin residues during the food processing of citrus fruits, melons, plums, cherries, currants, strawberries, barley, wheat, sorghum, pecans, sunflower, soya bean, and cotton.

Citrus fruits

During the 2004 growing season, a total of four field trials were conducted in different representative orange growing areas in Spain. An EC formulation of pyraclostrobin was foliar applied four times at an exaggerated target rate of 1125 g ai/ha. Orange fruit samples were collected at the day of the last application for analysis and 7 (±1) days later for analysis of the raw agricultural commodity (RAC) and also for processing. Simulating industrial processes fruit specimens were processed into peel, pulp (fruit flesh), juice (fresh), juice (pasteurized) pomace (wet), pomace (dried), marmalade, canned fruit, vegetable stock. In addition, the wash water was sampled and analysed also. The results are summarised in Table 43.

Table 43 Summary of pyraclostrobin residues in processed fractions of citrus fruits treated four times 1.13 kg ai/ha in Spain.

Country, Year Location (variety) Trial No.	Residues (mg/kg)					Ref. Report No
	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
Spain, 2004	fruit	0	0.96	0.06	1.02	2005/
Andalucia, Sevilla	fruit	7	0.94	0.10	1.04	1027635
(Navelina)	peel		4.87	0.43	5.30	
ALO/58/04	pulp		0.05	< 0.02	0.07	
	wash water		0.30	< 0.02	0.32	
	juice (fresh)		0.03	< 0.02	0.05	
	pomace (wet)		1.65	0.14	1.79	
	Pomace (dry)		6.93	0.75	7.68	
	juice (pasteur.)		0.04	< 0.02	0.06	
	marmalade		0.17	0.11	0.28	
	Oranges, canned		< 0.02	< 0.02	< 0.04	

Country, Year Location (variety) Trial No.	Residues (mg/kg)					Ref. Report No
	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
	vegetable stock		< 0.02	< 0.02	< 0.04	
Spain, 2004	fruit	0	1.64	0.15	1.79	2005/
Andalucia, Sevilla	fruit	7	1.41	0.14	1.55	1027635
(Navelina)	peel		8.92	0.82	9.74	
ALO/59/04	pulp		0.18	< 0.02	0.20	
	wash water		0.81	0.02	0.83	
	juice (fresh)		0.05	< 0.02	0.07	
	pomace (wet)		2.11	0.19	2.30	
	pomace(dry)		13.77	1.56	15.33	
	juice (pasteur.)		0.06	< 0.02	0.08	
	marmalade		0.26	0.41	0.67	
	Oranges, canned		< 0.02	< 0.02	< 0.04	
	Vegetable stock		< 0.02	< 0.02	< 0.04	
Spain, 2004	fruit	0	3.32	0.31	3.63	2005/
Andalucia, Sevilla	fruit	7	2.58	0.26	2.84	1027635
(Navelina)	peel		10.37	1.27	11.64	
ALO/60/04	pulp		0.29	< 0.02	0.31	
	wash water		1.13	0.04	1.17	
	juice (fresh)		0.30	< 0.02	0.32	
	pomace (wet)		3.40	0.30	3.70	
	Pomace (dry)		16.85	1.92	18.77	
	juice (pasteur.)		0.30	< 0.02	0.32	
	marmalade		0.66	1.10	1.76	
	Oranges, canned		< 0.02	< 0.02	< 0.04	
	vegetable stock		< 0.02	< 0.02	< 0.04	
Spain, 2004	fruit	0	2.57	0.18	3.75	2005/
Andalucia, Sevilla	fruit	7	2.65	0.22	2.87	1027635
(Navelina)	peel		10.13	0.98	11.11	
ALO/60/04	pulp		0.17	< 0.02	0.19	
	wash water		1.30	0.04	1.34	
	juice (fresh)		0.35	< 0.02	0.37	
	pomace (wet)		2.86	0.31	3.17	
	pomace(dry)		14.66	1.66	16.32	
	juice (pasteur.)		0.36	< 0.02	0.38	
	marmalade		0.17	0.31	0.48	
	oranges canned		0.02	< 0.02	0.04	
	vegetable stock		< 0.02	< 0.02	< 0.04	

In the USA, an orange processing study was conducted to determine the distribution of pyraclostrobin residues in orange process fractions in 1999. Whole orange samples were collected at normal crop maturity, 11 to 14 days after the last application. The results are summarised in Table 44.

Table 44 Summary of pyraclostrobin residues in oranges in USA

CROP Country, Year Location (variety) Trial No.	Application				Residues (mg/kg)					Ref. Report No
	Formulation	No.	kg ai/ ha	kg as/ hL	Matrix	Day	pyraclost robin	BF 500-3	Total residue	
USA, 1999	EC	2	0.895	0.066	whole fruit	14	1.63	0.21	1.84	1999/5120
Palm Beach, FL		2	1.394	0.105	unwashed					

CROP	Application				Residues (mg/kg)					Ref. Report No
Country, Year Location (variety) Trial No.	Formulation	No.	kg ai/ha	kg as/hL	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
(Valencia)					whole fruit	14	1.24	0.16	1.40	
RCN 99307					washed					
					pulp		14.54	1.74	16.28	
					oil		10.17	0.93	11.10	
					juice		< 0.02	< 0.02	< 0.04	

Plums

In Germany, plum trees were treated five times at four locations in typical plum growing areas to investigate the pyraclostrobin residues in plums and in the processed fractions involved in the plum puree and prune production in 2000. Samples were taken 7 days after the last application and analysed. These samples were used for residue analysis and for processing. The plums were processed to the following products: Wash water, washed plums, remainder of the straining process, condensed water, plum-puree, dipping water, prunes. The results are summarised in Table 45.

Table 45 Summary of pyraclostrobin residues in plums treated five times with 0.1 kg ai/ha in Germany

Country, Year Location (variety) Trial No.	Residues (mg/kg)					Ref. Report No
	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
Germany, 2000	fruit	0	0.34	0.03	0.37	2001/
D-55435 Gau	fruit	7	0.29	0.04	0.33	1000936
Algesheim	washed plum	7	0.24	0.02	0.26	
("Elena" auf Fereley)	wash water	7	0.04	< 0.02	0.06	
	remainder	7	0.90	0.23	1.13	
Trial AT-00/016-1	condensed water	7	< 0.02	< 0.02	< 0.04	
	puree	7	0.60	0.21	0.81	
	dipping water	7	0.02	< 0.02	0.04	
	prunes	7	1.33	0.17	1.50	
D-65207	fruit	0	0.13	< 0.02	0.15	
Wiesbaden-Kloppenheim	fruit	7	0.09	< 0.02	0.11	
	washed plum	7	0.12	< 0.02	0.14	
(Chrudimer)	wash water	7	< 0.02	< 0.02	< 0.04	
Trial AT-00/016-2	remainder	7	0.96	0.13	1.09	
	condensed water	7	< 0.02	< 0.02	< 0.04	
	puree	7	0.15	0.04	0.19	
	dipping water	7	< 0.02	< 0.02	< 0.04	
	prunes	7	0.44	0.04	0.48	
D-65207	fruit	0	0.11	< 0.02	0.13	
Wiesbaden-Kloppenheim	fruit	7	0.10	< 0.02	0.12	
	washed plum	7	0.09	< 0.02	0.11	
(Auerbacher)	wash water	7	< 0.02	< 0.02	< 0.04	
Trial AT-00/016-3	remainder	7	0.93	0.11	1.04	
	condensed water	7	< 0.02	< 0.02	< 0.04	
	puree	7	0.19	0.04	0.23	
	dipping water	7	< 0.02	< 0.02	< 0.04	
	prunes	7	0.55	0.04	0.59	
D-23843	fruit	0	0.10	< 0.02	0.12	
Bad Oldesloe	fruit	7	0.07	< 0.02	0.09	

Country, Year Location (variety) Trial No.	Residues (mg/kg)					Ref. Report No
	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
(Schraderhof)	washed plum	7	0.11	< 0.02	0.12	
Trial AT-00/016-4	wash water	7	< 0.02	< 0.02	< 0.04	
	remainder	7	0.31	0.34	0.65	
	condensed water	7	< 0.02	< 0.02	< 0.04	
	puree	7	0.10	< 0.02	0.12	
	dipping water	7	< 0.02	< 0.02	< 0.04	
	prunes	7	0.20	< 0.02	0.22	

During crop growing season 1999, an additional plum processing study was conducted in the USA to determine the distribution of pyraclostrobin residues in plum process fractions. The fruit samples were collected at normal crop maturity, 0 days after the last application (DALA) and processed according to typical commercial practices. Prunes were the only fractions generated from plum RAC samples. The results are summarised in Table 46.

Table 46 Summary of pyraclostrobin residues in plums treated five times with 0.67 kg ai/ha in USA.

Country, Year Location (variety) Trial No.	Residues (mg/kg)					Ref. Report No
	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
USA, 1999	Plums unwashed	0	0.29	< 0.02	0.31	1999/5147
Tulare county, CA	plums washed		0.44	0.02	0.46	
(French Plume)	prunes		0.37	0.03	0.40	
RCN 99121						

Cherries

In Germany, four cherry trials were conducted to investigate pyraclostrobin residues in cherries and in the processed fractions involved in the washed cherries and canned cherries production in 2000. Samples were taken twice. The first sampling was performed immediately after last application when the spray had dried. The second sampling was performed 7 days after last application. These samples were used for residue analysis and for processing. The results are summarised in Table 47.

