

**FLUOPYRAM (243)**

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**EXPLANATION**

Fluopyram, a pyridylethylamide broad spectrum fungicide was evaluated for the first time by the 2010 JMPR, where an ADI of 0–0.01 mg/kg bw and an ARfD of 0.5 mg/kg bw were established, residue definitions were proposed and maximum residue levels were recommended for a limited number of uses where GAP information was available. New GAP and supporting information were evaluated by the 2012 JMPR and a number of additional maximum residue levels were recommended.

The 2010 JMPR also established residue definitions for fluopyram:

- For plant products (compliance with MRLs and dietary intake assessment): *fluopyram*
- For animal products (compliance with MRLs): *sum of fluopyram and 2-(trifluoromethyl)benzamide, expressed as fluopyram*
- For animal products (dietary intake assessment): *sum of fluopyram, 2-(trifluoromethyl)benzamide and the combined residues N-{(E)-2-[3-chloro-5-(trifluoromethyl)pyridin-2-yl]ethenyl}-2-trifluoromethyl benzamide and N-{(Z)-2-[3-chloro-5-(trifluoromethyl)pyridin-2-yl]ethenyl}-2-trifluoromethyl benzamide, all expressed as fluopyram.*

The 45<sup>th</sup> Session of the CCPR (2013) listed fluopyram for further evaluation by the 2014 JMPR for additional MRLs and the current Meeting received new GAP information and new supporting residue information from the manufacturer for plum, peach, apricot, raspberry, onion, leek, Brussels sprouts, cabbage, cauliflower, melon, lettuce, asparagus and oilseed rape.

New residue information was also provided for watermelon and currants but because no GAP information was available for these crops, these data were not evaluated by the Meeting.

The Meeting also considered residue information provided to the 2010 JMPR for peach, raspberry, onion, leek, Brussels sprouts, cabbage, cauliflower, melon, lettuce and oil seed rape.

**USE PATTERNS**

Information on GAP in a number of countries in Europe, North America, Southern Africa, Peru, China and South Korea was provided to the Meeting for foliar applications to a range of fruit, vegetable, nut and oil seed crops. This information is summarised in Table 1.

Table 1 Registered uses of fluopyram-SC formulations (including co-formulations with tebuconazole, trifloxystrobin and triadimenol)

Crop	Country	Application					Max/season		PHI (days)	Remarks:
		method	kg ai/ha	kg ai/hL	water L/ha (min)	interval (days)	no	kg ai/ha		
Stone fruits [Group 3]										
Apricot	Greece	spray	0.1	0.0067	1500	14	3	0.4	3	
Apricot	Greece	spray	0.15	0.01	1500	7–14	2	0.4	3	
Apricot	Italy	spray	0.1	0.0067	1500	14	3	0.3	3	
Apricot	Italy	spray	0.15	0.01	1500	7–14	2	0.3	3	
Apricot	Spain	spray	0.076		500–1500	7	2		7	
Apricot	Spain	spray	0.14		500–1500		1		7	
Apricot	Turkey	spray		0.005			2		14	To full flowering

## Fluopyram

Crop	Country	Application					Max/season		PHI (days)	Remarks:
		method	kg ai/ha	kg ai/hL	water L/ha (min)	interval (days)	no	kg ai/ha		
Nectarine	Greece	spray	0.1	0.0067	1500	14	3	0.4	3	
Nectarine	Greece	spray	0.15	0.01	1500	7-14	2	0.4	3	
Nectarine	Italy	spray	0.1	0.0067	1500	14	3	0.3	3	
Nectarine	Italy	spray	0.15	0.01	1500	7-14	2	0.3	3	
Nectarine	Spain	spray	0.076		500-1500	7	2		7	
Nectarine	Spain	spray	0.14		500-1500		1		7	
Peach	Greece	spray	0.1	0.0067	1500	14	3	0.4	3	
Peach	Greece	spray	0.15	0.01	1500	7-14	2	0.4	3	
Peach	Italy	spray	0.1	0.0067	1500	14	3	0.3	3	
Peach	Italy	spray	0.15	0.01	1500	7-14	2	0.3	3	
Peach	Spain	spray	0.076		500-1500	7	2		7	
Peach	Spain	spray	0.14		500-1500		1		7	
Peach	Turkey	spray		0.005		10-14			3	
Plum	Greece	spray	0.1	0.0067	1500	14	3		3	
Plum	Switzerland	spray	0.14	0.0088			2		21	
Berries and other small fruits [Group 004]										
Small berries <sup>a</sup>	Namibia	spray	0.25	0.083	300-1000	10-14	2		3	
Small berries <sup>a</sup>	South Africa	spray	0.25		300-1000	10-14	2		3	
Bulb vegetables										
Garlic	Greece	spray	0.2		300-800		1		7	
Garlic	Spain	spray	0.2		300-800		1		7	
Leek	Germany	spray	0.2		200-700		1		21	
Leek	Switzerland	spray	0.2				1		21	
Onion (bulb)	Germany	spray	0.1		200-800	7	2		7	
Onion (bulb)	Greece	spray	0.2		300-800		1		7	
Onion (bulb)	Spain	spray	0.2		300-800		1		7	
Onion (bulb)	Peru	spray	0.12						7	
Brassica vegetables										
Brussels sprouts	Germany	spray	0.18		300-800	14	2		14	
Brussels sprouts	Switzerland	spray	0.18				2		14	
Cabbage, head	Switzerland	spray	0.18				2		14	Head brassicas
Cabbage, head	Germany	spray	0.18		300-800	14	2		14	Head brassicas
Broccoli	Germany	spray	0.18		300-800	14	2		14	Flowerheads
Broccoli	Switzerland	spray	0.18				2		14	Flowerheads
Cauliflower	Germany	spray	0.18		300-800	14	2		14	
Cauliflower	Switzerland	spray	0.18				2		14	
Kohlrabi	Switzerland	spray	0.18				2		14	
Fruiting vegetables, Cucurbits										
Melon	South Korea	spray	0.225	0.0125	1800	10	3		3	
Melon (field)	Mexico	spray	0.14			7	4		7	
Pumpkin	Mexico	spray	0.14			7	4		7	
Squash	Mexico	spray	0.14			7	4		7	
Squash (indoor)	Turkey	spray		0.006		10			3	
Water melon	Mexico	spray	0.14			7	4		7	
Watermelon	Canada	spray	0.25		200	7-14		0.5	0	
Watermelon	USA	drip	0.25			5-10		0.5	7	

Crop	Country	Application					Max/season		PHI (days)	Remarks:
		method	kg ai/ha	kg ai/hL	water L/ha (min)	interval (days)	no	kg ai/ha		
Watermelon	China	spray	0.094				2		7	
Watermelon	South Korea	spray	0.225	0.0125	1800	10	3		14	
Watermelon (field)	USA	spray	0.25			7–14		0.5	0	
Watermelon (indoor)	USA	spray	0.25			7–14		0.5	3	
Leafy vegetables										
Lettuce	Netherlands	spray	0.25			7	2		7	
Lettuce	South Africa	spray	0.25		200–1000	10	2		7	
Lettuce	Switzerland	spray	0.2				2		14	
Lettuce	Namibia	spray	0.25		200–1000	10	2		7	
Rucola	Netherlands	spray	0.25			7	2		7	
Stalk and Stem vegetables										
Asparagus	Greece	spray	0.15		1000	10	2			Pre-senescence
Asparagus	Italy	spray	0.15	0.015	1000	10–14	2			Pre-senescence
Asparagus	Switzerland	spray	0.2				2			Pre-senescence
Oilseeds										
Oil seed rape	France	spray	0.125		200–400		1		56	To BBCH 73
Oil seed rape	Germany	spray	0.125		200–400		1			To BBCH 69
Oil seed rape	Hungary	spray	0.125		200–400		2		56	To BBCH 73
Oil seed rape	UK	spray	0.125			14	2	0.25	56	
Oil seed rape	Ukraine	spray	0.113		200–400		2		30	

<sup>a</sup> Blackberry, raspberry, blueberry and gooseberry

## RESIDUES RESULTING FROM SUPERVISED TRIALS

The Meeting reviewed supervised field trial information provided to the 2012 JMPR and received new information on supervised field trials involving applications of fluopyram to the following crops.

Crop Group	Commodity	Country	Table No.
Stone fruit	Apricots	Europe	2
	Peaches	Europe	3
	Plums	Europe	4
Berries and other small fruit	Currants	Europe	5
	Raspberries	Europe, USA	6–7
Bulb vegetables	Bulb onions	Europe, USA	8–9
	Leek	Europe	10
Brassicas	Broccoli	Europe	11–12
	Brussels sprouts	Europe	13
	Cabbage, head	Europe	14
	Cauliflower	Europe	15
Fruiting vegetables, cucurbits	Melons (except watermelons)	Europe, Australia, USA	16–19
	Watermelons	Europe	20
Leafy vegetables	Lettuce	Europe, USA	21–23
Stalk and stem vegetables	Asparagus	Europe	24
Oilseeds	Oilseed rape	Europe, USA	25–26
Animal feeds	Oilseed rape forage	Europe	27

The supervised trials were well documented with laboratory and field reports. Laboratory reports included method validation including procedural recoveries with 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. Although trials included control plots, no control data are recorded in the tables unless residues in control samples exceeded the LOQ. Residue data are recorded unadjusted for recovery.

When multiple applications were made to a crop, the application rate, spray concentration and spray volume were not always identical from one application to the next. If the variation was small, only the final values for application rate, concentration and spray volume were recorded. For larger variations all values were recorded.

Intervals of freezer storage between sampling and analysis were recorded for all trials and were covered by the conditions of the freezer storage stability studies reviewed by the 2010 JMPR.

Results from replicated field plots are presented as individual values and have not been corrected for concurrent method recoveries unless indicated. When residues were not detected they are shown as below the LOQ (e.g. < 0.01 mg/kg). Residues and application rates have been rounded to two significant digits (or if close to the LOQ, rounded to one significant digit). Average values have been calculated from the residue results prior to rounding and the results from trials conducted according to the maximum GAP and used for the estimation of maximum residue levels have been (underlined).

In addition to the description and details of the field trials and analytical methods, each report includes a summary of the method validation, procedural recoveries, and in most cases, concurrent recoveries in stored frozen samples.

In the trials, where multiple analyses are conducted on a single sample, the average value is reported and where duplicate samples have been analysed, both the individual results and the average value have been reported. Where results from separate plots with distinguishing characteristics such as different formulations, varieties or treatment schedules were reported, results are listed for each plot, and the highest value has been used in calculations of MRLs and STMRs.

### *Stone fruits*

#### *Apricots*

Results from supervised trials from Europe on apricots were provided to the Meeting. In the trials, fluopyram (SC formulations) were applied twice at 0.21–0.25 kg ai/ha or three times at 0.125 kg ai/ha. In all trials, the treatments were made at 6–8 day intervals to mature, full-sized trees, as foliar sprays using knapsack atomiser or airblast single-nozzle sprayers to apply 1000–1500 L water/ha.

Samples of at least 1.1 kg fruit or 24 fruit (without stalks) were frozen within 24 hours of sampling and stored at –18 °C for up to 582 days before whole fruit analysis for fluopyram using LC/MS/MS Method 00984. The reported LOQ was 0.01 mg/kg and the mean recovery rates in samples spiked with 0.01–1.0 mg/kg fluopyram ranged from 81–111%.