Table 47 Summary of pyraclostrobin residues in cherries treated five times with about 0.1 kg ai/ha in Germany.

Country, Year Location (variety) Trial No.	Residues (mg/kg)					Ref. Report No
	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
Germany, 2000	fruit	0	0.32	< 0.02	0.34	2001/
D-55435 Gau	fruit	7	0.10	0.03	0.13	1000938
Algesheim	cherries washed	7	0.11	< 0.02	0.13	
(Schattenmorellen)	wash water	7	0.04	< 0.02	0.06	
AT-00/015-1	cherries canned	7	0.09	0.05	0.14	
	fruit syrup	7	< 0.02	< 0.02	< 0.04	
	Cherry juice	7	< 0.02	< 0.02	< 0.04	
Germany, 2000	fruit	0	0.20	< 0.02	0.22	
D-65207	fruit	7	0.11	< 0.02	0.13	
Wiesbaden	cherries washed	7	0.08	0.03	0.11	
-Kloppenheim	wash water	7	< 0.02	< 0.02	< 0.04	
(Haumüller)	cherries canned	7	0.11	0.03	0.14	
AT-00/015-2	fruit syrup	7	< 0.02	< 0.02	< 0.04	
	cherry juice	7	< 0.02	< 0.02	< 0.04	

Country, Year Location (variety) Trial No.	Residues (mg/kg)					Ref. Report No
	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
Germany, 2000	fruit	0	0.37	< 0.02	0.39	
D-23845 Grabau	fruit	7	0.22	0.04	0.26	
(Schattenmorellen)	cherries washed	7	0.22	0.05	0.27	
AT-00/015-3	wash water	7	0.04	< 0.02	0.06	
	cherries canned	7	0.22	0.06	0.28	
	fruit syrup	7	< 0.02	< 0.02	< 0.04	
	cherry juice	7	0.03	< 0.02	0.05	
Germany, 2000	fruit	0	0.43	< 0.02	0.45	
D-23843 Gau	fruit	7	0.30	0.03	0.33	
Algesheim	cherries washed	7	0.30	0.03	0.33	
(Boseka)	wash water	7	0.16	< 0.02	0.18	
AT-00/015-4	cherries canned	7	0.31	0.06	0.37	
	fruit syrup	7	< 0.02	< 0.02	< 0.04	
	cherry juice	7	0.04	< 0.02	0.06	

Currants

During the growing season 2006, a total of four field trials were conducted in different representative currant growing areas in Germany to determine the residue levels of pyraclostrobin and its metabolite BF 500-3 in black and red currants and their processed products. The formulation was foliar applied twice at an exaggerated target rate of 4.5 kg product/ha which was threefold of the recommended rate. Currant fruit samples were collected directly after the last application and three days later for analysis of the raw agricultural commodity and also for processing. Simulating industrial processes fruit specimens were processed into washed currants, crushed currants (mash), heated mash, wet pomace, juice before/after pasteurization, jelly, jam pomace (stems/stalks), jam before/after cooking, canned currants and fruit juice (preserve). In addition, the wash water was also sampled and analysed. The results are summarised in Table 48.

Table 48 Summary of pyraclostrobin parent residues in currants in Germany (Harant, H., 2007, BASF DocID 2007/1006112)

Country, Year Location (variety) Trial No.	Residues (mg/kg)				
	Matrix	Day	pyraclostrobin	BF 500-3	Total residue
Germany, 2006	fruit	0	2.24	0.09	2.33
D-31633 Leese	fruit	3	0.92	0.08	1.00
Lower Saxony	currants washed	3	0.41	0.04	0.45
(Ben alder)	wash water	3	0.14	0.01	0.15
Trial FR 50/06/21	currants crashed(mash)	3	0.35	0.03	0.38
	pomace wet	3	1.56	0.17	1.73
	juice before pasteur.	3	0.03	< 0.01	0.04
	juice after pasteur.	3	0.03	< 0.01	0.04
	jelly	3	< 0.01	< 0.01	< 0.02
	jam pomace	3	3.52	0.18	3.70
	jam before cooking	3	0.24	0.02	0.26
	jam after cooking	3	0.20	0.04	0.24
	currants canned	3	0.24	0.24	0.48
	fruit juice(preserve)	3	< 0.01	< 0.01	< 0.02
Germany, 2006	fruit	0	2.88	0.09	2.97
D-16356	fruit	3	1.91	0.08	1.99
Werneuchen	currants washed	3	1.10	0.06	1.16
Brandenburg	wash water	3	1.44	0.04	1.48

Country, Year Location (variety) Trial No.	Residues (mg/kg)				
	Matrix	Day	pyraclostrobin	BF 500-3	Total residue
(Rovada)	currants crashed(mash)	3	1.32	0.06	1.38
Trial FR 50/06/60	mash heated	3	1.41	0.08	1.49
	pomace wet	3	6.04	0.30	6.34
	juice before pasteur.	3	0.06	< 0.01	0.07
	juice after pasteur.	3	0.04	< 0.01	0.05
	jelly	3	0.03	< 0.01	0.04
	jam pomace	3	3.42	0.25	3.67
	jam before cooking	3	0.58	0.02	0.60
	jam after cooking	3	0.68	0.04	0.72
	currants canned	3	1.36	0.44	1.80
	fruit juice(preserve)	3	0.01	< 0.01	0.02
Germany, 2006	fruit	0	2.73	0.11	2.84
D-04769 Sornzig	fruit	3	1.55	0.06	1.61
Saxony	currants washed	3	0.71	0.04	0.75
(Ben Alder)	wash water	3	1.04	0.04	1.08
Trial FR 50/06/71	currants crashed(mash)	3	0.63	0.04	0.67
	mash heated	3	0.67	0.05	0.72
	pomace wet	3	2.55	0.19	2.74
	juice before pasteur.	3	0.09	< 0.01	0.10
	juice after pasteur.	3	0.07	< 0.01	0.08
	jelly	3	0.03	< 0.01	0.04
	jam before cooking	3	0.27	0.02	0.29
	jam after cooking	3	0.32	0.03	0.35
	currants canned	3	0.30	0.43	0.73
	fruit juice(preserve)	3	0.01	0.01	0.02
Germany, 2006	fruit	0	1.14	0.06	1.20
D-04769 Abblauß	fruit	3	0.81	0.04	0.85
Saxony	currants washed	3	0.43	0.03	0.46
(Rondom)	wash water	3	0.35	0.02	0.37
Trial 50/06/73	currants crashed(mash)	3	0.37	0.02	0.39
	mash heated	3	0.46	0.02	0.48
	pomace wet	3	1.70	0.11	1.81
	juice before pasteur.	3	0.03	< 0.01	0.04
	juice after pasteur.	3	0.03	< 0.01	0.04
	jelly	3	< 0.01	< 0.01	< 0.02
	jam pomace	3	1.58	0.13	1.71
	jam before cooking	3	0.13	< 0.01	0.14
	jam after cooking	3	0.30	0.02	0.32
	currants canned	3	0.40	0.30	0.70
	fruit juice(preserve)	3	< 0.01	< 0.01	< 0.02

Strawberries

In Germany, strawberry trials were conducted to investigate pyraclostrobin residues in strawberries and in the processed fractions involved in the canned strawberry and jam production in 2000. The application rate of 3 kg/ha is the double of the recommended rate. Samples of strawberries for residue analysis were taken directly after the last application when the spray had dried. Strawberries were taken 3 days after the last application. These samples were used for residue analysis and for processing. The strawberries were processed to the following products: Washed strawberries, wash water, canned strawberries, fruit syrup, jam, and distillate. The results are summarised in Table 49.

Table 49 Summary of pyraclostrobin residues in strawberries treated 4 times with 0.25 kg ai/ha in Germany (Scharm, M., 2001, BASF DocID 2001/1000937).

Country, Year Location (variety) Trial No.	Residues (mg/kg)				
	Matrix	Day	pyraclostrobin	BF 500-3	Total residue
Germany, 2000	fruit	0	0.22	< 0.02	0.24
D-65205	fruit	3	0.23	0.03	0.25
Wiesbaden-	fruit ^a	3	0.14	< 0.02	0.16
Nordenstadt	washed fruit	3	0.06	< 0.02	0.08
Hesse	wash water	3	0.03	< 0.02	0.05
(Symphony)	canned fruit	3	0.09	0.05	0.14
AT-00/026-1	fruit syrup	3	< 0.02	< 0.02	< 0.04
	jam	3	0.03	< 0.02	0.05
	distillate	3	< 0.02	< 0.02	< 0.04
Germany, 2000	fruit	0	0.19	< 0.02	0.21
D-99099 Erfurt-	fruit	3	0.29	< 0.02	0.31
Dittelstedt	fruit ^a	3	0.16	< 0.02	0.18
Thuringia	washed fruit	3	0.13	< 0.02	0.15
(Elsanta)	wash water	3	0.03	< 0.02	0.05
AT-00/026-2	canned fruit	3	0.15	0.06	0.21
	fruit syrup	3	< 0.02	< 0.02	< 0.04
	jam	3	0.07	< 0.02	0.09
	distillate	3	< 0.02	< 0.02	< 0.04
Germany, 2000	fruit	0	0.31	< 0.02	0.33
D-23843 Bad	fruit	3	0.40	0.02	0.42
Oldesloe	fruit ^a	3	0.15	< 0.02	0.17
Schleswig	washed fruit	3	0.11	< 0.02	0.13
-Holstein	wash water	3	< 0.02	< 0.02	< 0.04
(Korona)	canned fruit	3	0.15	0.08	0.23
AT-00/026-3	fruit syrup	3	< 0.02	< 0.02	< 0.04
	jam	3	0.07	< 0.02	0.09
	distillate	3	< 0.02	< 0.02	< 0.04
Germany, 2000	fruit	0	0.36	< 0.02	0.38
D-23911 Schmilau	fruit	3	0.32	0.03	0.35
Schleswig	fruit ^a	3	0.19	< 0.02	0.21
-Holstein	washed fruit	3	0.12	< 0.02	0.14
(Elsanta)	wash water	3	0.02	< 0.02	0.04
AT-00/026-4	canned fruit	3	0.13	0.11	0.24
	fruit syrup	3	< 0.02	< 0.02	< 0.04
	jam	3	0.16	0.03	0.19
	distillate	3	< 0.02	< 0.02	< 0.04

^a For storage stability.