Table 2 Fluopyram residues in apricots from trials in North and South Europe involving foliar applications of fluopyram (SC formulations)

APRICOT Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no.	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
GAP: Greece	2	0.15	0.01	1500		3		7–14 day interval

APRICOT Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no.	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
France (S), 2008 St Rémy de Provence (Bergeron)	3	0.125	0.0125	1000	Fruit	-0 0 3 7 10	0.17 0.3 0.22 0.22 0.14	08-2055 08-2055-01
Italy, 2008 Bologna (Bella di Imola)	3	0.125	0.0083	1500	Fruit	-0 0 3 7 10	0.04 0.09 0.07 0.04 0.05	08-2055 08-2055-02
France, 2012 Rognonas (Bergarouge)	2	0.228 (0.083)	0.017	1375 (500)	Fruit	-0 0 3 7 14 21 28	0.18 0.31 0.26 <u>0.33</u> 0.2 0.12 0.14	12-2158 12-2158-01
Spain, 2012 Puigverd de Lleida (Pink-cot)	2	0.249 (0.083)	0.017	1500 (500)	Fruit	-0 0 3 7 14 21 27	0.21 0.8 0.54 <u>0.58</u> 0.48 0.26 0.19	12-2158 12-2158-02
Italy, 2012 Morelli (Aurora)	2	0.208 (0.083)	0.017	1250 (500)	Fruit	-0 0 3 7 14 21 28	0.5 0.98 0.93 <u>0.95</u> 0.48 0.21 0.17	12-2158 12-2158-03
Italy, 2012 Cerignola (Orange rubis)	2	0.249 (0.083)	0.017	1500 (500)	Fruit	-0 0 3 7 14 21 28	0.44 0.73 0.41 <u>0.43</u> 0.37 0.23 0.25	12-2158 12-2158-04
Germany, 2012 Mülheim-Kärlich (Bergeron)	2	0.208 (0.083)	0.017	1250 (500)	Fruit	-0 0 3 7 13 21 27	0.13 0.41 <u>0.38</u> 0.21 0.19 0.16 0.14	12-2046 12-2046-01
Austria, 2012 Scharten (Golden Rich)	2	0.2	0.017	1200	Fruit	-0 0 3 7 14 21	0.07 0.22 0.15 <u>0.16</u> 0.15 0.08	12-2046 12-2046-03
Austria, 2012 Poysbrunn (Bergeron)	2	0.249 (0.083)	0.017	1500 (500)	Fruit	-0 0 3 7	0.2 0.61 <u>0.46</u> 0.42	12-2046 12-2046-04

APRICOT Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no.	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
Germany, 2013 Mühlheim-Kärlich (Kyoto)	2	0.208 (0.083)	0.017	1250 (500)	Fruit	-0	0.08	13-2005 13-2005-01
						0	0.21	
						3	<u>0.2</u>	
						7	0.11	
						14	0.11	
						21	0.07	

Values in parenthesis: application parameter per meter crop height

### Peach

Results from supervised trials from Europe on peaches were provided to the Meeting. Some of the trials conducted in 2006 and 2007 were also provided to the 2010 JPPR. In the trials, fluopyram (SC formulations) were applied twice at 0.21–0.25 kg ai/ha or three times at 0.125 kg ai/ha. In all trials, the treatments were made at 7–10 day intervals to mature, full-sized trees, as foliar sprays using knapsack atomiser or airblast single-nozzle sprayers to apply 900–1500 L water/ha (with lower rates of 300–750 L/ha in three trials).

Samples of at least 1.3 kg fruit or 24 fruit (without stalks) were frozen within 24 hours of sampling and stored at –18 °C for up to 527 days before whole fruit analysis for fluopyram using LC/MS/MS Method 00984. The reported LOQ was 0.01 mg/kg and the mean recovery rates in samples spiked with 0.01–1.0 mg/kg fluopyram ranged from 79–115%.

Table 3 Fluopyram residues in peaches from trials in North and South Europe involving foliar applications of fluopyram (SC formulations)

PEACH Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no.	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
GAP: Greece	2	0.15	0.01	1500		3		7–14 day interval
France, 2006 Montfavet (Spring White)	2	0.25	0.025	1000	Fruit	-0	0.18	RA-2591/06 R 2006 0602/8
						0	0.41	
						1	0.34	
						3	<u>0.36</u>	
						7	0.26	
						14	0.22	
Italy, 2006 Bologna (Redhaven)	2	0.25	0.02	1250	Fruit	-0	0.19	RA-2591/06 R 2006 0603/6
						0	0.39	
						1	0.31	
						3	<u>0.28</u>	
						7	0.21	
						14	0.18	
Spain, 2006 Alfarp (Sherman)	2	0.25	0.025	1000	Fruit	-0	0.22	RA-2591/06 R 2006 0600/1
						0	0.45	
						1	0.3	
						3	<u>0.26</u>	
						7	0.19	
						14	0.13	
France, 2006 Montjoire (Redwing)	2	0.25	0.025	1000	Fruit	-0	0.09	RA-2591/06 R 2006 0374/6
						0	0.28	
						1	0.28	
						3	<u>0.28</u>	
						7	0.2	
						14	0.18	

PEACH Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no.	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
France, 2010 Montfavet (Spring White)	2	0.249	0.017	1500	Fruit	-0 0 3 7 14 21	0.15 0.31 <u>0.2</u> 0.19 0.15 0.09	10-2098 10-2098-01
Spain, 2010 La Fortesa -Piera (Maycrest)	2	0.208	0.017	1250	Fruit	-0 0 3 7 14 21 28	0.33 0.98 <u>0.73</u> 0.48 0.3 0.26 0.28	10-2098 10-2098-02
Italy, 2010 Canosa di Puglia (Fayette)	2	0.249	0.017	1500	Fruit	-0 0 3 7 14 21	0.18 0.28 0.27 <u>0.31</u> 0.22 0.17	10-2098 10-2098-03
Italy, 2010 San Martino (Flaminia)	2	0.208	0.017	1250	Fruit	-0 0 3 7 14 21	0.17 0.62 0.53 <u>0.63</u> 0.36 0.35	10-2098 10-2098-04
France, 2006 Morancé (Elegan lady)	3	0.124	0.0124	1000	Fruit	-0 0 3 8 10 14	0.1 0.16 0.15 0.13 0.11 0.06	RA-2581/06 0362-06
Italy, 2006 Bologna (Red Haven)	3	0.124	0.01	1250	Fruit	-0 0 3 7 10 14	0.09 0.25 0.2 0.19 0.11 0.09	RA-2581/06 0487-06
Spain, 2006 La Fortesa (Royal Glory)	3	0.124	0.01	1200	Fruit	-0 0 3 7 10 14	0.24 0.35 0.34 0.3 0.19 0.25	RA-2581/06 0488-06
Portugal, 2006 Fazendas de Almeirim (Royal Gene)	3	0.124	0.0166	750	Fruit	-0 0 3 7 10 14	0.08 0.13 0.11 0.06 0.08 0.04	RA-2581/06 0489-06
France, 2007 Montjoire (Redwing)	3	0.125	0.01	1250	Fruit	-0 0 3 7 10 14	0.13 0.28 0.24 0.16 0.11 0.13	RA-2585/07 0225-07

PEACH Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no.	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
Spain, 2007 La Fortesa (Spring lady)	3	0.125	0.001	1300	Fruit	-0 0 2 7 9 14	0.24 0.5 0.33 0.25 0.18 0.28	RA-2585/07 0496-07
Italy, 2007 San Martino (Elegan lady)	3	0.125	0.0125	1000	Fruit	-0 0 3 7 10 14	0.21 0.51 0.27 0.27 0.34 0.22	RA-2585/07 0497-07
Greece, 2007 Neokastro (Luande)	3	0.125	0.0178	700	Fruit	-0 0 3 7 10 14	0.21 0.43 0.26 0.19 0.14 0.18	RA-2585/07 0498-07
Germany, 2008 Meckenbeuren (Red Haven)	3	0.137 0.125 0.125	0.01 0.01 0.01	1367 1250 1250	Fruit	-0 0 3 7 10	0.13 0.25 0.16 0.14 0.09	08-2054 08-2054-01
Germany, 2008 Bodman-Ludwigshafen (Edelstädter)	3	0.125	0.042	300	Fruit	-0 0 3 7 11	0.3 0.5 0.47 0.39 0.25	08-2054 08-2054-02
France, 2010 Valleres (Pavie Sanguine)	3	0.125	0.0139	900	Fruit	-0 0 3 7 10 14	0.1 0.17 0.09 (0.21 <sup>a</sup> ) 0.16 0.14 0.09	10-2256 10-2256-01
Germany, 2010 Neustadt (Benedikt)	3	0.125	0.025	500	Fruit	-0 0 3 7 10 14 21	0.04 0.09 0.05 (0.07 <sup>b</sup> ) 0.02 0.04 0.03 0.02	10-2256 10-2256-02

Studies RA-2581, RA-2585 were also provided to the 2010 JMPR [2010 JMPR Fluopyram Evaluation: Table 90]

Values in parenthesis: application parameter per meter crop height

<sup>a</sup> After 7 days cold storage

<sup>b</sup> After 3 days cold storage

### Plums

Results from supervised trials from Europe on plums were provided to the Meeting. In these trials, fluopyram (SC formulations) were applied twice at 0.25 kg ai/ha, or three times at 0.125 kg ai/ha. In all trials, the treatments were made at 6–8 day intervals to mature, full-sized trees, as foliar sprays using knapsack atomiser or airblast single-nozzle sprayers to apply 1000–1500 L water/ha. At two sites, 1–2 fluopyram sprays were also applied to separate plots at different times over flowering and to immature fruit.

Samples of at least 1 kg fruit or 24 fruit (without stalks) were frozen within 24 hours of sampling and stored at -18 °C for up to 524 days before whole fruit analysis for fluopyram using



LC/MS/MS Method 00984. The reported LOQ was 0.01 mg/kg and the mean recovery rates in samples spiked with 0.01–1.0 mg/kg fluopyram ranged from 74–107%.

Table 4 Fluopyram residues in plums from trials in North and South Europe involving foliar applications of fluopyram (SC formulations)

PLUM Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no.	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
GAP: Greece	3	0.1	0.0067	1500		3		
Spain, 2007 Andalucia (Red Beauty)	2	0.25 0.268	0.017	1500 1605	Fruit	–0 0 3 7 14	0.06 0.08 0.09 0.09 0.06	RA-2589/07 R 2007 0232/9
Italy, 2007 Bologna (Angelino)	2	0.25	0.017	1500	Fruit	–0 0 3 7 14	0.03 0.07 0.06 0.08 0.05	RA-2589/07 R 2007 0503/4
Germany, 2007 Tettwang (Presenta)	2	0.25	0.017	1500	Fruit	–0 0 3 7 13	0.04 0.11 0.12 0.07 0.09	RA-2588/07 R 2007 0499/2
Germany, 2007 Moos / Bankholzen (Presenta)	2	0.25	0.025	1000	Fruit	–0 0 3 7 14	0.09 0.24 0.25 0.19 0.16	RA-2588/07 R 2007 0502/6
Germany, 2007 Monheim (Hauszw. Purpurgold)	2	0.25	0.025	1000	Fruit	–0 0 3 7 14	0.07 0.19 0.11 0.11 0.08	RA-2588/07 R 2007 0231/0
Netherlands, 2007 Oosterblokker (Reine Victoria)	2	0.25	0.017	1500	Fruit	–0 0 3 7 14	0.07 0.17 0.13 0.16 0.13	RA-2588/07 R 2007 0501/8
Germany, 2011 Thümmlitz-walde (Hanita)	2	0.209 (0.084)	0.017	1250 (500)	Fruit	–0 0 3 7 14 21	0.046 0.11 0.11 0.08 0.11 0.10	11-2017 11-2017-01
Netherlands, 2011 Zwaagdijk-West (Reine Victoria)	2	0.209–0.225 (0.084– 0.090)	0.0167	1250– 1347 (500– 539)	Fruit	–0 0 3 7 14	0.09 0.23 0.24 0.33 0.08	11-2017 11-2017-02
Germany, 2011 Langenfeld (Katinka)	2	0.263–0.268 (0.088– 0.089)	0.017	1589– 1615 (530– 538)	Fruit	–0 0 3 7 14 21	0.06 0.1 0.1 0.09 0.07 0.07	11-2017 11-2017-03