Barley

In Germany, the barley processing basic study was conducted to investigate pyraclostrobin residues in barley grain and in the process fractions involved in beer and pot barley production in 1999. The processing was carried out in pilot plants simulating commercial practice. All samples were analysed for residues of pyraclostrobin and its metabolite BF 500-3. For the barley raw agricultural commodities such as plant without roots, ears, haulms and grain, BASF method no. 421/0 was used. The process fractions pot barley, pearling dust, malt, malt germs, spent grain, trub (flocs), beer yeast and beer were analysed according to BASF method no. 453/0. The concentration factors are summarized in Table 50.

Table 50 Residues of pyraclostrobin and BF 500-3 in barley processed fractions following two times 0.5 kg ai/ha treatments in Germany.

Country, Year Location (variety) Trial No.	Residues (mg/kg)					Ref. Report No
	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
Germany, 1999	plant w/o	0	13.0	0.45	13.45	1999/11826
D-65510	roots					Raw
Hünstetten-	haulms	42	2.38	1.51	3.89	agriculture
Görsroth	ears	42	0.07	0.07	0.14	commodities
(Scarlett)	grain	45	0.04	0.04	0.08	
AT-99/023-0						
	grain		0.03	0.04	0.07	Beer process
	brewing		0.04	0.05	0.09	fractions
	malt					
	malt germ		0.07	0.03	0.10	
	spent grain		0.30	0.25	0.55	
	trub (flocs)		< 0.02	0.15	0.17	
	beer yeast		< 0.02	0.08	0.10	
	beer		< 0.02	< 0.02	< 0.04	
	grain		0.03	0.04	0.07	Pearl barley
	pearl barley		< 0.02	0.04	0.06	process
	pearling		0.33	0.20	0.53	fractions
	dust					
Germany, 1999	plant w/o	0	11.10	0.41	13.51	1999/11827
D-65510	roots					
Hünstetten-	haulms	42	2.34	1.62	3.96	
Görsroth	ears	42	0.13	0.15	0.28	
(Scarlett)	Grain ^a	45	0.03	0.03	0.06	
AT-99/022-1	Grain ^b		0.03	0.03	0.06	
	malt		0.03	0.04	0.07	
	beer		< 0.02	< 0.02	< 0.04	
Germany, 1999	plant w/o	0	15.60	0.53	16.13	
D-56368	roots					
Niedertiefenbach -	Grain ^a	44	0.03	0.03	0.06	
Hof Bleidenbach	Grain ^b		0.03	0.03	0.06	
(Scarlett)	malt		0.04	0.04	0.08	
AT-99/022-2	beer		< 0.02	< 0.02	< 0.04	
Germany, 1999	plant w/o	0	15.80	0.31	16.11	
D-23845 Grabau	roots					
(Alexis)	haulms	44	5.23	1.81	7.04	
AT-99/022-3	ears	44	0.24	0.23	0.47	
	Grain ^a	54	0.03	0.02	0.05	
	Grain ^b		0.03	0.02	0.05	
	malt		0.03	0.03	0.06	
	beer		< 0.02	< 0.02	< 0.04	

^a At harvest time.

^b Stored for beer processing.

In the USA, pyraclostrobin was applied twice foliarly to a separate treated plot of wheat at an exaggerated seasonal rate in 2000. The results are summarised in Table 51.

[illegible]

Table 52 Summary of BAS 500 F residues in wheat grain and germs in Germany

[illegible]

Sorghum

In USA, a processing study in sweet sorghum was conducted to determine the potential for concentration of residues of pyraclostrobin in sweet sorghum processed fractions. During the 2007 growing season, a processing study was conducted in sweet sorghum grown in USA. At the trial on sweet sorghum, the crops were grown from seed treated with pyraclostrobin at 0.100 kg as/100 kg seed. The sweet sorghum RAC samples were harvested at commercial maturity at 99 days after planting. The samples were later processed into syrup according to simulated commercial procedures. Residue data are shown in Table 53.

Table 53 Summary of pyraclostrobin residues in sorghum in USA

Country, Year Location (variety) Trial No.	Application				Residues (mg/kg)					Ref. Report No
	Formulation	No.	kg ai / 100 kg seed	kg ai / hL	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
USA, 2007	FS	1	0.10		sweet	99	< 0.02	< 0.02	< 0.04	2008/
Ottawa, MI					sorghum					7005428
(Simon)					stalks					
RCN R070098					syrup	99	< 0.02	< 0.02	< 0.04	

Nutmeat

A processing study was performed in USA. The residue levels are quantified in the raw agricultural commodity (here: nutmeat) and all commodities being destined either for human food or animal feed. Peanut nutmeat, meal, and oil commodities were analysed by BASF Analytical Method Number D9808. Residue data are shown in Table 54.

Table 54 Summary of pyraclostrobin residues in peanuts in USA

CROP	Application				Residues (mg/kg)					Ref. Report No
Country, Year Location (variety) Trial No.	Formulation	No.	kg ai / 100 kg seed	kg ai / hL	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
Peanuts										
USA, 1997	EC	5	0.250	0.267	nutmeat	14	0.02	< 0.02	0.04	2008/
Wayne county, NC					meal	14	0.03	< 0.02	0.05	7005428
(NC-9)					oil	14	0.06	< 0.02	0.08	
RCN97130										

Sunflowers

During crop growing season 2001, a sunflower processing study was conducted to determine the distribution of pyraclostrobin residues in sunflower process fractions in USA. Sunflower seed samples were taken 21 days after last application. Sunflower seed and processed commodity samples were analysed by BASF Analytical Method Number D9908. Residue data are shown in Table 55.

Table 55 Summary of pyraclostrobin residues in sunflower in USA

Country, Year Location (variety) Trial No.	Application				Residues (mg/kg)					Ref. Report No
	Formulation	No.	kg as / 100 kg seed	kg as / hl	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
USA, 2001	WG	2	1.092	0.239	seed	21	1.01	0.26	1.27	2008/
Hockley county					meal		0.08	< 0.02	0.10	7005428
TX					refined oil		< 0.02	< 0.02	< 0.04	
(Triumph 567DW)										
RCN 2001289										

Soya beans

During crop growing season 2001, soya bean trials were conducted to determine the magnitude of the residues of the fungicides in processed soya bean commodities. The soya beans were treated at exaggerated rates in an effort to obtain detectable residue levels in seed samples for processing into food/feed fractions. The soya bean seed sample were collected at normal crop maturity and were processed according to simulated commercial practices into soya bean hulls, meal and refined oil. Samples were analysed by BASF Analytical Method Number D9908. Residue data are shown in Table 56.

Table 56 Summary of pyraclostrobin residues in soya bean in USA

CROP Country, Year Location (variety) Trial No.	Application				Residues (mg/kg)					Ref. Report No
	Formulation	No.	kg ai / 100 kg seed	kg ai / hL	Matrix	Day	pyraclostrobin	BF 500-3	Total residue	
USA, 2001	WG	2	1.092	0.605	seed	13	0.03	< 0.02	0.05	2001/
York, York Co.,					hulls		0.05	< 0.02	0.07	5002529
NE					meal		< 0.02	< 0.02	< 0.04	
(NE2596)					refined oil		< 0.02	< 0.02	< 0.04	
RCN 2001214										

Cotton

In USA, one trial was conducted during the 2004 growing season to determine the magnitude of the residues of pyraclostrobin in processed cotton commodities. Seed cotton (RAC) samples were harvested at normal maturity, 30 days after the last application and were processed according to simulated commercial practices into meal, hulls, crude and refined oil. Samples were analysed by BASF Analytical Method Number D9908. Residue data are shown in Table 57.

Table 57 Summary of pyraclostrobin residues in cotton in USA (Jordan J., Jones J.E., 2005, BASF DocID 2005/5000013).

Country, Year Location (variety) Trial No.	Application				Residues (mg/kg)				
	Formulation	No.	kg ai / 100 kg seed	kg ai/hL	Matrix	Day	pyraclostrobin	BF 500-3	Total residue
USA, 2004	WG	1	1.12	1.711	seed	30	0.11	0.03	0.14
Crottenden, AR		3	1.12	0.921	meal		< 0.02	< 0.02	< 0.04
(ST4793RR)					hulls		< 0.02	< 0.02	< 0.04

Country, Year Location (variety) Trial No.	Application				Residues (mg/kg)				
	Formulation	No.	kg ai / 100 kg seed	kg ai/hL	Matrix	Day	pyraclostrobin	BF 500-3	Total residue
RCN 2004183					crude oil		< 0.02	< 0.02	< 0.04
					refined oil		< 0.02	< 0.02	< 0.04

The factors are calculated from the data recorded in tables in this section.