## Fluopyram

PLUM Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no.	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
United Kingdom, 2011 Royston (Victoria)	2	0.209 (0.084)	0.017	1250 (500)	Fruit	-0 0 3 7 14 21	0.04 0.07 0.1 0.06 0.06 0.05	11-2017 11-2017-04
Germany, 2009 Leisnig Sachsen (Cacaks Schöne)	2	0.12	0.008	1500	Fruit	105 108 112 119	< 0.01 < 0.01 < 0.01 < 0.01	09-2224 09-2224-01a
Germany, 2009 Leisnig Sachsen (Cacaks Schöne)	1	0.12	0.008	1500	Fruit	0 32 35 39 46	0.09 0.04 0.05 0.04 0.02	09-2224 09-2224-01b
Germany, 2009 Leisnig Sachsen (Cacaks Schöne)	2	0.12	0.008	1500	Fruit	0 3 7 14	0.17 0.14 0.12 0.07	09-2224 09-2224-01c
Germany, 2009 Leisnig Sachsen (Cacaks Schöne)	1	0.12	0.008	1500	Fruit	0 3 7 14	0.05 0.07 0.06 0.05	09-2224 09-2224-01d
Netherlands, 2009 Oosterblokker (Rheine Victoria)	2	0.12	0.008	1500	Fruit	119 122 126 133	< 0.01 < 0.01 < 0.01 < 0.01	09-2224 09-2224-02a
Netherlands, 2009 Oosterblokker (Rheine Victoria)	1	0.12	0.008	1500	Fruit	67 70 74 81	< 0.01 < 0.01 < 0.01 < 0.01	09-2224 09-2224-02b
Netherlands, 2009 Oosterblokker (Rheine Victoria)	2	0.12	0.008	1500	Fruit	0 3 7 14	0.02 0.01 0.01 < 0.01	09-2224 09-2224-02c
Netherlands, 2009 Oosterblokker (Rheine Victoria)	1	0.12	0.008	1500	Fruit	0 3 7 14	0.02 0.01 0.02 0.01	09-2224 09-2224-02d
Germany, 2008 Tettngang/Bernau (Presenta)	3	0.125	0.0125	1000	Fruit	-0 0 3 8 14	0.12 0.1 0.11 0.11 0.14	08-2062 08-2062-01
Germany, 2008 Meckenheim (Hauszwetsche)	3	0.125	0.0125	1000	Fruit	-0 0 3 7 14	0.2 0.34 0.18 <u>0.22</u> 0.2	08-2062 08-2062-02
Netherlands, 2008 Zwaardijk (Reine Victoria)	3	0.125	0.0083	1500	Fruit	-0 0 3 7 14	0.09 0.11 <u>0.13</u> 0.12 0.13	08-2062 08-2062-03

PLUM Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no.	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
Netherlands, 2008 St.Jacobiparochie (Reine Victoria)	3	0.125	0.0083	1500	Fruit	-0 0 3 7 14	0.06 0.11 <u>0.1</u> 0.1 0.07	08-2062 08-2062-04
France, 2008 Moissac (Reine Claude)	3	0.125	0.0083	1500	Fruit	-0 0 3 7 14	0.07 0.08 0.12 <u>0.13</u> 0.12	08-2063 08-2063-01
Italy, 2008 Castel Guelfo (President)	3	0.125	0.0083	1500	Fruit	-0 0 3 7 13	0.05 0.08 0.08 <u>0.1</u> 0.06	08-2063 08-2063-02
France, 2009 Steinseltz (Quetches d'Alsace)	3	0.125	0.0125	1000	Fruit	-0 0 3 7 14 21	0.16 0.25 <u>0.2</u> 0.18 0.19 0.17	09-2070 09-2070-02
Germany, 2009 Jork (Fellenberger)	3	0.125	0.0125	1000	Fruit	-0 0 3 7 14 20	0.13 0.2 0.19 0.18 0.14 <u>0.2</u>	09-2070 09-2070-04
Germany, 2009 Laumersheim (Elena)	3	0.125	0.0125	1000	Fruit	-0 0 3 7 13 21	0.1 0.29 0.16 <u>0.18</u> 0.13 0.14	09-2070 09-2070-05
France, 2009 Moissac (Reine Claude)	3	0.125	0.008	1500	Fruit	-0 0 3 7 14 21	0.09 0.11 <u>0.16</u> 0.12 0.12 0.13	09-2071 09-2071-01
Italy, 2009 Mulino di Savignano sul Panaro (Angeleno)	3	0.125	0.008	1500	Fruit	-0 0 3 7 14 21	0.03 0.08 <u>0.08</u> 0.08 0.07 0.06	09-2071 09-2071-02
France, 2010 Innenheim (Quetches d'Alsace)	3	0.126	0.014	900	Fruit	-0 0 3 7 14 21	0.17 0.39 0.27 0.27 0.24 0.24	10-2260 10-2260-01
Poland, 2010 Witoldzin (Wagrowicra)	3	0.126	0.0105	1200	Fruit	-0 0 3 7 14	0.28 0.29 0.28 0.24 0.05	10-2260 10-2260-03

Application rates in brackets are per metre crop height

### Berries and other small fruit

#### Currants

Results from supervised trials from Europe on currants were provided to the Meeting. In the German trials, two applications of fluopyram (SC formulations) were made 7–10 days apart to outdoor currants 0.2 kg ai/ha using knapsack atomiser single-nozzle sprayers to apply 300–1000 L/ha. In the Belgian and the Netherlands trials, currants grown under plastic cover were treated with two applications of 0.2 kg ai/ha, applied 7 days apart using knapsack atomiser or hand lances to apply 1000 L/ha.

Samples of at least 0.5 kg fruit were frozen within 24 hours of sampling and stored at -18 °C for up to 234 days before whole fruit analysis for fluopyram using LC/MS/MS Method 00984. The reported LOQ was 0.01 mg/kg and the mean recovery rates in samples spiked with 0.01–2.0 mg/kg fluopyram ranged from 93–107%. In one trial, higher recovery rates of 122–181% were reported in samples spiked at the lower levels of 0.01–0.1 mg/kg, but were 106–107% in the samples spiked at 1.0 mg/kg.

Table 5 Fluopyram residues in currants from trials in North Europe involving foliar applications of fluopyram (SC formulations)

CURRANT Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no.	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
Germany, 2009 (Titania)	2	0.2	0.02	1000	Fruit	7 14	0.92 0.53	P 1799 G 926/15390 > 120% Recovery at 0.01, 0.1 mg/kg spikes
Germany, 2010 Ellerhoop (Ben Alder)	2	0.2	0.02	1000	Fruit	0 7 14 21	0.85 0.29 0.35 0.27	10L03113-01 FT-1029
Germany, 2010 Frankfurt (Titania)	2	0.2	0.02	1000	Fruit	0 7 14 21	1.98 1.69 0.99 0.81	10L03113-01 FT-1030
Germany, 2010 Neustadt (Tsema)	2	0.2	0.067	300	Fruit	0 7 14 21	1.18 1.01 0.67 0.60	10L03113-01 FT-1031
Germany, 2010 Freising (Ben Nevis)	2	0.2	0.02	1000	Fruit	0 7 14 21	0.75 0.44 0.42 0.40	10L03113-01 FT-1032
Germany, 2010 Bayern (Titania)	2	0.2	0.02	1000	Fruit	7 14	0.14 0.26	10L03113-01 FT-1033
Germany, 2010 Rheinpfalz (Ometa)	2	0.2	0.02	1000	Fruit	7 14	1.63 1.11	10L03113-01 FT-1034
Germany, 2010 Bavendorf (Titania)	2	0.2	0.02	1000	Fruit	7 14	0.64 0.49	10L03113-01 FT-1035

CURRANT Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no.	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
Belgium, 2011 Perwez (Rosetta)  (protected)	2	0.206 0.212	0.0222 0.0222	927 953	Fruit	-0 0 1 7 14 21	0.37	BCS-G402-11 G402-11F-1
							1.1	
							1.1	
							0.72	
							0.48	
							0.29	
Netherlands, 2011 KZ Westwoud (Rovada)  (protected)	2	0.2	0.02	1000	Fruit	-0 0 1 3 7 14 21	0.37	PTZ-NLF-11796 11796-1
							0.41	
							0.41	
							0.44	
							0.36	
							0.29	
0.22								

### Raspberries

Results from supervised trials from Europe on raspberries grown in the field and under plastic cover were provided to the Meeting. In the German and French field trials, two applications of 0.2 kg ai/ha fluopyram (SC formulations) were made 7–10 days apart using knapsack atomiser single-nozzle sprayers to apply 300–1000 L/ha. In the Belgian and the Netherlands trials, crops grown under plastic (top) cover were treated twice at 0.2 kg ai/ha, 7 days apart using knapsack atomiser or hand lances to apply 900–1000 L/ha.

Samples of at least 0.5 kg fruit were frozen within 24 hours of sampling and stored at –18 °C for up to 234 days before whole fruit analysis for fluopyram using LC/MS/MS Method 00984. The reported LOQ was 0.01 mg/kg and the mean recovery rates in samples spiked with 0.01–2.0 mg/kg fluopyram ranged from 93–107%. In one trial, higher recovery rates of 122–181% were reported in samples spiked at the lower levels of 0.01–0.1 mg/kg, but were 106–107% in the samples spiked at 1.0 mg/kg.

Table 6 Fluopyram residues in outdoor raspberries from trials in Europe involving foliar applications of fluopyram (SC formulations)

RASPBERRIES Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no.	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
Germany, 2009 Buxtehude (Tulameen)	2	0.2	0.02	1000	Fruit	7 14	0.26	P 1799 G FT-908
							0.32	
P 1799 G, 909 Germany, 2009 Vechta-Langforden (Meeker)	2	0.2	0.02	1000	Fruit	7 14	0.81	P 1799 G FT-909
							0.22	
France, 2009 Juillac (Meeker)	2	0.202 0.209	0.0251 0.0251	804 832	Fruit	0 1 3	1.2	RAFR03509 RE09005
							0.95	
							0.88	
France, 2009 Saugon Gironde (Meeker)	2	0.211 0.214	0.0251 0.0252	840 850	Fruit	0 1 3	1.5	RAFR03509 RE09006
							0.97	
							0.87	
Germany, 2010 Ellerhoop (Schönemanns)	2	0.2	0.02	1000	Fruit	0 7 14 21	0.5	10L03113-01 GEP-1008
							0.19	
							0.15	
							0.12	

RASPBERRIES Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no.	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
Germany, 2010 Oder (Polana)	2	0.2	0.02	1000	Fruit	0 7 14 21 28	1.9 0.24 0.14 0.11 0.07	10L03113-01 GEP-1009

Table 7 Fluopyram residues in protected raspberries from trials in Europe involving foliar applications of fluopyram (SC formulations)

RASPBERRIES Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no.	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
GAP, S Africa	2	0.25		300–1000		3		10-14 day interval
France, 2010 Juillac Correze (Meeker)	2	0.199 0.213	0.0251 0.0251	792 848	Fruit	0 1 3	2.3 1.6 <u>1.2</u>	RAFR00810 RE10015
France, 2010 Saugon Gironde (Heritage)	2	0.22	0.025	875	Fruit	0 1 3	0.76 1.1 <u>0.69</u>	RAFR00810 RE10016
Belgium, 2011 Perwez (Malling Exploit)	2	0.194 0.207	0.0222 0.0222	873 933	Fruit	-0 0 1 3 7 14 21	0.13 0.58 0.5 <u>0.51</u> 0.36 0.19 0.09	BCS-G401-11 G401-11F-1
Netherlands, 2011 Haaften (Brilliant)	2	0.2	0.02	1000	Fruit	-0 0 1 3 7 14 21	0.49 1.3 0.99 <u>0.7</u> 0.54 0.17 0.17	PTZ-NLI-11797 11797-1
Germany, 2011 Koln (Sugana)	2	0.2	0.02	1000	Fruit	0 7 10 14 21	1.6 0.78 0.28 0.32 0.21	P 2428 G RU 1105
Germany, 2011 Kalsruhe (Tulameen)	2	0.2	0.02	1000	Fruit	14	0.51	P 2428 G RU 1107

### *Bulb vegetables*

#### *Onion, bulb*

Results from supervised trials from Europe on bulb onions were provided to the Meeting. Trials conducted in 2006 and 2007 were also provided to the 2010 JMPR. In the trials, one or two applications of 0.1 kg ai/ha or 0.2 kg ai/ha (or in some earlier trials one application of 0.5 kg ai/ha) fluopyram (SC formulations) were made 6–8 days apart, using knapsack single-nozzle or mini-boom sprayers (3–12 nozzles) to apply 200–800 L/ha.