Table 58 Summary of processing factors for pyraclostrobin residues

Raw agricultural commodity (RAC)	Processed commodity	Calculated processing factors	Median or best estimates
Orange	peel	3.82, 4.02, 5.18, 6.33	4.60
	Pulp	0.05, 0.06, 0.11, 0.13	0.085
	Juice (fresh)	< 0.012, 0.03, 0.04, 0.12, 0.13	0.04
	Pomace (wet)	1.08, 1.32, 1.50, 1.76	1.41
	Pomace (dry)	5.53, 6.53, 7.37, 9.77	6.95
	Juice (pasteur.)	0.04, 0.04, 0.12, 0.14	0.08
	marmalade	0.06, 0.18, 0.18, 0.26	0.18
	Canned orange	< 0.008, 0.008, < 0.014, < 0.021	0.11
	Vegetable stock	< 0.008, < 0.008, < 0.014, < 0.021	< 0.11
	Pulp (peel and pulp after pressing)	8.92	8.92
	Oil	6.24	6.24
Plums	Puree	1.43, 1.67, 2.07, 1.90	1.87
	Prune	1.28, 2.86, 4.59, 4.89, 5.50	4.59
Cherries	Canned cherries	0.90, 1.00, 1.00, 1.03	1.00
	Syrup	< 0.067, < 0.091, 0.18, < 0.20	0.136
	Juice	0.13, 0.14, < 0.18, < 0.20	0.16
Currants	Crushed currants	0.38, 0.41, 0.46, 0.69	0.435
	Mash heated	0.43, 0.45, 0.57, 0.74	0.51
	Wet pomace	1.65, 1.70, 2.10, 3.16	1.90
	Juice before pasteur.	0.031, 0.033, 0.037, 0.058	0.035
	Juice after pasteur.	0.021, 0.033, 0.037, 0.045	0.035
	Jelly	0.011, < 0.012, 0.016, 0.019	0.014
	Jam pomace	1.79, 1.95, 3.83	1.95
	Jam before cooking	0.16, 0.17, 0.26, 0.30	0.415
	Jam after cooking	0.21, 0.22, 0.36, 0.37	0.29
	Currants canned	0.19, 0.26, 0.49, 0.71	0.375
	Fruit juice (preserve)	0.005, 0.0065, < 0.011, < 0.012	0.0088
Strawberries	Canned fruit	0.38, 0.39, 0.41, 0.52	0.40
	Syrup	< 0.05, < 0.063, < 0.069, < 0.087,	< 0.066
	Jam	0.13, 0.24, 0.18, 0.50	0.21
	Distillate	< 0.05, < 0.063, < 0.069, < 0.087,	< 0.066
Melon	Flesh	< 0.29(b, 0.33, < 0.50, < 0.67(b, < 1.00	< 0.50
	Peel	1.00, 1.14, > 2.00, 2.50(b, 2.88, 3.00, 3.33	2.503
Barley	Brewing malt	1.00, 1.00, 1.33, 1.33	1.17
	Malt germ	2.33	2.33
	Spent grain	10.0	10.0
	Tub (flocs)	< 0.67	< 0.67
	Beer yeast	< 0.67	< 0.67
	beer	< 0.67, < 0.67, < 0.67, < 0.67	< 0.67
	Pearl barley	< 0.67	< 0.67
	Pearling dust	11.0	11.0
	Flour	< 0.50, < 0.57	< 0.535
	Bran	< 0.57, 1.25	0.91
Wheat	Middlings	< 0.50, < 0.57	< 0.535
	Shorts	< 0.50, < 0.57	< 0.535
	Germ	< 0.50, 0.50, < 0.57, 0.67	0.535
	Meal	1.50	1.50
	Oil	3.00	3.00

Raw agricultural commodity (RAC)	Processed commodity	Calculated processing factors	Median or best estimates
Sunflower	Meal	0.079	0.079
	Refined oil	0.020	0.020
Soya bean	Hulls	1.67	1.67
	Meal	< 0.67	< 0.67
	Refined oil	< 0.67	< 0.67
Cotton	Meal	< 0.18	< 0.18
	Hulls	< 0.18	< 0.18
	Crude oil	< 0.18	< 0.18
	Refined oil	< 0.18	< 0.18

APPRAISAL

Pyraclostrobin was first evaluated by JMPR in 2003 when an ADI of 0–0.03mg/kg bw and an ARfD of 0.05 mg/kg bw were established, and subsequently evaluated in 2004 and 2006 for the estimation of a number of maximum residue levels. The 2004 JMPR proposed pyraclostrobin as the residue definition for compliance with MRLs and for dietary intake, for both plant and animal commodities.

At the Forty-second Session of the CCPR, pyraclostrobin was scheduled for the evaluation of 2011 JMPR for additional maximum residue levels.

Analytical methods

The Meeting received descriptions and validation data for analytical methods for residues of pyraclostrobin in raw agricultural commodities, processed commodities and feed commodities. Numerous recovery data on a wide range of substrates were provided from validation testing of the methods, which showed that the methods were valid over the relevant concentration ranges. Pyraclostrobin was determined by LC-MS-MS and the reported LOQs ranged from 0.01 mg/kg to 0.02 mg/kg in plant matrices and 0.05 mg/kg in poultry tissues.

Results of supervised trials on crops

The Meeting received supervised trials data for pyraclostrobin uses on citrus fruits, cherries, plums, peaches, blackberries, raspberries, blueberries, currants, strawberries, avocado, papaya, onions, summer squash, cucumber, cantaloupe, artichoke, oat, rye, wheat, sorghum, pecan, almond, canola, cotton, sunflower and alfalfa.

The OECD calculator was used as a tool in the estimation of the maximum residue level from the selected residue data set obtained from the supervised trials. As a first step, the Meeting reviewed all relevant factors related to each data set in arriving at a best estimate of the maximum residue level using expert judgement. Then the OECD calculator was employed. If the statistical calculation spreadsheet suggested a different value from that recommended by the Meeting, a brief explanation of the deviation was supplied.

Citrus fruits

The 2004 JMPR evaluated numerous trials carried out in Argentina and the USA and estimated maximum residue levels for citrus fruits (1 mg/kg). New data were available from supervised trials on grapefruit, lemons, mandarins and oranges from Spain and the USA.

Grapefruit

The US GAP for citrus fruits allows a maximum of three spray applications at 0.147–0.245 kg ai/ha with a 0 day PHI.

Six grapefruit trials at maximum GAP, where residues found, median underlined, were: 0.06, 0.07, 0.09, 0.11, 0.24, and 0.59 mg/kg.

Lemon

The US GAP for citrus fruits allows a maximum of three spray applications at 0.147–0.245 kg ai/ha, 0 day PHI.

Five lemon trials at maximum GAP, where residues found, median underlined, were: 0.52, 0.54, 0.56, 0.74 and 0.90 mg/kg.

Mandarin

Spanish GAP allows a maximum of four spray applications at 0.075–0.225 kg ai/ha, with a 7 day PHI.

Six mandarin trials at maximum GAP, where residues found, median underlined, were: 0.25, 0.52, 0.54, 0.76, 0.87, and 1.15 mg/kg.

Oranges

Spanish GAP allows a maximum of four spray applications at 0.075–0.225 kg ai/ha, 7 day PHI; the GAP of the US for citrus fruits allows four foliar spray applications at 0.075–0.225 kg ai/ha, 0 day PHI.

In eight orange trials from Spain with application conditions in line with GAP, the ranked order pyraclostrobin residues, median underlined, were 0.24, 0.29, 0.34, 0.39, 0.58, 0.60, 1.10 and 1.31 mg/kg.

In thirteen orange trials from the USA, matching GAP conditions, pyraclostrobin residues were 0.17, 0.19, 0.23, 0.24, 0.25, 0.26, 0.28, 0.30, 0.42, 0.47, 0.61, 0.79 and 1.13 mg/kg.

The ranked order of pyraclostrobin residues in orange pulp, from the US trials, median underlined, were: < 0.02(7), 0.02(3), 0.05 and 0.07(2) mg/kg.

On the basis of the median ratio of 0.077 between pulp and whole fruit, corresponding calculated pyraclostrobin residues in orange pulp from the Spanish trials, median underlined, were: 0.02, 0.02, 0.03, 0.03, 0.04, 0.05, 0.08 and 0.10 mg/kg.

The Meeting noted that oranges had the highest residues in this citrus group and decided to recommend a maximum residue level of 2 mg/kg for pyraclostrobin in citrus fruits, an STMR of 0.035 mg/kg and an HR of 0.10 mg/kg on the basis of Spanish residue data in the pulp for dietary intake calculations, and estimate an STMR of 0.485 mg/kg for the estimation of STMR-P for processed commodities of oranges.

The Meeting agreed to withdraw the previous recommendation of 1 mg/kg for citrus fruits.

Stone fruits

The 2004 JMPR evaluated numerous trials carried out in US and estimated maximum residue levels for stone fruits (1 mg/kg). New data were available from supervised trials on cherries conducted in the USA and for peach and plum from Canada and the USA.

Cherries

Canadian GAP allows five spray applications at 0.134 kg ai/ha with a 10 day PHI. The GAP for the USA allows five spray applications at 0.134 kg ai/ha with a 0 day PHI.