Samples of at least 1.5 kg or 24 bulbs were frozen within 24 hours of sampling, and stored at -18 °C for up to 398 days before analysis for fluopyram using LC/MS/MS Method 00984. The

reported LOQ was 0.01 mg/kg and the mean recovery rates in samples spiked with 0.01–1.0 mg/kg fluopyram ranged from 81% and 106%.

Table 8 Fluopyram residues in bulb onions from trials in North and South Europe, involving foliar applications of fluopyram (SC formulations)

ONION (BULB) Country, year Location (variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference & Comments
	no	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
GAP: Germany	2	0.1		200–800		7		7 day interval
France, 2008 Bouafle Ile-de-France (Paille des vertus)	1	0.5	0.17	300	Bulb	160 174	0.01 0.01	08-2161-01
Germany, 2008 Burscheid (Sherpa)	1	0.5	0.17	300	Bulb	124 138	< 0.01 < 0.01	08-2161-02
Spain, 2008 Alginet (Liria)	1	0.5	0.17	300	Bulb	139 153	< 0.01 < 0.01	08-2172-01
Italy, 2008 Bologna Emilia (Density)	1	0.5	0.17	300	Bulb	133 146	< 0.01 < 0.01	08-2172-02
Italy, 2011 Cento (Vaquero)	1	0.2	0.067	300	Bulb	0 7 14 21	0.14 0.04 < 0.01 < 0.01	11-2108-01
Spain, 2011 Gavà (Figueras)	1	0.217	0.0799	271	Bulb	0 7 14 21	0.095 0.03 0.016 < 0.01	11-2108-02
Italy, 2012 Cento (Vaquero)	1	0.2	0.0333	600	Bulb	0 3 7 14 21	0.05 0.015 < 0.01 < 0.01 < 0.01	12-2041-01
Italy, 2012 Maccarese (Centurion F1)	1	0.2	0.0286	700	Bulb	0 3 7 14 21	< 0.01 < 0.01 < 0.01 < 0.01 < 0.01	12-2041-02
Italy, 2012 Adrano (Locale Marrone)	1	0.2	0.0286	700	Bulb	0 3 7 14 21	0.039 < 0.01 < 0.01 < 0.01 < 0.01	12-2041-03
Spain, 2012 Alginet (Nicasio)	1	0.2	0.0286	700	Bulb	0 3 7 14 21	0.017 < 0.01 < 0.01 < 0.01 < 0.01	12-2041-04
France, 2011 Layarac (Keepwell)	1	0.2	0.0333	600	Bulb	0 3 7 14 21	0.06 0.028 < 0.01 < 0.01 < 0.01	12-2041-05
France, 2012 Etoile sur Rhone (Spirit)	1	0.2	0.0333	600	Bulb	0 3 7 14 21	< 0.01 < 0.01 < 0.01 < 0.01 < 0.01	12-2041-06

## Fluopyram

ONION (BULB) Country, year Location (variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference & Comments
	no	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
France, 2011 Nezel (Bugati)  Yellow onion	2	0.1	0.0333	300	Bulb	-0 0 7 14 20	0.012 0.072 0.02 0.011 0.012	11-2028-01
Germany, 2011 Kohlhof (Taresco)	2	0.1	0.0333	300	Bulb	-0 0 7 14 21	< 0.01 0.03 < 0.01 0.01 < 0.01	11-2028-02
Germany, 2011 Burscheid (Sherpa F1)	2	0.1	0.0333	300	Bulb	-0 0 7 14 21	< 0.01 0.047 < 0.01 < 0.01 < 0.01	11-2028-03
UK, 2011 Cambridge (Bennito)  White bulb	2	0.106 0.1	0.05 0.05	213 200	Bulb	-0 0 7 14 21	< 0.01 0.039 < 0.01 < 0.01 < 0.01	11-2028-04
Germany, 2012 Burscheid (Sherpa F1)	2	0.1	0.0333	300	Bulb	-0 0 3 7 14 21	< 0.01 0.025 < 0.01 < 0.01 < 0.01 < 0.01	12-2034-01
France (N), 2012 Nézel (Bugatti F1)	2	0.1	0.0333	300	Bulb	-0 0 3 7 14 21	0.018 0.092 0.035 0.03 0.015 0.01	12-2034-02
UK, 2012 Cambridge (Bennito)	2	0.1	0.05	200	Bulb	-0 0 3 7 14 22	< 0.01 0.029 0.031 0.04 0.014 < 0.01	12-2034-03
Belgium, 2012 Viller-Perwin (Summit F1)	2	0.1	0.0222	450	Bulb	-0 0 2 7 14 21	< 0.01 0.026 < 0.01 < 0.01 < 0.01 < 0.01	12-2034-04
France, 2006 Bouafle (Jaunes des Cévennes)	2	0.2	0.04	500	Bulb	-0 0 7 14 21	0.04 0.05 0.02 0.01 0.02	R 2006 0340/1 RA-2567/06
France, 2006 Cailloux sur Fontaines (Rebouillon)	2	0.2	0.033	600	Bulb	-0 0 7 14 21	< 0.01 0.01 < 0.01 < 0.01 < 0.01	R 2006 0342/8 RA-2568/06
Germany, 2006 Langenfeld-Reusrath (Stuttgarter Riesen)	2	0.2	0.0666	300	Bulb	-0 0 7 14 21	< 0.01 0.08 < 0.01 < 0.01 < 0.01	R 2006 0537/4 RA-2567/06



ONION (BULB) Country, year Location (variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference & Comments
	no	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
Germany, 2006 Kohlhof (Takstar)	2	0.2	0.04	500	Bulb	-0 0 7 14 21	0.02 0.06 0.01 < 0.01 0.01	R 2006 0538/2 RA-2567/06
UK, 2006 Thetford (Red Barron)	2	0.2	0.0666	300	Bulb	-0 0 7 14 20	0.03 0.11 0.04 0.02 0.03	R 2006 0539/0 RA-2567/06
Spain, 2006 Gava (Dulce de Fuentes)	2	0.212 0.2	0.033 0.033	636 600	Bulb	-0 0 7 14 21	< 0.01 0.07 0.01 0.01 < 0.01	R 2006 0540/4 RA-2568/06
Italy, 2006 Bologna (Density 5)	2	0.2	0.04	500	Bulb	-0 0 7 14 21	0.01 0.04 0.01 < 0.01 < 0.01	R 2006 0541/2 RA-2568/06
Greece, 2006 Thiva (Ideal)	2	0.2	0.0334	600	Bulb	-0 0 7 15 21	< 0.01 0.04 < 0.01 < 0.01 < 0.01	R 2006 0542/0 RA-2568/06
Germany, 2007 Langenfeld-Reusrath (Stuttgarter Riesen)	2	0.2	0.0666	300	Bulb	-0 0 7 14 21	< 0.01 0.07 < 0.01 0.01 0.01	R 2007 0038/5 RA-2517/07
France, 2007 Layrac (Daytona)	2	0.2	0.0334	600	Bulb	-0 0 7 14 21	0.01 0.1 0.02 0.02 0.01	R 2007 0040/7 RA-2518/07
Germany, 2007 Vettweiß- Müddersheim (Benito)	2	0.2	0.0666	300	Bulb	-0 0 7 14 20	< 0.01 0.08 < 0.01 < 0.01 0.01	R 2007 0558/1 RA-2517/07
France, 2007 Luzillé (Hybing F1)	2	0.2	0.0334	600	Bulb	-0 0 7 14 21	< 0.01 0.05 < 0.01 < 0.01 < 0.01	R 2007 0560/3 RA-2517/07
Netherlands, 2007 Wieringerwerf (Hybell)	2	0.2	0.025	800	Bulb	-0 0 7 14 21	< 0.01 0.03 0.01 < 0.01 < 0.01	R 2007 0561/1 RA-2517/07
Italy, 2007 Poggio Renatico (Rossa di Toscana)	2	0.2	0.033	600	Bulb	-0 0 7 14 21	< 0.01 0.03 < 0.01 < 0.01 < 0.01	R 2007 0563/87 RA-2518/07

ONION (BULB) Country, year Location (variety)	Application				Matrix	DAT	Residues (mg/kg)		Reference & Comments
	no	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram		
Spain, 2007 Alginet (Liria)	2	0.2	0.033	600	Bulb	-0 0 7 14 21	< 0.01 < 0.01 < 0.01 < 0.01 < 0.01	R 2007 0564/67 RA-2518/07	
Portugal, 2007 Francisco / Alcochete (Spring Star)	2	0.2	0.04	500	Bulb	-0 0 7 14 21	< 0.01 0.08 0.02 0.02 0.02	R 2007 0565/47 RA-2518/07	
Greece, 2007 Aronas - Katerini (Kozanis)	2	0.2	0.04	500	Bulb	-0 0 7 14 21	< 0.01 < 0.01 < 0.01 < 0.01 < 0.01	R 2007 0566/27 RA-2518/07	

Studies RA-2517, RA-2518, RA-2567, RA-2568 were also provided to the 2010 JMPR [2010 JMPR Fluopyram Evaluation: Table 105]

Results from supervised trials from USA on bulb onions were provided to the Meeting. Trials conducted in 2007 were also provided to the 2010 JMPR. In the trials, one or two applications of 0.25 kg ai/ha fluopyram (SC formulations) were made 5 days apart, using knapsack sprayers or tractor-mounted 4-row boom sprayers to apply about 120–280 L/ha. In the 2009 trials, additional plots were treated with fluopyram plus adjuvant.

Duplicate samples of at least 2 kg dry bulbs were frozen within 1 hour of sampling and stored frozen for up to 267 days before analysis for fluopyram using LC/MS/MS Method 00984. The reported LOQ was 0.01 mg/kg and the mean recovery rates in samples spiked with 0.01–0.5 mg/kg fluopyram ranged from 94% to 106%.

Table 9 Fluopyram residues in bulb onions from trials in USA, involving foliar applications of fluopyram (SC formulations)

ONION (BULB) Country, year Location (variety)	Application				Matrix	DAT	Residues (mg/kg)		Reference & Comments
	no	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	mean	
USA, 2007 Germansville, PA (Medium Red)	2	0.251	0.14	179	Bulb	0	0.15, 0.12	0.14	RAGML001 GM043-07HA
USA, 2007 Uvalde, TX (Leona)	2	0.248 0.249	0.198 0.147	125 169	Bulb	0	0.15, 0.19	0.17	RAGML001 GM044-07HA
USA, 2007 Larned, KS (Texas Supersweet)	2	0.241 0.241	0.145 0.148	166 163	Bulb	0	0.15, 0.22	0.19	RAGML001 GM045-07HA
USA, 2007 Sanger, CA (Yellow sweet spanish)	2	0.251 0.247	0.155 0.147	162 168	Bulb	0 1 3 7 10	0.01, 0.05 0.03, 0.02 0.04, 0.03 0.01, 0.03 0.01, 0.02	0.07 0.03 0.03 0.02 0.02	RAGML001 GM046-07DA
USA, 2007 Fresno, CA (Gunnison F1)	2	0.248 0.252	0.18 0.18	138 140	Bulb	0	0.09, 0.11	0.1	RAGML001 GM047-07HA
USA, 2007 Parkdale, OR (Yellow Danver)	2	0.251 0.246	0.206 0.198	122 124	Bulb	0	0.08, 0.04	0.06	RAGML001 GM048-07HA