Twelve sour or sweet cherry trials from the US and one sour cherry trial from Canada matched the US GAP. Residues found, in rank order, median underlined, were: 0.03, 0.27, 0.38, 0.42, 0.47, 0.50, 0.51, 0.56, 0.63, 0.82, 1.06, 1.08 and 1.57 mg/kg.

The Meeting estimated a maximum residue level of 3 mg/kg, an STMR of 0.51 mg/kg and HR of 1.57 mg/kg for pyraclostrobin in cherries.

Peaches

Canadian GAP consists of five spray applications at 0.134 kg ai/ha with a 10 day PHI. The GAP of France allows two spray applications at 0.05 kg ai/ha and a 3 day PHI. Germany GAP consists of three spray applications at 0.0168 kg ai/ha, 7 days PHI. For Italy and Spain the current GAP is three spray applications at 0.04–0.05 kg ai/ha, 3 days PHI. The GAP of the USA is five spray applications at 0.134 kg ai/ha and a 0 day PHI.

Ten supervised trials were conducted on peaches in France, Italy and Spain in 2003 and 2004. The Meeting agreed to combine all data from France (5), Italy (2) and Spain (3) against the Italian or Spanish GAP, pyraclostrobin residues, median underlined, were: < 0.02, 0.03, 0.04, 0.05, 0.07 (2), 0.08, 0.11, 0.12 and 0.13 mg/kg.

In 19 peach trials, at maximum US GAP, residues found, in ranked order, median underlined, were: 0.08, 0.11, 0.15, 0.15, 0.16 (2), 0.21, 0.23, 0.28, 0.31, 0.31, 0.34, 0.35, 0.41, 0.43, 0.48, 0.53, 0.61 and 1.75 mg/kg.

The US GAP would lead to an estimated maximum residue level of 2 mg/kg, an STMR of 0.31 mg/kg and an HR of 1.75 mg/kg for peaches. This residue level would result in an estimated intake of 150% of the ARfD.

Consequently, in accordance with the principles of alternative GAP, the Meeting considered the next lowest GAP and used the residues in European trials complying with Italian or Spanish GAP for the estimation of maximum residue level of 0.3 mg/kg, an STMR of 0.07 mg/kg and an HR of 0.13 mg/kg for peaches and nectarines.

Plums

The GAP of the USA consists of five spray applications at 0.134 kg ai/ha and a 0 day PHI.

Fifteen trials were carried out on plums in Canada (2) and the US (13) matching the US GAP. The residues found in rank order, median underlined, were: 0.02(2), 0.04, 0.05, 0.06, 0.07, 0.09 (2), 0.12, 0.19, 0.22, 0.34, 0.38 and 0.40(2) mg/kg.

The Meeting estimated a maximum residue level of 0.8 mg/kg, an STMR of 0.09 mg/kg and HR of 0.40 mg/kg for pyraclostrobin in plums.

The Meeting decided to withdraw its previous recommendations made for stone fruits (1 mg/kg).

Berries and other small fruits

The 2004 and 2006 JMPR evaluated numerous trials in blueberries, raspberries and strawberries carried out in the USA and Canada, and estimated maximum residue levels for blueberry (1 mg/kg), raspberry (2 mg/kg) and strawberry (0.5 mg/kg). New data were available for assessment from supervised trials on blackberry, blueberry, raspberry and strawberry conducted in Canada and the US.

Blackberries

The US GAP consists of five spray applications at 0.196 kg ai/ha, 0 day PHI.

From four blackberries trials, at GAP, residues found were: 0.35, 0.51, 0.87 and 1.32 mg/kg.

Raspberries

The Canadian GAP allows five spray applications at 0.166–0.205 kg ai/ha, 0 days PHI. The US GAP is for five spray applications at 0.196 kg ai/ha, 0 day PHI.

From nine raspberries trials (one trial in Canada and eight trials in the USA) at GAP, pyraclostrobin residues found, in ranked order, were: 0.40, 0.63, 0.78, 0.86, 0.88, 0.88, 1.04, 1.10 and 1.23 mg/kg.

The Meeting noted that residue levels from the same GAP were similar for blackberry and raspberry and agreed to combine all data to support a maximum residue level for blackberry and raspberry. The ranked order of concentrations, median underlined, was 0.35, 0.40, 0.51, 0.63, 0.78, 0.86, 0.87, 0.88, 0.88, 1.04, 1.10, 1.23 and 1.32 mg/kg. The Meeting estimated a maximum residue level, an STMR and an HR value for pyraclostrobin in blackberry and raspberry of 3, 0.87 and 1.32 mg/kg, respectively. The recommendation for a maximum residue level of 3 mg/kg for raspberries replaces the previous recommendation of 2 mg/kg.

Blueberries

The Canadian GAP allows five spray applications at 0.166–0.205 kg ai/ha, 0 days PHI. The GAP of the USA consists of five spray applications at 0.196 kg ai/ha, and a 0 day PHI.

From 11 blueberries trials (three trials in Canada and eight trials in the US) at GAP, residues found, median underlined, were: 0.19, 0.30, 0.33, 0.35, 0.57, 0.78, 1.16, 1.37, 1.62, 2.02 and 2.08 mg/kg.

The Meeting estimated a maximum residue level of 4 mg/kg, an STMR of 0.78 mg/kg and HR of 2.08 mg/kg for pyraclostrobin in blueberries. The recommendation for a maximum residue level of 4 mg/kg for blueberries replaces the previous recommendation of 1 mg/kg.

Currants

The GAP of Germany allows a maximum of three spray applications at 0.067 kg ai/ha, with a PHI of 14 days. The GAP of Italy consists of two spray applications at 0.10 kg ai/ha, and a 3 day PHI.

A total of 16 trials on currants were available from France (2), Germany (12), Italy (1) and the UK (1).

Two trials from France and one trial from Italy were conducted on currants matching Italian GAP. The ranked order of residues was 0.25, 0.58 and 0.62 mg/kg.

Pyraclostrobin residues from German trials matching the GAP of that country, median underlined, were: 0.03, 0.04, 0.08, 0.10, 0.11, 0.17, 0.20, 0.20, 0.22, 0.27, 0.73 and 1.30 mg/kg.

Based on the German data, the Meeting estimated a maximum residue level of 2 mg/kg, an STMR of 0.185 mg/kg and an HR of 1.30 mg/kg.

Strawberries

The GAP of the USA allows a maximum of five spray applications at 0.168–0.196 kg ai/ha, with a 0 day PHI.

From 11 strawberries trials, at GAP, residues found, median underlined, were: 0.06, 0.12, 0.13, 0.15, 0.16, 0.20, 0.24, 0.31, 0.43, 0.73 and 0.75 mg/kg.

The Meeting estimated a maximum residue level of 1.5 mg/kg, an STMR of 0.20 mg/kg and HR of 0.75 mg/kg for pyraclostrobin in strawberries. The Meeting agreed to withdraw the previous recommendation of 0.5 mg/kg on strawberries.

Assorted tropical and sub-tropical fruits-inedible peel

Avocados

The US GAP allows two spray applications at 0.148 kg ai/ha, with a 0 day PHI.

No residue trials matching the GAP of the USA were available. Consequently, the Meeting agreed that a maximum residue level for avocado could not be recommended.

Papaya

The GAP of Brazil allows four spray applications at 0.010 kg ai/hL with a 7 day PHI.

From eight trials on papaya available from Brazil, residues found, median underlined, were: < 0.05 (7) and 0.06 mg/kg.

The Meeting agreed to estimate a maximum residue level of 0.15 mg/kg, an STMR of 0.05 mg/kg and an HR of 0.06 mg/kg. The recommendation for a maximum residue level of 0.15 mg/kg for papaya replaces the previous recommendation of 0.05* mg/kg. The Meeting agreed to withdraw the previous recommendation of 0.05* mg/kg on papaya.

Bulb vegetables

The 2004 JMPR evaluated numerous trials carried out in the USA and estimated maximum residue levels for bulb onion (0.2 mg/kg) and garlic (0.05* mg/kg). New data were available from supervised trials on bulb onion and spring onions conducted in Canada and the USA.

Bulb onions

The GAP of Canada allows a maximum of six spray applications at 0.128–0.166 kg ai/ha, at a PHI of 7 days. The US GAP consists of six spray applications at 0.112–0.168 kg ai/ha, with a 7 day PHI.

From 12 bulb onions trials (five trials in Canada and seven trials in US) at GAP, residues found, median underlined, were: < 0.02, 0.02(4), 0.03, 0.09, 0.11, 0.42, 0.43, 0.61 and 0.62 mg/kg.

The Meeting estimated a maximum residue level of 1.5 mg/kg, an STMR of 0.06 mg/kg and HR of 0.62 mg/kg for pyraclostrobin in bulb onions. The Meeting agreed to withdraw the previous recommendation of 0.2 mg/kg.

Garlic

The GAP of Brazil consists of four spray applications at 0.12 kg ai/ha with a 7 day PHI.

Seven trials on garlic were available from Brazil complying with the GAP of that country. Residues found, median underlined, were: < 0.02(4), 0.03, 0.05 and 0.09 mg/kg.

The Meeting agreed to estimate a maximum residue level of 0.15 mg/kg, an STMR of 0.02 mg/kg and an HR of 0.09 mg/kg, respectively. The Meeting agreed to withdraw the previous recommendation of 0.05* mg/kg on garlic.