ONION (BULB) Country, year Location (variety)	Application				Matrix	DAT	Residues (mg/kg)		Reference & Comments
	no	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	mean	
USA, 2007 Richland, IA (Yellow No. 1)	2	0.248 0.246	0.16 0.156	155 158	Bulb	0	0.02, 0.01	0.02	RAGML001 GM109-07HA
USA, 2007 Hillsboro, OR (Redwing)	2	0.239 0.25	0.145 0.145	165 172	Bulb	0	0.12, 0.18	0.15	RAGML001 GM110-07HA
USA, 2009 Raymondville, TX (Yellow Granex)	1	0.255	0.135	189	Bulb	0 3 14	0.11, 0.09 0.11, 0.07 0.02, 0.02	0.1 0.09 0.02	RAGMP155 GM052-09HA-A
USA 2009, Raymondville, TX (Yellow Granex)	1	0.256	0.135	190	Bulb	0 3 14	0.1, 0.09 0.07, 0.06 0.01, 0.01	0.09 0.06 0.02	RAGMP155 GM052-09HA-B (with adjuvant)
USA, 2009 Fresno, CA (Gannison F1)	1	0.248	0.0883	281	Bulb	0 3 14	0.07, 0.05 0.06, 0.07 0.28, 0.31	0.06 0.07 0.29	RAGMP155 GM053-09HA-A
USA, 2009 Fresno, CA (Gannison F1)	1	0.247	0.0882	280	Bulb	0 3 14	0.05, 0.02 0.12, 0.06 0.15, 0.13	0.04 0.09 0.14	RAGMP155 GM053-09HA-B (with adjuvant)
USA, 2009 Prosser, WA (South Port)	1	0.251	0.117	215	Bulb	0 3 14	0.01, < 0.01 0.02, 0.02 < 0.01, < 0.01	0.01 0.02 < 0.01	RAGMP155 GM054-09HA-A
USA, 2009 Prosser, WA (South Port)	1	0.258	0.117	220	Bulb	0 3 14	< 0.01, 0.02 0.02, 0.02 < 0.01, < 0.01	0.01 0.02 < 0.01	RAGMP155 GM054-09HA-B (with adjuvant)

Study RAGML001 was also provided to the 2010 JMPR [2010 JMPR Fluopyram Evaluation: Table 106]

### Leek

Results from supervised trials from Europe on leeks were provided to the Meeting. In these trials fluopyram (SC formulations) foliar sprays were applied either once or twice (13–14 days apart) at 0.2 kg ai/ha or three times at 0.15 kg ai/ha (21–22 days apart), using knapsack mini-boom sprayers (3–12 nozzles) to apply 300–600 L/ha (200 L/ha in one trial). The trials involving two applications, conducted in 2006 and 2007 were also provided to the 2010 JMPR.

Samples of at least 1 kg or 24 plants (without roots) were frozen within 24 hours of sampling and stored at -18 °C for up to 391 days before analysis for fluopyram using LC/MS/MS Method 00984. The reported LOQ was 0.01 mg/kg and the mean recovery rates in samples spiked with 0.01–2.0 mg/kg fluopyram ranged from 71% to 118%.

Table 10 Fluopyram residues in leeks from trials in North and South Europe, involving foliar applications of fluopyram (SC formulations)

LEEK Country, Year Location (variety)	Application				Matrix	DAT	Residues (mg/kg)	Ref
	no	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
GAP: Germany, Switzerland	1	0.2		200–700		21		
Germany, 2012 Leichlingen (Vermont)	1	0.2	0.067	300	Tops <sup>a</sup>	0 14 21 28 35	0.66 0.013 <u>&lt; 0.01</u> < 0.01 < 0.01	12-2033 12-2033-01, 42799

## Fluopyram

LEEK Country, Year Location (variety)	Application				Matrix	DAT	Residues (mg/kg)	Ref
	no	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
France, 2012 Soings en Sologne (Callahan)	1	0.2	0.067	600	Tops <sup>a</sup>	0 14 21 28 35	0.3 0.015 <u>&lt; 0.01</u> < 0.01 < 0.01	12-2033 12-2033-02, 41230
UK, 2012 Cambridge (Lyon 2 Prizetaker)	1	0.221	0.1	221	Tops <sup>a</sup>	0 14 21 28 35	0.99 0.093 <u>0.06</u> 0.037 0.045	12-2033 12-2033-03, CB22
Belgium, 2012 Villers-Perwin (Surfer F1)	1	0.2	0.044	450	Tops <sup>a</sup>	0 14 21 28 35	0.68 0.081 <u>0.07</u> 0.032 0.022	12-2033 12-2033-04, 6210
France, 2011 Soings en Sologne (Davincy)	1	0.2	0.033	600	Tops <sup>a</sup>	0 7 14 21	0.6 0.067 0.026 <u>&lt; 0.01</u>	11-2029 11-2029-01
Germany, 2011 Werl-Westönnen (Parton F1)	1	0.2	0.067	300	Tops <sup>a</sup>	0 7 14 21	0.49 0.07 0.034 <u>0.03</u>	11-2029 11-2029-02
Germany, 2011 Langenfeld (Prelina)	1	0.2	0.067	300	Tops <sup>a</sup>	0 7 14 21	0.3 0.045 0.013 <u>&lt; 0.01</u>	11-2029 11-2029-03
Belgium, 2007 Villers-Perwin (Belton)	1	0.2	0.044	450	Tops <sup>a</sup>	0 7 14 21	0.36 0.049 0.02 <u>0.01</u>	11-2029 11-2029-04
France, 2006 Faverolles (Diana)	2	0.2	0.067	300	Tops <sup>a</sup>	-0 0 7 14 21 28	0.18 2.1 1.2 0.67 0.32 0.20	RA-2569/06 R 2006 0343 6
Germany, 2006 Langenfeld-Reusrath (Pandora)	2	0.2	0.067	300	Tops <sup>a</sup>	-0 0 7 14 21 28	0.06 0.68 0.08 0.03 0.02 0.02	RA-2569/06 R 2006 0465 3
UK, 2006 Cambridgeshire (Shelton)	2	0.2	0.067	300	Tops <sup>a</sup>	-0 0 7 15 21 28	0.06 1.1 0.55 0.12 0.06 0.07	RA-2569/06 R 2006 0466 1
Germany, 2006 Bornheim – Sechtem (Amundo)	2	0.2	0.067	300	Tops <sup>a</sup>	-0 0 7 15 22 28	0.27 0.97 0.67 0.23 0.17 0.14	RA-2569/06 R 2006 0468 8

LEEK Country, Year Location (variety)	Application				Matrix	DAT	Residues (mg/kg)	Ref
	no	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram	
France, 2006 Cailloux sur Fontaines (Ahton)	2	0.2	0.033	600	Tops <sup>a</sup>	-0 0 7 14 21 29	0.12 1.1 0.37 0.28 0.17 0.05	RA-2570/06 R 2006 0344 4
Spain, 2006 Lebrija Sevilla (Shelton)	2	0.2	0.05	400	Tops <sup>a</sup>	-0 0 7 14 21 28	0.02 0.32 0.18 0.07 0.04 0.02	RA-2570/06 R 2006 0469 6
Germany, 2007, Schauernheim (Nobel)	2	0.2	0.033	600	Tops <sup>a</sup>	-0 0 7 14 21 28	0.1 0.41 0.08 0.04 0.03 0.02	RA-2521/07 R 2007 0056 3
France, 2007 Bouafle (St Vistor)	2	0.2	0.04	500	Tops <sup>a</sup>	-0 0 7 14 21 28	0.05 1.6 0.22 0.15 0.09 0.11	RA-2521/07 R 2007 0569 7
Netherlands, 2007 Zwaagdijk-Oost (Roxton)	2	0.2	0.033	600	Tops <sup>a</sup>	-0 0 7 14 21 28	0.07 0.48 0.08 0.05 0.02 0.02	RA-2521/07 R 2007 0570 0
Germany, 2007 Langenfeld-Reusrath (Pandora)	2	0.2	0.067	300	Tops <sup>a</sup>	-0 0 7 14 21 28	0.25 1.7 0.26 0.02 0.01 < 0.01	RA-2521/07 R 2007 0571 9
France, 2007 Castelsarrasin (Porbella)	2	0.2	0.033	600	Tops <sup>a</sup>	-0 0 7 14 21 28	0.35 2.8 0.39 0.31 0.24 0.25	RA-2522/07 R 2007 0057 1
Italy, 2007 Lusia (Sabina)	2	0.2	0.033	600	Tops <sup>a</sup>	-0 0 7 14 21 28	0.06 2.1 0.15 0.16 0.03 0.02	RA-2522/07 R 2007 0572 7
Germany, 2007 Schauernheim (Nobel)	3	0.15	0.25	600	Tops <sup>a</sup>	-0 0 7 14 21 28	0.02 0.46 0.07 0.04 0.03 0.02	RA-2609/07 R 2007 0249/3

LEEK Country, Year Location (variety)	Application				Matrix	DAT	Residues (mg/kg)		Ref
	no	kg ai/ha	kg ai/hL	water (L/ha)			Fluopyram		
France, 2007 Bouafle (St Victor)	3	0.15	0.03	500	Tops <sup>a</sup>	-0 0 7 14 21 28	0.04 1.2 0.24 0.11 0.1 0.05	RA-2609/07 R 2007 0573/5	
Netherlands, 2007 Zwaagdijk-Oost (Roxton)	3	0.15	0.025	600	Tops <sup>a</sup>	-0 0 7 14 21 28	0.01 0.24 0.04 0.02 0.01 < 0.01	RA-2609/07 R 2007 0574/3	
France, 2007 Castelsarrasin (Porbella)	3	0.15	0.025	600	Tops <sup>a</sup>	-0 0 7 14 21 27	0.24 1.7 0.63 0.52 0.34 0.26	RA-2610/07 R 2007 0250/7	

<sup>a</sup> Whole plant without root

Studies RA-2521, RA-2522, RA-2569, RA-2570 were also provided to the 2010 JMPR [2010 JMPR Fluopyram Evaluation: Table 104]

### Brassica vegetables

#### Broccoli

Results from supervised trials from USA on broccoli were provided to the 2010 Meeting. In these trials, two foliar applications of 0.24–0.26 kg ai/ha fluopyram (SC 500 formulation), tank-mixed with trifloxystrobin (SC) in 122–186 L of water were applied to broccoli plants 5 days apart using knapsack sprayers or tractor-mounted boom sprayers. Plot sizes in these trials ranged from 53–159 square metres.

Duplicate samples of (at least 12 broccoli heads and stems) were taken from each plot, frozen within 4 hours of sampling, held in frozen storage for up to 448 days before analysis for fluopyram using LC/MS/MS Method GM-001-P07-01 (LOQ of 0.01 mg/kg).

Table 11 Fluopyram residues in broccoli from supervised trials in USA involving two foliar applications of fluopyram (500 SC formulations)

BROCCOLI Country, year Location (variety)	Application				Matrix	DAT	Fluopyram residues (mg/kg)		Reference & Comments
	no	kg ai/ha	kg ai/hL	water (L/ha)				mean	
USA, 2008 Raymondville, TX (Green Magic)	2	0.262 0.254	0.141 0.141	186 180	Heads	0	0.88, 1.31	1.1	RAGMP076 GM017-07HA
USA, 2007 Guadalupe, CA (Heritage)	2	0.238 0.254	0.195 0.185	122 137	Heads	0	1.2, 1.2	1.2	RAGMP076 GM018-07HA
USA, 2007 Sanger, CA (Marathon)	2	0.25 0.257	0.184 0.158	136 163	Heads	0 1 3 7 10	0.98, 1.1 0.99, 0.99, 0.95 0.85, 1.08 0.83, 0.83 0.76, 0.52 0.7, 0.63	1.1 0.98 0.97 0.83 0.64 0.66	RAGMP076 GM019-07DA Results from processing study

Study RAGMP076 was also provided to the 2010 JMPR [2010 JMPR Fluopyram Evaluation: Table 111]

Results from supervised trials from Europe on broccoli were provided to the Meeting. These trials were also provided to the 2010 JMPR. In these trials, two applications of fluopyram + tebuconazole (SC 200+200) at rates 0.2 kg ai/ha fluopyram in 300–800 L/water/ha of were made at 14–21 day intervals as foliar sprays using knapsack sprayers with hand-held booms (4–12 flat fan or hollow cone nozzles). Plot sizes in these trials ranged from 50–100 square metres.

Unreplicated samples of 12–20 broccoli heads were taken from each plot, frozen within 24 hours of sampling and stored at -18 °C or below for up to 335 days before analysis for fluopyram and its BZM, PAA and PCA metabolites using LC/MS/MS Method 00984 or Method 00984/M001 (LOQs were 0.01 mg/kg for each analyte).

Table 12 Residues in broccoli from supervised trials in France, Germany, Greece, Italy, Netherlands and Spain involving foliar applications of fluopyram (SC formulations)

BROCCOLI Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
GAP: Germany	2	0.18		300–800		14		14 day interval
France, 2006 Ennemain (Chevalier)	2	0.2	0.067	300		-0	< 0.01	RA-2607/06 0400-06
						0	0.74	
						3	0.41	
						7	0.19	
						14	0.09	
						21	<u>0.14</u>	
Netherlands, 2006 Zwaagdijk-Oos (Ironman)	2	0.2	0.067	300		-0	< 0.01	RA-2607/06 0501-06
						0	0.83	
						3	0.61	
						7	0.12	
						14	<u>0.05</u>	
						21	0.02	
France, 2007 Ennemain (Chevalier)	2	0.2	0.067	300		-0	< 0.01	RA-2525/07 0069-07
						0	0.64	
						3	0.05	
						7	0.02	
						14	0.01	
						21	<u>0.02</u>	
Germany, 2007 Brühl-Schwardorf (Patinon)	2	0.2	0.033	600		-0	< 0.01	RA-2525/07 0586-07
						0	0.04	
						3	< 0.01	
						8	0.02	
						14	<u>&lt; 0.01</u>	
						22	< 0.01	
Spain, 2006 Lebrija (Partenon)	2	0.2	0.05	400		-0	< 0.01	RA-2608/06 0401-06
						0	0.48	
						3	0.04	
						7	0.03	
						14	<u>≤ 0.01</u>	
Italy, 2006 Manfredonia (Olimpia)	2	0.2	0.025	800		-0	0.13	RA-2608/06 0502-06  c=0.02 mg/kg
						0	0.82	
						3	0.51	
						7	0.44	
						14	<u>0.13</u>	
						21	0.05	
Greece, 2007 Aronas (Marathon)	2	0.2	0.04	500		-0	0.04	RA-2526/07 0070-07
						0	0.29	
						3	0.26	
						7	0.19	
						14	<u>0.05</u>	
						21	0.05	

BROCCOLI Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
Spain, 2007 Gavà (Megaton)	2	0.2	0.033	600		-0	0.03	RA-2526/07 0587-07
						0	0.61	
						4	0.36	
						7	0.15	
						14	<u>0.06</u>	
						20	0.06	
Italy, 2007 Manfredonia (Partenon F1)	2	0.2	0.027	750		-0	0.03	RA-2526/07 0588-07
						0	0.39	
						3	0.19	
						7	0.06	
						14	<u>0.03</u>	
						21	0.02	

Studies RA-2525, RA-2526, RA-2607, RA-2608 were also provided to the 2010 JMPR [2010 JMPR Fluopyram Evaluation: Table 112

### *Brussels sprouts*

Results from supervised trials from Europe on Brussels sprouts were provided to the Meeting. These trials were also provided to the 2010 JMPR. In the trials, two foliar sprays of 0.2 kg ai/ha fluopyram (SC formulations) were applied 14–15 days apart using knapsack or wheelbarrow mini-boom sprayers (3-12 nozzles) to apply 300–800 L/ha.

Samples of at least 1 kg of sprouts were frozen within 24 hours of sampling and stored at –18 °C for up to 253 days before analysis for fluopyram using LC/MS/MS Method 00984. The reported LOQ was 0.01 mg/kg and the mean recovery rates in samples spiked with 0.01–1.0 mg/kg fluopyram ranged from 89% to 110%.

Table 13 Fluopyram residues in Brussels sprouts from trials in North and South Europe, involving foliar applications of fluopyram (SC formulations)

BRUSSELS SPROUTS Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
GAP: Germany	2	0.18		300–800		14		14 day interval
France, 2006 Fontaine l'Étalon (Louis)	2	0.2	0.067	300	Sprouts	-0	< 0.01	RA-2575/06 R 2006 0349/5
						0	0.02	
						7	0.07	
						14	<u>0.04</u>	
						21	0.02	
Germany, 2006 Langenfeld-Reusrath (Genius)	2	0.2	0.067	300	Sprouts	-0	0.04	RA-2575/06 R 2006 0473/4
						0	0.09	
						7	0.1	
						14	<u>0.07</u>	
						21	0.07	
UK, 2006 Saxmundham (Helemus)	2	0.2	0.067	300	Sprouts	-0	0.05	RA-2575/06 R 2006 0474/2
		0.21	0.067	318		0	0.16	
						7	0.13	
						14	<u>0.07</u>	
						21	0.06	
Germany, 2006 Meckenbeuren (Lunet)	2	0.2	0.04	500	Sprouts	-0	< 0.01	RA-2575/06 R 2006 0475/0
						0	0.04	
						7	0.03	
						14	<u>0.01</u>	
						22	0.01	



BRUSSELS SPROUTS Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
France, 2006 Castelsarrasin (Olivier)	2	0.2	0.067	300	Sprouts	-0 0 7 14 21	0.05 0.34 0.12 0.05 <u>0.07</u>	RA-2576/06 R 2006 0350/9
Italy, 2006 Ladispoli (Franklin)	2	0.2	0.025	800	Sprouts	-0 0 7 14 20	0.06 0.2 0.09 <u>0.09</u> 0.07	RA-2576/06 R 2006 0476/9
Germany, 2007 Bornheim-Sechtem (Maximus)	2	0.21 0.2	0.05 0.05	424 400	Sprouts	-0 0 6 14 21	0.05 0.08 0.09 <u>0.04</u> 0.02	RA-2531/07 R 2007 0076/8
France, 2007 Criquebeuf sur Seine (Abaccus)	2	0.2	0.04	500	Sprouts	-0 0 7 13 21	0.06 0.2 0.25 <u>0.14</u> 0.10	RA-2531/07 R 2007 0594/8
Netherlands, 2007 Zwaagdijk-Oost (Cerius)	2	0.2	0.033	600	Sprouts	-0 0 7 14 21	0.03 0.19 0.1 <u>0.04</u> 0.03	RA-2531/07 R 2007 0595/6
UK, 2007 Saxmundham (Maximus)	2	0.2	0.067	300	Sprouts	-0 0 7 15 21	0.02 0.26 0.06 0.03 <u>0.04</u>	RA-2531/07 R 2007 0596/4
France, 2007 Rillieux la Pape (Olivier)	2	0.2	0.04	500	Sprouts	-0 0 7 14 21	0.08 0.1 0.06 <u>0.05</u> 0.05	RA-2532/07 R 2007 0077/6
Italy, 2007 Manfredonia (Lunet)	2	0.2	0.0286	700	Sprouts	-0 0 7 14 22	0.16 0.41 0.2 <u>0.15</u> 0.08	RA-2532/07 R 2007 0597/2

Studies RA-2575, RA-2576, RA-2531, RA-2532 were also provided to the 2010 JMPR [2010 JMPR Fluopyram Evaluation: Table 115

### *Cabbage, head*

Results from supervised trials from Europe on head cabbages (red, white or round) were provided to the Meeting. In these trials fluopyram (SC formulations) foliar sprays were applied either twice at 0.2 kg ai/ha (14 days apart) or three times at 0.15 kg ai/ha (20–21 day intervals) using knapsack mini-boom sprayers (3–12 nozzles) to apply 300–600 L/ha (800 L/ha in one trial). The trials conducted in 2006 and 2007 and involving two fluopyram applications were also provided to the 2010 JMPR.

Samples of at least 12 units (min 10 kg of whole heads or two opposing quarter-heads) were frozen within 24 hours of sampling and stored at –18 °C for up to 307 days before analysis of heads (plus wrapper leaves) for fluopyram using LC/MS/MS Method 00984. The reported LOQ was 0.01 mg/kg and the mean recovery rates in samples spiked with 0.01–1.0 mg/kg fluopyram ranged from 84% to 110%.

Table 14 Fluopyram residues in cabbage heads from trials in North and South Europe, involving foliar applications of fluopyram (SC formulations)

CABBAGE, HEAD Country, Year Location (Variety)	Application			Matrix	DAT	Residues (mg/kg)	Reference	
	no	kg ai/ha	kg ai/hL			Water (L/ha)		Fluopyram
GAP: Germany	2	0.18		300–800		14	14 day interval	
France, 2006 Fondettes (Eton F1)	2	0.2	0.033	600	Head <sup>a</sup>	–0 0 3 7 14 21	< 0.01 0.05 0.06 0.02 <u>0.01</u> 0.01	RA-2577/06 R 2006 0354/1
Netherlands, 2006 Noorder-koggenland (Slaudena)	2	0.2	0.04	500	Head <sup>a</sup>	–0 0 3 7 14 21	0.03 < 0.01 0.02 < 0.01 <u>&lt; 0.01</u> < 0.01	RA-2577/06 R 2006 0356/8
Germany, 2006 Werl-Westönnen (Novator)	2	0.2	0.04	500 500	Head <sup>a</sup>	–0 0 3 7 14 21	< 0.01 0.01 < 0.01 < 0.01 <u>&lt; 0.01</u> < 0.01	RA-2577/06 R 2006 0477/7
Germany, 2006 Leichlingen (Latima)	2	0.2	0.067	300	Head <sup>a</sup>	–0 0 3 7 14 21	0.01 0.22 0.09 0.02 <u>0.01</u> < 0.01	RA-2577/06 R 2006 0478/5
France, 2006 Arnas (Count)	2	0.2	0.04	500	Head <sup>a</sup>	–0 0 4 7 14 21	0.02 0.19 0.04 0.04 <u>0.02</u> 0.01	RA-2578/06 R 2006 0357/6
Italy, 2006 Ladispoli (Castello)	2	0.2	0.033	600	Head <sup>a</sup>	–0 0 3 7 14 21	0.01 0.1 0.11 0.06 <u>0.01</u> < 0.01	RA-2578/06 R 2006 0479/3
Germany, 2007 Werl-Westönnen (Lennox)	2	0.2	0.067	300	Head <sup>a</sup>	–0 0 4 8 15 22	< 0.01 0.45 < 0.01 < 0.01 <u>&lt; 0.01</u> < 0.01	RA-2529/07 R 2007 0073/3
France, 2007 Cergy (Lennox)	2	0.2	0.067	300	Head <sup>a</sup>	–0 0 3 7 14 21	0.05 0.34 0.42 0.21 <u>0.08</u> 0.04	RA-2529/07 R 2007 0270/1
Germany, 2007 Leichlingen (Rodima)	2	0.2	0.067	300	Head <sup>a</sup>	–0 0 3 7 14 21	0.08 0.42 0.05 0.03 <u>0.02</u> 0.02	RA-2529/07 R 2007 0589/1

CABBAGE, HEAD Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
UK, 2007 Saxmundham (Auralias)	2	0.2	0.067	300	Head <sup>a</sup>	-0 0 3 7 13 20	0.02 0.14 0.17 0.04 <u>0.04</u> 0.02	RA-2529/07 R 2007 0590/5
Belgium, 2007 Villers-Perwin (Regina F1)	2	0.2	0.036	550	Head <sup>a</sup>	-0 0 3 7 14 21	< 0.01 0.09 0.02 0.02 <u>&lt; 0.01</u> 0.01	RA-2529/07 R 2007 0591/3
Italy, 2007 Ladispoli (Castello)	2	0.2	0.033	600	Head <sup>a</sup>	-0 0 3 7 14 21	0.01 0.12 0.11 0.03 0.01 0.02	RA-2530/07 R 2007 0592/1
Italy, 2012 Chiaromonte Gulfi (Green lunar)	2	0.2	0.025	800	Head <sup>a</sup>	-0 0 3 7 14 21 28	< 0.01 0.15 0.029 0.027 0.02 0.013 0.013	12-2042 12-2042-01
Germany, 2007 Werl-Westönnen (Lennox)	3	0.15	0.05	300	Head <sup>a</sup>	-0 0 4 8 15 22	< 0.01 0.12 < 0.01 < 0.01 < 0.01 < 0.01	RA-2612/07 R 2007 0251/5
UK, 2007 Saxmundham (Auralias)	3	0.15	0.05	300	Head <sup>a</sup>	-0 0 3 7 13 20	0.03 0.08 0.1 0.03 0.04 0.03	RA-2612/07 R 2007 0272/8
Belgium, 2007 Villers-Perwin (Regina F1)	3	0.15	0.027	550	Head <sup>a</sup>	-0 0 3 7 14 21	0.01 0.07 0.01 0.02 0.02 0.02	RA-2612/07 R 2007 0598/0

<sup>a</sup> Cabbage heads with wrapper leaves

Studies RA-2529, RA-2530, RA-2577, RA-2578 were also provided to the 2010 JMPR [2010 JMPR Fluopyram Evaluation: Table 110]

### *Cauliflower*

Results from supervised trials from Europe on cauliflower were provided to the Meeting. The 2006 and 2007 trials were also provided to the 2010 JMPR. In these trials, two applications of fluopyram (SC formulations) at rates 0.2 kg ai/ha fluopyram in 300–800 L water/ha of were applied at 13–15 day intervals as foliar sprays using knapsack sprayers with a single solid cone nozzle hand lance or hand-held booms (3–12 flat fan or hollow cone nozzles). Plot sizes in these trials ranged from 66–162 square metres.