Spring onions

The GAP of the US allows a maximum of six spray applications at 0.112–0.168 kg ai/ha, with a 7 day PHI.

Seven spring onions trials (one trial in Canada and six trials in US) complied with the US GAP. Residues found were: 0.05(2), 0.33, 0.42, 0.52, 0.58 and 0.60 mg/kg.

The Meeting estimated a maximum residue level of 1.5 mg/kg, an STMR of 0.42 mg/kg and HR of 0.60 mg/kg for pyraclostrobin in spring onions. Use of the OECD calculator resulted in a value of 1.5 mg/kg.

Fruiting vegetables, Cucurbits

The 2004 and 2006 JMPR evaluated numerous trials carried out in Brazil and the USA, and estimated maximum residue levels for cucumber (0.5 mg/kg) and summer squash (0.3 mg/kg). New data were available from supervised trials on cucumbers and summer squash from the USA. The US GAP for cucurbits (including cucumber, summer squash and melons) consists of four spray applications at 0.112–0.224 kg ai/ha, with a 0 day PHI.

Cucumbers

The data from four field cucumbers trials conducted in the USA and complying with US GAP, were available. Residues found were: 0.02, 0.05, 0.06 and 0.10 mg/kg.

The 2004 and 2006 JMPR reported cucumber trials carried out in Brazil and US in line with GAP. The ranked order residues in cucumbers from US were 0.02, 0.03, 0.05, 0.06, 0.07, 0.09, 0.12, 0.14 and 0.41 mg/kg. Taking into account the new supervised trials from the USA, the ranked order of residues from US supervised trials, median underlined, were: 0.02(2), 0.03, 0.05(2), 0.06(2), 0.07, 0.09, 0.10, 0.12, 0.14 and 0.41 mg/kg.

Squash, Summer

Data from four summer squash trials, complying with US GAP, were available. Residues found were: 0.09, 0.09, 0.12 and 0.22 mg/kg.

The 2004 JMPR reported US trials conducted with the maximum GAP. The residues in summer squash, in ranked order, were: 0.03, 0.07, 0.14, 0.17 and 0.18 mg/kg. Taking into account new supervised trials from the USA, in ranked order the combined residues were: 0.03, 0.07, 0.09(2), 0.12, 0.14, 0.17, 0.18 and 0.22 mg/kg.

Melons, except Watermelon

The 2006 JMPR evaluated eight trials carried out in US, and estimated a maximum residue levels for cantaloupe (0.2 mg/kg). New data were available from supervised trials on cantaloupe from the USA.

Six cantaloupe trials at GAP, where residues found were: 0.05, 0.09, 0.10, 0.12, 0.14 and 0.28 mg/kg.

The 2006 JMPR reported cantaloupe trials carried out in US in line with US GAP. The ranked order residues in cantaloupe from the USA were: 0.05, 0.08, 0.09, 0.10, 0.11, 0.12 (2) and 0.13 mg/kg. Taking into account the new supervised trials from US, the ranked order of residue concentrations were: 0.05(2), 0.08, 0.09(2), 0.10(2), 0.11, 0.12(3), 0.13, 0.14 and 0.28 mg/kg.

On the basis of the median ratio of 0.50 between flesh and whole fruit, from Spanish trials corresponding calculated pyraclostrobin residues in melon flesh from US trials, median underlined, were: 0.025 (2), 0.04, 0.045(2), 0.05 (2), 0.055, 0.06(3), 0.065, 0.07, and 0.14 mg/kg.

The Meeting agreed to replace the previous the maximum residue level recommendation of 0.5 mg/kg on cucumber, and the previous recommendation of 0.3 mg/kg on cantaloupe (melon except watermelon) and 0.3 mg/kg on summer squash with a crop group estimate. Based on the cucumber residue data, the Meeting estimated a maximum residue level of 0.5 mg/kg for cucurbits.

For dietary intake calculation, the Meeting agreed to estimate an STMR of 0.06 mg/kg and HR of 0.41 mg/kg for fruiting vegetables, cucurbits edible peel and an STMR of 0.0525 mg/kg and HR of 0.14 mg/kg for fruiting vegetables, cucurbits-inedible peel, respectively.

Artichoke, globe

The GAP of France consists of 2 applications at a rate of 0.10 kg ai/ha and a 3 day PHI.

A total of 19 artichoke trials were available from France (7), Germany (2), Greece (1), Italy (3), the Netherlands (3) and Spain (3) complying with the French GAP. Residues found, median underlined, were: 0.04, 0.08, 0.13(3), 0.19, 0.22(2), 0.24, 0.25, 0.27(2), 0.32, 0.33, 0.34, 0.36, 0.49, 0.60 and 1.44 mg/kg.

The Meeting estimated a maximum residue level of 2 mg/kg, an STMR of 0.25 mg/kg and an HR of 1.44 mg/kg, for pyraclostrobin in globe artichoke.

Cereal grains

The 2004 and 2006 the JMPR evaluated numerous trials carried out in Brazil, Canada, Europe and the USA, and estimated maximum residue levels for barley (0.5 mg/kg), maize (0.02* mg/kg), oats (0.5 mg/kg), spelt (0.2 mg/kg) and wheat (0.2 mg/kg). New data were available from supervised trials on barley, oat, rye, sorghum and wheat from the USA.

Oats

Canadian GAP consists of two spray applications at 0.075–0.10 kg ai/ha not later than the end of flowering. The US GAP allows two spray applications at 0.098–0.147 kg ai/ha not later than the beginning of flowering (Feekes 10.5, Zadok's 59).

Residues from eight US trials and four Canadian trials, complying with the GAP of the USA, in ranked order, were: < 0.02, 0.11, 0.14, 0.15, 0.26, 0.30, 0.33, 0.33, 0.36, 0.40, 0.40 and 0.59 mg/kg.

Barley

The GAP of the USA consists of two spray applications at 0.098–0.147 kg ai/ha not later than the beginning of flowering (Feekes 10.5, Zadok's 59).

Four additional barley trials were conducted in US at the new GAP, where residues found were: 0.39, 0.50, 0.56 and 0.62 mg/kg.

The Meeting noted that residue levels from trials complying with the same GAP were similar for barley and oats and agreed to combine the data sets to support a maximum residue level for barley and oats. The ranked order of residues, median underlined, were: < 0.02, 0.11, 0.14, 0.15, 0.26, 0.30, 0.33, 0.33, 0.36, 0.39, 0.40, 0.40, 0.50, 0.56, 0.59 and 0.62 mg/kg. The Meeting estimated a maximum residue level and an STMR for pyraclostrobin in barley and oats of 1 and 0.345 mg/kg, respectively. The Meeting agreed to withdraw its previous recommendation for barley and oats of 0.5 mg/kg.

Wheat

The GAP of France GAP allows two spray applications at 0.25 kg ai/ha with a 35 day PHI. German GAP consists of two spray applications at 0.25 kg ai/ha, 35 day PHI. The GAP of the USA consists of two spray applications at 0.147 kg ai/ha not later than 25% flowering.

Four additional wheat trials were conducted in France, Germany, Greece and Spain, but not in line with French or German GAP.

Only one additional wheat trial was conducted in the USA at the new US GAP, where the residue found was < 0.02 mg/kg.

The Meeting noted that the 2004 JMPR recommended a maximum residue level of 0.2 mg/kg accommodates the new residue data from US for wheat grain.

Rye

The Meeting received the data from five supervised trials for rye. The Meeting considered that five trials were not sufficient to allow the estimation of a maximum residue level in rye. However, as rye is a registered crop in Germany with the same GAP as that of wheat and triticale the Meeting agreed to extrapolate the existing maximum residue level (0.2 mg/kg) and STMR (0.02 mg/kg) values of wheat to rye and triticale.

Sorghum

The GAP of the USA allows the use of pyraclostrobin as a seed treatment at 0.01–0.02 kg ai/100 kg seeds, and as a single spray application at 0.098–0.196 kg ai/ha, not later than 25% flowering.

In 12 sorghum trials complying with US GAP, residues found, median underlined, were: < 0.02(2), 0.02(4), 0.03(2), 0.05, 0.08, 0.10 and 0.34 mg/kg.

The Meeting estimated a maximum residue level of 0.5 mg/kg and an STMR of 0.025 mg/kg for pyraclostrobin in sorghum.

Tree nuts

The 2004 JMPR evaluated numerous trials carried out in Brazil and US, and estimated maximum residue levels for almond (0.02* mg/kg), pecan (0.02* mg/kg) and pistachio (1 mg/kg). New data were available from supervised trials on almonds from the USA.

Almonds

The US GAP allows four spray application at 0.133 kg ai/ha, with a 25 day PHI.

In ten almond trials complying with US GAP, residues found, median underlined, were: < 0.02 (10) mg/kg.

The 2004 JMPR reported five pecan trials carried out in US in line with GAP. All residue levels in pecan were < 0.02 mg/kg. Noting that the residue levels from the same GAP are similar on almonds and pecans, the Meeting agreed to combine the almond and pecan data in mutual support and estimate a maximum residue level of 0.02* mg/kg, an STMR of 0 mg/kg and an HR of 0.02 mg/kg for tree nuts except pistachio. The Meeting agreed to withdraw the previous recommendations of 0.02* mg/kg on almonds and pecans.

Oilseeds

The 2004 and 2006 JMPR evaluated numerous trials carried out in Brazil and the USA, and estimated maximum residue levels for peanuts (0.05* mg/kg) and sunflower seed (0.3 mg/kg). New data were available from supervised trials on rape seed and sunflowers in Canada and the USA.