Unreplicated samples of 12 cauliflower curds were taken from each plot, frozen within 24 hours of sampling and stored at -18 °C or below for up to 14 months before analysis for fluopyram using LC/MS/MS Method 00984 or Method 00984/M001. The reported LOQ was 0.01 mg/kg.

Table 15 Residues in cauliflowers from supervised trials in France, Germany, Italy, Netherlands, Spain and UK involving two foliar applications of fluopyram (SC formulations)

CAULIFLOWER Country, Year Location (Variety)	Application				Matrix	DALA	Residues (mg/kg)		Reference
	No	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram		
GAP: Germany	2	0.18		300-800		14		14 day interval	
United Kingdom, 2006 West Row (Optamist)	2	0.212 0.2	0.0666	318 300	Curd	-0 0 3 7 14 21	0.01 0.07 0.07 0.04 <u>0.05</u> 0.02	RA-2571/06 0345-06	
Germany, 2006 Langenfeld-Reusrath (Freedom)	2	0.2	0.0666	300	Curd	-0 0 3 7 14 21	< 0.01 0.85 0.18 0.08 <u>0.01</u> < 0.01	RA-2571/06 0471-06	
Germany, 2007 Langenfeld-Reusrath (Freedom)	2	0.2	0.0334	600	Plant <sup>a</sup> Curd	-0 0 3 7 14 21	0.15 2.4 0.04 0.02 <u>0.01</u> < 0.01	RA-2525/07 0067-07	
Netherlands, 2007 Zwaagdijk-Oost (Speedy)	2	0.2	0.0666	300	Curd	-0 0 3 7 14 21	< 0.01 0.36 0.05 0.01 <u>0.01</u> 0.01	RA-2525/07 0583-07	
France, 2006 Graveson (Thalassa)	2	0.2	0.0334	600	Curd	-0 0 3 7 13 21	< 0.01 0.14 0.03 0.01 <u>0.01</u> 0.01	RA-2572/06 0346-06	
Italy, 2006 Catania (Violetto Catanese)	2	0.2	0.025	800	Curd	-0 0 3 7 14 20	0.13 0.89 0.48 0.19 <u>0.05</u> 0.01	RA-2572/06 0472-06	
France, 2007 Graveson (Thalassa)	2	0.2	0.0334	600	Curd	-0 0 3 7 14 21	< 0.01 0.08 0.06 0.02 < 0.01 <u>0.01</u>	RA-2526/07 0068-07	
Spain, 2007 Alginet (Movidick)	2	0.2	0.04 0.025	500 800	Plant <sup>a</sup> Curd	-0 0 3 7 14 21	0.4 1.6 1.6 < 0.01 <u>&lt; 0.01</u> < 0.01	RA-2526/07 0584-07	

CAULIFLOWER Country, Year Location (Variety)	Application				Matrix	DALA	Residues (mg/kg)	Reference
	No	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
Italy, 2007 Ladispoli (Meridien F1)	2	0.2	0.033	600	Curd	-0 0 3 7 14 21	< 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01	RA-2526/07 0585-07
France, 2008 Picardie (Tango)	2	0.2	0.067	300	Curd	-0 0 3 7 14 21	< 0.01 0.1 0.09 0.07 0.03 <u>0.05</u>	08-2064 08-2064-01
Germany, 2008 Langenfeld-Reusrath (Freemont)	2	0.2	0.033	600	Curd	0 14	0.57 <u>0.02</u>	08-2064 08-2064-02
Germany, 2008 Werl-Westonnen (Lecanu)	2	0.2	0.067	300	Plant <sup>a</sup>    Curd	-0 0 3 6  14 21	< 0.01 0.87 0.05 0.02  <u>&lt; 0.01</u> < 0.01	08-2064 08-2064-03
Netherlands, 2008 Zwaagdijk-Oost (Fremont)	2	0.2	0.04	500	Plant <sup>a</sup>  Curd	0  14	6.5  < 0.01	08-2064 08-2064-04

<sup>a</sup> Analysis of the whole plant, without roots

Studies RA-2525, RA-2526, RA-2571, RA-2572 were also provided to the 2010 JMPR [2010 JMPR Fluopyram Evaluation: Table 114]

### Fruiting Vegetables (Cucurbits)

#### Melons (except watermelon)

Results from supervised trials from Europe on greenhouse melons were provided to the Meeting. In the trials conducted in 2006 and 2007, also provided to the 2010 JMPR, and in the 2008 trials, two applications of 0.3 kg ai/ha fluopyram (SC 500 formulations) in 500–1000 L water/ha were applied at 7 day intervals to mature plants. In the 2010 trials, three foliar sprays of 0.1 kg ai/ha (SC formulations) were applied in 500–1000 L of water/ha at 14-day intervals. Applications were made using knapsack or wheel barrow sprayers with 1–3 solid-cone or hollow-cone nozzles or with mini-booms (2–12 nozzles).

Unreplicated samples of at least 12 fruit were taken from each plot, some of the larger fruit were sub-sampled in the field, with 4/12 segments frozen within 24 hours of sample collection and stored at -18 °C or below for up to 418 days before analysis of whole fruit, peel and pulp for fluopyram using LC/MS/MS Method 00984. The reported LOQ was 0.01 mg/kg and the mean recovery rates in samples spiked with 0.01 to 1.0 mg/kg ranged from 82–108% in whole fruit, 91–114% in peel and 93–133% in pulp.

Table 16 Fluopyram residues in melons from indoor trials in North and South Europe, involving foliar applications of fluopyram (SC formulations)

MELONS Country, Year Location (Variety)	Application				Matrix	DALA	Residues (mg/kg)	Reference
	no	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
France (S), 2006 Carpentras (Melon/ Lunastar)	2	0.3	0.03	1000	Fruit	-0	0.11	RA-2587/06 R 2006 0368/1
					Fruit	0	0.21	
					Fruit	1	0.17	
					Fruit	3	0.19	
					Fruit	7	0.08	
					Peel	3	0.38	
					Pulp	3	0.01	
Spain, 2006 Roquetas de Mar (Melon/ Vulcano)	2	0.3	0.03	1000	Fruit	-0	0.01	RA-2587/06 R 2006 0585/4
					Fruit	0	0.03	
					Fruit	1	0.03	
					Fruit	3	0.02	
					Fruit	7	0.04	
					Peel	3	0.05	
					Pulp	3	< 0.01	
Italy, 2006 Manfredonia (Melon/ Proteo)	2	0.3	0.0375	800	Fruit	-0	0.07	RA-2587/06 R 2006 0586/2
					Fruit	0	0.11	
					Fruit	1	0.06	
					Fruit	3	0.11	
					Fruit	7	0.06	
					Peel	3	0.21	
					Pulp	3	< 0.01	
Germany, 2006 Euskirchen-DomEsch (Melon/ Haon)	2	0.3	0.05	600	Fruit	-0	0.01	RA-2587/06 R 2006 0587/06
					Fruit	0	0.25	
					Fruit	1	0.12	
					Fruit	3	0.17	
					Fruit	7	0.02	
					Peel	3	0.26	
					Pulp	3	< 0.01	
France (S), 2006 Castelsarrasin (Melon/ Edgar)	2	0.3	0.03	1000	Fruit	-0	0.09	RA-2587/06 R 2006 0589/7
					Fruit	0	0.12	
					Fruit	1	0.21	
					Fruit	3	0.16	
					Fruit	7	0.1	
					Peel	3	0.76	
					Pulp	3	0.02	
Portugal, 2006 São Bartolomeu- Lourinhã (Melon/ Jaliscas)	2	0.3	0.03	1000	Fruit	-0	0.06	RA-2587/06 R 2006 0591/9
					Fruit	0	0.12	
					Fruit	1	0.08	
					Fruit	3	0.09	
					Fruit	7	0.06	
					Peel	3	0.16	
					Pulp	3	< 0.01	
Spain, 2007 Sanlucar de Barrameda (Primal) Muskmelon	2	0.3	0.03	1000	Fruit	-0	0.06	RA-2680/07 R 2007 0877/7
					Fruit	0	0.14	
					Fruit	1	0.09	
					Peel	3	0.23	
					Pulp	3	0.01	
					Fruit	7	0.08	

MELONS Country, Year Location (Variety)	Application				Matrix	DALA	Residues (mg/kg)	Reference
	no	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
France, 2008 Castelsarrasin (Strato) Melon	2	0.3	0.06	500	Fruit	-0	0.02	08-2101 08-2101-01  500SC-1  133% recovery in pulp spiked at 0.01 mg/kg (n=1)
					Fruit	0	0.05	
					Fruit	1	0.05	
					Fruit	3	0.06	
					Fruit	7	0.06	
					Fruit	10	0.06	
					Peel	1	0.22	
					Peel	3	0.24	
					Peel	7	0.18	
					Pulp	1	< 0.01	
					Pulp	3	< 0.01	
					Pulp	7	0.01	
France, 2008 Castelsarrasin (Strato) Melon	2	0.3	0.06	500	Fruit	-0	0.03	08-2101 08-2101-02  500SC-2  133% recovery in pulp spiked at 0.01 mg/kg (n=1)
					Fruit	0	0.09	
					Fruit	1	0.07	
					Fruit	3	0.06	
					Fruit	7	0.07	
					Fruit	10	0.05	
					Peel	1	0.13	
					Peel	3	0.17	
					Peel	7	0.14	
					Pulp	3	< 0.01	
					Pulp	7	< 0.01	
					Pulp	7	0.01	
Spain, 2008 Almerimar (Cleo) Melon	2	0.3	0.03	1000	Fruit	-0	0.05	08-2101 08-2101-03  500SC-1  133% recovery in pulp spiked at 0.01 mg/kg (n=1)
					Fruit	0	0.09	
					Fruit	1	0.12	
					Fruit	3	0.12	
					Fruit	7	0.1	
					Fruit	10	0.12	
					Peel	1	0.25	
					Peel	3	0.31	
					Peel	7	0.22	
					Pulp	1	< 0.01	
					Pulp	3	< 0.01	
					Pulp	7	< 0.01	
Spain, 2008 Almerimar (Cleo) Melon	2	0.3	0.03	1000	Fruit	-0	0.05	08-2101 08-2101-04  500SC-2  133% recovery in pulp spiked at 0.01 mg/kg (n=1)
					Fruit	0	0.09	
					Fruit	1	0.09	
					Fruit	3	0.08	
					Fruit	7	0.08	
					Fruit	10	0.07	
					Peel	1	0.19	
					Peel	3	0.22	
					Peel	7	0.19	
					Pulp	1	< 0.01	
					Pulp	3	< 0.01	
					Pulp	7	< 0.01	

MELONS Country, Year Location (Variety)	Application				Matrix	DALA	Residues (mg/kg)	Reference
	no	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
Spain, 2010 El Esido (Brisa) Melon	3	0.1	0.01	1000	Fruit	-0	0.02	10-2192 10-2192-01
					Fruit	0	0.03	
					Fruit	1	0.03	
					Fruit	3	0.02	
					Fruit	7	0.02	
					Fruit	10	0.02	
Italy, 2010 Manfredonia (Talento Clause) Melon	3	0.1	0.01	1000	Fruit	-0	0.05	10-2192 10-2192-02
					Fruit	0	0.13	
					Fruit	1	0.1	
					Fruit	3	0.12	
					Fruit	7	0.08	
					Fruit	10	0.04	
France, 2010 Chazay d Azergues (Anosta F1)	3	0.1	0.011	900	Fruit	-0	< 0.01	10-2192 10-2192-03
					Fruit	0	< 0.01	
					Fruit	1	< 0.01	
					Fruit	3	< 0.01	
					Fruit	7	< 0.01	
					Fruit	10	< 0.01	
Netherlands, 2010 Hanselersdyk (Haon) Melon	3	0.1	0.02	500	Fruit	-0	0.07	10-2192 10-2192-04
					Fruit	0	0.07	
					Fruit	1	0.06	
					Fruit	3	0.05	
					Fruit	7	0.06	
					Fruit	10	0.07	

Studies RA-2587, RA-2680 were also provided to the 2010 JMPR [2010 JMPR Fluopyram Evaluation: Table 122]

Results from supervised trials from Europe on outdoor melons were provided to the Meeting. These trials, conducted in 2006 and 2007, were also provided to the 2010 JMPR and involved two applications of 0.25–0.3 kg ai/ha fluopyram (SC formulations) in 500–1000 L/water/ha, applied at 7 day intervals to mature plants using knapsack or wheel barrow sprayers with 1–3 solid-cone or hollow-cone nozzles or with mini-booms (3–10 nozzles).