Cotton

The US GAP allows three spray applications at 0.098–0.196 kg ai/ha, with a 30 day PHI.

In 12 trials carried out in the USA, treatments consisted of a single at-planting in-furrow application to cotton at 0.22–0.23 kg ai/ha, followed 96–159 days later by three broadcast foliar applications at 0.22–0.27 kg ai/ha. The ranked order of residues found, median underlined, were: < 0.02(3), 0.02(3), 0.03, 0.06(2), 0.08, 0.10 and 0.13 mg/kg.

Rape seed

The US GAP allows two spray applications at 0.222 kg ai/ha, with a 21 day PHI.

Four trials carried out in the USA and 12 trials carried out in Canada matched the US GAP. Residues found, median underlined, were: < 0.02(6), 0.03(2), 0.04(2), 0.06, 0.08, 0.09, 0.10, 0.14 and 0.20 mg/kg.

Sunflower seed

The US GAP allows two spray applications at 0.222 kg ai/ha, with a 21 day PHI.

In eight trials carried out in the USA, matching GAP, residues found, in ranked order with median underlined, were: < 0.04, 0.04, 0.05, 0.06 (2), 0.08, 0.12 and 0.2 mg/kg.

The 2006 JMPR reported eight sunflower trials carried out in the US in line with GAP. The ranked order of residue levels in sunflower seed was: < 0.02, 0.02, 0.04, 0.05, 0.06(2), 0.10 and 0.22 mg/kg. Noting that sunflower had the highest residues in the above oilseed group and the Meeting agreed to estimate a maximum residue level of 0.4 mg/kg and an STMR of 0.055 mg/kg for oil seed except peanuts. The previous recommendation (0.3 mg/kg) for sunflower seed should be withdrawn.

*Animal feedstuffs**Alfalfa forage*

The GAP of the USA consists of a maximum of three spray applications at 0.098–0.147 kg ai/ha with a 14 day PHI.

Twelve alfalfa trials were available complying with GAP. Residues in alfalfa forage, (median underlined) were: 1.15, 1.22, 1.23, 1.24, 1.56, 1.65, 1.90, 2.73, 3.20, 3.23, 4.70 and 6.61 mg/kg.

The Meeting estimated a median residue of 1.775 mg/kg and a highest residue of 6.61mg/kg for pyraclostrobin in alfalfa forage (fresh weight).

Alfalfa fodder

Supervised trials data were available from alfalfa hay from USA. Residues, in ranked order, on alfalfa hay were: 3.86, 4.23, 4.45, 4.92, 6.81, 7.10, 7.81, 9.49, 9.84, 11.37, 12.87 and 19.83 mg/kg.

On a dry-weight basis (dry matter (DM) = 89%), pyraclostrobin residues in dry alfalfa hay, were: 4.34, 4.75, 5.00, 5.53, 7.65, 7.98, 8.78, 10.66, 11.06, 12.78, 14.46 and 22.28 mg/kg.

The Meeting estimated a maximum residue level of 30 mg/kg, a median residue of 8.38 mg/kg and a highest residue of 22.28 mg/kg for pyraclostrobin in alfalfa fodder.

Sorghum forage

The US GAP allows a seed treatment at 0.01–0.02 kg ai/100 kg seeds plus one foliar spray application at 0.098–0.196 kg ai/ha, not later than 25% flowering.

Supervised trials data were available for sorghum forage from the USA. The ranked order of concentrations on forage (fresh weight), median underlined, were: < 0.02, 0.12, 0.14, 0.22, 0.26, 0.28, 0.33, 0.44, 0.45, 0.92, 1.08 and 1.33 mg/kg.

The Meeting estimated a median and a highest residue value for pyraclostrobin in sorghum forage (fresh weight) of 0.305 and 1.33 mg/kg, respectively.

*Straw and fodder of cereal grain (dry)**Oats straw and fodder*

The GAP of the US allows two spray applications at 0.098–0.147 kg ai/ha not later than the beginning of flowering (Feekes 10.5, Zadok's 59).

Eight trials were conducted in the US and four trials were conducted in Canada matching US GAP. The ranked order of residues found on oat hay were: 2.12, 2.92, 2.93, 4.40, 4.86, 5.31, 5.50, 6.04, 6.11, 6.81, 7.67 and 12.96 mg/kg.

On a dry-weight basis (DM = 90%), pyraclostrobin residues in dry oats hay, were: 2.36, 3.24, 3.26, 4.89, 5.40, 5.90, 6.11, 6.71, 6.79, 7.57, 8.52 and 14.40 mg/kg.

Supervised trials data were available from oat straw from USA. The ranked order of concentrations on oat straw was: 2.32, 2.33, 2.66, 2.98, 3.19, 3.23, 3.57, 4.06, 4.76, 5.02, 6.62 and 11.08 mg/kg.

On a dry-weight basis (DM = 90%), pyraclostrobin residues in oats straw and fodder, dry, were: 2.58, 2.59, 2.96, 3.31, 3.54, 3.59, 3.97, 4.51, 5.29, 5.58, 7.36 and 12.31 mg/kg.

Barley straw

The US GAP allows two spray applications at 0.098–0.147 kg ai/ha, not later than the beginning of flowering (Feekes 10.5, Zadok's 59).

Four new barley trials were conducted in US complying with GAP. Residues found were: 1.49, 2.14, 2.26 and 3.00 mg/kg.

Wheat straw

Spanish and Greek GAPs were not available. The GAP of France consists of two spray applications at 0.25 kg ai/ha, 35 day PHI. German GAP is two spray applications at 0.25 kg ai/ha, no later than BBCH 61 (beginning of flowering). US GAP allows two spray applications at 0.147 kg ai/ha not later than 25% flowering.

Four wheat trials were available from France, Germany, Greece and Spain but did not match not French or German GAP.

Only one additional wheat trial was conducted in US matching US GAP, where the residue was 0.14 mg/kg.

The Meeting noted that the additional data submitted were insufficient for the estimation of a new maximum residue level.

Sorghum straw

The US GAP allows seed treatment at 0.01–0.02 kg ai/100 kg seeds, and one spray application at 0.098–0.196 kg ai/ha, not later than 25% flowering.

The ranked order of concentrations on sorghum straw, median underlined, were: < 0.02, 0.04(2), 0.05, 0.06 (2), 0.08(2), 0.09, 0.11, 0.19 and 0.57 mg/kg.

On a dry-weight basis (DM = 88%), pyraclostrobin residues in dry sorghum straw were: < 0.02, 0.05(2), 0.06, 0.07(2), 0.09(2), 0.10, 0.13, 0.22 and 0.65 mg/kg.

The Meeting noted the 2004 JMPR recommended a maximum residue level of 30 mg/kg for dry straw and fodder of cereal grain and that this recommendation covers the highest residue from the data submitted on oats, barley straw, wheat straw and sorghum straw to the current Meeting.

Almonds hulls

The GAP of the US GAP allows four spray application at 0.133 kg ai/ha, 25 day PHI.

Supervised trials data for almond hulls were available from USA. The ranked order of concentrations on hulls, median underlined, were: 1.06, 1.09, 1.14, 1.14, 1.23, 1.56, 1.61, 3.10, 3.12 and 4.79 mg/kg.

On a dry-weight basis (DM = 90%), pyraclostrobin residues in almond hulls, dry, were: 1.18, 1.21, 1.27, 1.27, 1.37, 1.73, 1.79, 3.44, 3.47 and 5.32 mg/kg.

The Meeting estimated a median of 1.55 mg/kg and a highest residue of 5.32 mg/kg for pyraclostrobin in almond hulls. The previous maximum residue level recommendation (2 mg/kg) for almond hulls is withdrawn as the policy is to use the information in dietary burden calculations, but not to propose maximum residue levels for almond hulls which, it is understood, are not traded internationally.

Cotton gin by-products

The US GAP allows three spray applications at 0.098–0.196 kg ai/ha, with a 30 day PHI.

Six trials carried out in the USA in which a single at-planting in-furrow application to cotton was made at 0.22–0.23 kg ai/ha, then followed 96–159 days later by three broadcast foliar applications at 0.22–0.27 kg ai/ha. The ranked order of residues, median underlined, were: 0.94, 1.54, 1.56, 1.59, 2.60 and 16.73 mg/kg. Taking into account that a single in-furrow application at planting would not affect the residues and based on the residue data derived from trials performed in accordance with the US GAP, the Meeting estimated a median and highest residue levels of 1.575 mg/kg and 16.73 mg/kg, respectively.

Fate of residues during processing

The Meeting received information on the fate of pyraclostrobin residues during the processing of oranges for juice, pomace and oil; plums for puree and prunes; cherries for canned cherries and juice; strawberries for canned strawberries and jam; barley for brewing malt, malt germ, beer and pearl barley; wheat for flour, bran and germ; rape seed for meal and refined oil; sunflower for meal and refined oil; soya bean for hulls, meal and refined oil.

Calculated processing factors are summarized in the following table. Factors are indicated with a “<” (less than) sign when the residue in the processed commodity is below the LOQ of the analytical method. The calculation is then made on the LOQ of the analytical method and the residue concentration of the RAC (raw agricultural commodity).

Raw agricultural commodity (RAC)	Processed commodity	Median or best estimate	RAC STMR/HR	STMR-P/HR-P
Orange	Peel	4.60	0.485	2.23
	Pomace (wet)	1.41		0.68
	Pomace (dry)	6.95		3.37
	Juice (pasteur.)	0.08		0.04
	marmalade	0.18		0.09
	Canned orange	0.11		0.05
	Oil	6.24	0.34	3.03
Plums	Puree	1.87	0.09	0.17
	Prune	4.59	0.09/0.40	0.41/1.84
Cherries	Canned cherries	1.00	0.51	0.51
	Juice	0.16		0.08
Currants	Juice (pasteurised)	0.035	0.185	0.013
	Currants (canned)	0.375		0.069
	Jame	0.415		0.077
Strawberries	Canned fruit	0.40	0.20	0.08
	Jam	0.21		0.04
Barley	Brewing malt	1.17	0.345	0.40
	Malt germ	2.33		0.80
	beer	< 0.67		0.23
	Pearl barley	< 0.67		0.23
Wheat	Bran	0.91	0.02	0.018
Rape seed (canola)	Meal	1.00	0.04	0.04
	Refined oil	1.33		0.053
Cotton seed	Meal	0.18	0.025	0.0045
	Hulls	0.18		0.0045
	Refined oil	0.18		0.0045
Soya bean	Hulls	1.67	0.02	0.03
	Meal	< 0.67		0.01
	Refined oil	< 0.67		0.01

The Meeting estimated a maximum residue level of 10 mg/kg and STMR-P of 3.03 mg/kg for pyraclostrobin in orange oil.

Residues in animal commodities***Farm animal dietary burden***

The Meeting estimated the dietary burden of pyraclostrobin in livestock on the basis of the diets listed in OECD Feed Table 2009 (available from the FAO website: <http://www.fao.org/agriculture/crops/core-themes/theme/pests/pm/jmpr/jmpr-docs/en/>). Based on new data, the dietary burdens are higher than those by the 2004 JMPR. Calculation from highest residue, STMR and STMP-P values provides the levels in feed suitable for estimating maximum residue

levels, while calculation from STMR and STMR-P values for feed is suitable for estimating STMR values for animal commodities.

Estimated maximum and mean dietary burdens of farm animals

Dietary burden calculations for beef cattle, dairy cattle, broilers and layer are provided in Annex 6.

The summarized calculations and the highest dietary burdens are selected for maximum residue level and STMR estimates on animal commodities.

		Animal dietary burden, pyraclostrobin, ppm of dry matter diet			
		US-CAN	EU	Australia	Japan
Beef cattle	Max	7.73	21.91	26.10 ^a	2.44
	Mean	1.64	11.86	15.59 ^b	1.05
Dairy cattle	Max	12.56	22.44	26.10 ^c	8.02
	Mean	3.83	14.19 ^d	13.63	2.52
Poultry - broiler	Max	0.27	0.26	0.08	0.97
	Mean	0.27	0.26	0.08	0.28
Poultry - layer	Max	0.27	5.70 ^e	0.08	0.02
	Mean	0.27	3.62 ^f	0.08	0.02

^a Highest maximum beef or dairy cattle dietary burden suitable for maximum residue level estimates for mammalian meat.

^b Highest mean beef or dairy cattle dietary burden suitable for STMR estimates for mammalian meat.

^c Highest maximum dairy cattle dietary burden suitable for maximum residue level estimates for mammalian milk.

^d Highest mean dairy cattle dietary burden suitable for STMR estimates for mammalian milk.

^e Highest maximum poultry dietary burden suitable for maximum residue level estimates for poultry meat and eggs.

^f Highest mean poultry dietary burden suitable for STMR estimates for meat and eggs.

Farm animal feeding

The lactating goat metabolism study was used to evaluate the dietary burden for ruminants by 2004 JMPR. In this metabolism study, in which ¹⁴C-pyraclostrobin equivalent to 12–50 ppm in the diet was orally administered to lactating goats for 5 consecutive days, the highest residue (0.082 mg/kg) was found in fat, 0.047 mg/kg in milk, 0.089 mg/kg in muscle, 0.07 mg/kg in liver and 0.074 mg/kg in kidney.

The resulting maximum dietary burdens for beef and dairy cattle with residues in additional feedstuffs were slightly different to those with previous residues in feedstuffs using the OECD animal feeds table. The resulting maximum dietary burdens for poultry using the OECD animal feeds table is much higher than that of previous estimates. However, the Meeting noted that in the study of metabolism in laying hens, pyraclostrobin was not detected in tissues (< 0.002 mg/kg) or eggs (< 0.002 mg/kg) at a feeding level of 12 mg/kg, which was over 2 times higher than the calculated dietary burden (5.70 ppm).

The Meeting agreed that the residues based on new animal dietary burdens were covered by the existing recommendations for animal commodities.

RECOMMENDATIONS

On the basis of the data from supervised trials, the Meeting concluded that the residue concentrations listed below are suitable for establishing MRLs and for assessing IEDIs and IESTIs.

Definition of the residue (for compliance with the MRL and for estimation of dietary intake for plant and animal commodities): *pyraclostrobin*.

CCN	Commodity	MRL, mg/kg		STMR or STMR-P, mg/kg	HR or HR-P mg/kg
		new	previous		
AL 1020	Alfalfa forage			1.775	6.61

CCN	Commodity	MRL, mg/kg		STMR or STMR-P, mg/kg	HR or HR-P mg/kg
		new	previous		
AL 1020	Alfalfa fodder	30		8.38	22.28
TN 0660	Almond	W ^a	0.02*	0	0.02
AM 0660	Almond hulls	W ^b	2	1.55	5.32
VS 0620	Artichoke, globe	2		0.25	1.44
GC 0640	Barley	1	0.5	0.345	
	Brewing malt			0.40	
	Malt germ			0.80	
	beer			0.23	
	Pearl barley			0.23	
FB 0264	Blackberries	3		0.87	1.32
FB 0020	Blueberries	4	1	0.78	2.08
FS 0013	Cherries	3		0.51	1.57
	Cherry juice			0.08	
FC 0001	Citrus fruits	2	1	0.035 (pulp)	0.10 (pulp)
SO 0691	Cotton seed			0.055	
	Cotton gin by-products			1.575	16.73
VC 0424	Cucumber	W ^c	0.5		
FB 0021	Currants	2		0.185	1.30
VC 0045	Fruiting vegetables, Cucurbits	0.5		0.06(edible peel) 0.0525 (inedible peel)	0.41(edible peel) 0.14 (inedible peel)
VA 0381	Garlic	0.15	0.05*	0.02	0.09
VC 4199	Cantaloupe	W ^c	0.2		
FS 0247	Nectarine	0.3		0.065	0.13
GC 0647	Oats	1	0.5	0.345	
SO 0089	Oil seed except peanut	0.4		0.055	
VA 0385	Onion, bulb	1.5	0.2	0.06	0.62
VA 0389	Spring onion	1.5		0.42	0.60
	Orange oil	10		3.03	8.17
FI 0350	Papaya	0.15	0.05*	0.05	0.06
FS 0247	Peach	0.3		0.065	0.13
TM 0672	Pecan	W ^a	0.02*		
FS 0014	Plums (including Prunes)	0.8		0.09	0.40
	Plum pureé			0.17	
DF 0014	Prunes			0.41	1.84
FB 0272	Raspberries, Red, Black	3	2	0.87	1.32
	Rape seed meal			0.035	
OR 0495	Rape seed oil, edible			0.053	
GC 0650	Rye	0.2		0.02	
GC 0651	Sorghum	0.5		0.025	
AF 0651	Sorghum forage (green)			0.305	
AS 0651	Sorghum straw and fodder, dry			0.08	0.65
OR 0541	Soya bean oil, refined			0.01	
VC 0431	Squash, Summer	W ^c	0.3		
FS 0012	Stone fruits	W	1		
FB 0275	Strawberry	1.5	0.5	0.20	0.75
	Stawberry jam			0.04	
SO 0702	Sunflower seed	W ^d	0.3		
TN 0085	Tree nuts	0.02*		0	0.02
GC 0653	Triticale	0.2		0.02	
CF 0654	Wheat bran			0.018	

* At or about the limit of quantification.

^a The recommendations for almonds and pecan are withdrawn to be replaced by a recommendation for Tree nuts.

^b The recommendation for almond hulls is withdrawn as the commodity is not traded.

^c The recommendations for cucumber, melons and squash are withdrawn to be replaced by a recommendation for Fruiting vegetables, Cucurbits

^d The recommendation for sunflower seed is withdrawn to be replaced by a recommendation for Oilseed except peanut

DIETARY RISK ASSESSMENT

Long-term intake

The evaluation of pyraclostrobin resulted in recommendations for maximum residue level and STMR values for raw and processed commodities. Data on consumption were available for 77 food commodities and were used to calculate dietary intake. The results are shown in Annex 3 of the 2011 JMPR Report.

The International Estimated Daily Intakes (IEDIs) of pyraclostrobin, based on the STMRs estimated, were 1–9% of the maximum ADI of 0.03 mg/kg bw for the thirteen GEMS/Food cluster diets. The Meeting concluded that the long-term intake of residues of pyraclostrobin resulting from its uses that have been considered by JMPR is unlikely to present a public health concern.

Short-term intake

The IESTI of pyraclostrobin calculated on the basis of the recommendations made by the JMPR represented 50% of the ARfD (0.05 mg/kg bw).

The Meeting therefore concluded that the short-term intake of pyraclostrobin residues, when used in ways that have been considered by the JMPR, is unlikely to present a public health concern.

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