Unreplicated samples of at least 12 fruit were taken from each plot, some of the larger fruit were sub-sampled in the field, with 4/12 segments frozen within 24 hours of being sampled, and stored at -18 °C or below for up to 313 days before analysis of whole fruit, peel and pulp for fluopyram using LC/MS/MS Method 00984. The reported LOQ was 0.01 mg/kg and the mean recovery rates in samples spiked with 0.01 to 1.0 mg/kg ranged from 85–106% in whole fruit, 81–103% in peel and 93–132% in pulp.

Table 17 Fluopyram residues in melons from outdoor trials in North and South Europe, involving foliar applications of fluopyram (SC formulations)

MELONS Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
Greece, 2006 Aronas – Pieria (Melon/ Velos F1)	2	0.3	0.06	500	Fruit	-0	0.17	RA-2587/06 R 2006 0590/0,
					Fruit	0	0.42	
					Fruit	1	0.24	
					Fruit	7	0.23	
					Peel	3	0.5	
					Pulp	3	< 0.01	



MELONS Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
France(N), 2006 Antogny le Tillac (Edgar) Muskmelon	2	0.25	0.025	1000	Fruit	-0	0.08	RA-2588/06 R 2006 0370/3
					Fruit	0	0.23	
					Fruit	1	0.18	
					Fruit	3	0.12	
					Fruit	7	0.04	
					Peel	3	0.21	
					Pulp	3	< 0.01	
Germany, 2006 Monheim (Summer dream F1) Muskmelon	2	0.25	0.05	500	Fruit	-0	0.04	RA-2588/06 R 2006 0592/7
					Fruit	0	0.15	
					Fruit	1	0.15	
					Fruit	3	0.11	
					Fruit	7	0.11	
					Peel	3	0.31	
					Pulp	3	0.01	
France(S), 2006, Scorbe clairvaux (Edgar) Melon	2	0.25	0.0415	600	Fruit	-0	0.03	RA-2589/06 R 2006 0371/1
					Fruit	0	0.07	
					Fruit	1	0.05	
					Fruit	3	0.08	
					Fruit	7	0.07	
					Peel	3	0.22	
					Pulp	3	< 0.01	
Greece, 2006, Epanomi (Sterlina) Melon	2	0.25	0.05	500	Fruit	-0	0.07	RA-2589/06 R 2006 0593/5
					Fruit	0	0.15	
					Fruit	1	0.05	
					Fruit	7	0.08	
					Peel	3	0.14	
					Pulp	3	0.02	
					Spain, 2006, Alginet (Charentais) Melon	2	0.25	
Fruit	0	0.05						
Fruit	1	0.03						
Fruit	3	0.04						
Fruit	7	0.04						
Peel	3	0.06						
Pulp	3	< 0.01						
Italy, 2006, Bologna (Summerdream) Melon	2	0.25	0.0415	600	Fruit	-0	0.05	RA-2589/06 R 2006 0595/1
					Fruit	0	0.13	
					Fruit	1	0.07	
					Fruit	7	0.05	
					Peel	3	0.07	
					Pulp	3	< 0.01	
					Greece, 2007 Aronas – Katerini (Velso) Melon	2	0.25	
Fruit	0	0.26						
Fruit	1	0.18						
Fruit	3	0.21						
Fruit	7	0.16						
Peel	3	0.3						
Peel	7	0.26						
Pulp	3	< 0.01						
Pulp	7	< 0.01						

MELONS Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	no	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
Portugal, 2007, Caniceira- Vale de Cavalos (Branco do Ribatejo) Melon	2	0.25	0.05	500	Fruit	-0	0.03	RA-2508/07 R 2007 0535/2
					Fruit	0	0.1	
					Fruit	1	0.05	
					Fruit	3	0.08	
					Fruit	7	0.05	
					Peel	3	0.15	
					Peel	7	0.13	
					Pulp	3	< 0.01	
					Pulp	7	< 0.01	

Studies RA-2508, RA-2587, RA-2588, RA-25890 also provided to the 2010 JMPR [2010 JMPR Fluopyram Evaluation: Table 123]

Results from supervised trials from Australia on outdoor melons were provided to the Meeting. These trials involved three applications of 0.075, 0.125 or 0.19 kg ai/ha fluopyram (SC 500 formulations) in 300–1000 L/water/ha, made at 5 day intervals to mature plants using motorised knapsack hand-held booms or bike-mounted 5 metre booms.

Unreplicated samples of 3–4 fruit were taken from each plot, frozen within 24 hours of sampling and stored at -18 °C or below for up to 308 days before analysis of whole fruit for fluopyram using LC/MS/MS Method 00984. The reported LOQ was 0.01 mg/kg and the mean recovery rates in samples spiked with 0.01 to 1.0 mg/kg ranged from 80–119%.

Table 18 Fluopyram residues in melons from trials in Australia, involving foliar applications of fluopyram (SC formulations)

MELON Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	No	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
Australia, 2008 Bowen, QLD (Frontier) Rockmelon	3	0.077	0.023	328	Fruit	-0	< 0.01	BCS-0242 BCS-0242- C312/T2
					Fruit	0	0.04	
					Fruit	1	0.06	
					Fruit	3	0.06	
					Fruit	7	0.11	
					Fruit	10	0.02	
					Fruit	21	0.04	
Australia, 2008 Bowen, QLD (Frontier) Rockmelon	3	0.128	0.039	328	Fruit	-0	0.05	BCS-0242 BCS-0242- C312/T3
					Fruit	0	0.25	
					Fruit	1	0.1	
					Fruit	3	0.12	
					Fruit	7	0.06	
					Fruit	10	0.06	
					Fruit	21	0.07	
Australia, 2008 Bowen, QLD (Frontier) Rockmelon	3	0.191	0.058	328	Fruit	-0	0.06	BCS-0242 BCS-0242- C312/T4
					Fruit	0	0.14	
					Fruit	1	0.1	
					Fruit	3	0.14	
					Fruit	7	0.17	
					Fruit	10	0.12	
					Fruit	21	0.11	

MELON Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	No	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
Australia, 2008 Bowen, QLD (Hotshot) Rockmelon	3	0.077	0.023	328	Fruit Fruit Fruit Fruit Fruit Fruit Fruit	-0 0 1 3 7 10 21	0.03 0.03 0.02 0.03 0.04 0.04 0.05	BCS-0242 BCS-0242- C313/T2
Australia, 2008 Bowen, QLD (Hotshot) Rockmelon	3	0.128	0.039	328	Fruit Fruit Fruit Fruit Fruit Fruit Fruit	-0 0 1 3 7 10 21	0.05 0.08 < 0.01 0.09 0.04 0.08 0.07	BCS-0242 BCS-0242- C313/T3
Australia, 2008 Bowen, QLD (Hotshot) Rockmelon	3	0.191	0.058	328	Fruit Fruit Fruit Fruit Fruit Fruit Fruit	-0 0 1 3 7 10 21	0.06 0.19 0.2 0.13 0.05 0.11 0.11	BCS-0242 BCS-0242- C313/T4
Australia, 2009 Waikerie, SA (Hales Bett) Rockmelon	3	0.0736	0.008	960	Fruit Fruit Fruit Fruit Fruit Fruit Fruit	-0 0 1 3 7 10 24	< 0.01 < 0.01 0.01 < 0.01 < 0.01 < 0.01 < 0.01	BCS-0252 C373/T2
Australia, 2009 Waikerie, SA (Hales Bett) Rockmelon	3	0.1226	0.013	960	Fruit Fruit Fruit Fruit Fruit Fruit Fruit	-0 0 1 3 7 10 24	< 0.01 0.01 0.03 < 0.01 0.02 < 0.01 < 0.01	BCS-0252 C373/T3
Australia, 2009 Waikerie, SA (Hales Bett) Rockmelon	3	0.1839	0.019	960	Fruit Fruit Fruit Fruit Fruit Fruit Fruit	-0 0 1 3 7 10 24	0.02 0.03 < 0.01 0.01 0.01 0.02 0.01	BCS-0252 C373/T4
Australia, 2009 Millendon, WA (Sterling) Rockmelon	3	0.073	0.022	332	Fruit Fruit Fruit Fruit Fruit Fruit Fruit	-0 0 1 3 7 10 20	0.01 0.08 0.03 0.06 0.01 0.03 0.03	BCS-0252 C374/T2
Australia, 2009 Millendon, WA (Sterling) Rockmelon	3	0.121	0.036	332	Fruit Fruit Fruit Fruit Fruit Fruit Fruit	-0 0 1 3 7 10 20	0.08 0.1 0.01 0.02 0.03 0.01 0.10	BCS-0252 C374/T3

## Fluopyram

MELON Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	No	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
Australia, 2009 Millendon, WA (Sterling) Rockmelon	3	0.182	0.055	332	Fruit Fruit Fruit Fruit Fruit Fruit Fruit	-0 0 1 3 7 10 20	0.06 0.14 0.1 0.04 0.08 0.04 0.08	BCS-0252 C374/T4
Australia, 2009 Bowen, QLD (Frontier) Rockmelon	3	0.078	0.02	400	Fruit Fruit Fruit Fruit Fruit Fruit Fruit	-0 0 1 3 7 10 21	0.07 0.06 0.11 0.06 0.06 0.1 0.03	BCS-0252 C401/T2
Australia, 2009 Bowen, QLD (Frontier) Rockmelon	3	0.127	0.032	400	Fruit Fruit Fruit Fruit Fruit Fruit Fruit	-0 0 1 3 7 10 21	0.12 0.55 0.2 0.28 0.1 0.1 0.02	BCS-0252 C401/T3
Australia, 2009 Bowen, QLD (Frontier) Rockmelon	3	0.192	0.048	400	Fruit Fruit Fruit Fruit Fruit Fruit Fruit	-0 0 1 3 7 10 21	0.05 0.19 0.21 0.05 0.07 0.33 0.06	BCS-0252 C401/T4
Australia, 2009 Millendon, WA (Sterling) Rockmelon	3	0.072	0.025	289	Fruit Fruit Fruit Fruit Fruit Fruit Fruit	-0 0 1 3 7 10 19	0.02 0.03 0.03 0.03 0.03 0.02 0.02	BCS-0252 C402/T2
Australia, 2009 Millendon, WA (Sterling) Rockmelon	3	0.121	0.042	289	Fruit Fruit Fruit Fruit Fruit Fruit Fruit	-0 0 1 3 7 10 19	< 0.01 0.07 0.06 0.06 0.05 0.04 0.01	BCS-0252 C402/T3
Australia, 2009 Millendon, WA (Sterling) Rockmelon	3	0.182	0.063	289	Fruit Fruit Fruit Fruit Fruit Fruit Fruit	-0 0 1 3 7 10 19	0.02 0.1 0.04 0.06 0.07 0.05 0.04	BCS-0252 C402/T4

Results from supervised trials from the USA on musk melons were provided to the 2010 Meeting. In these trials, two applications of 0.24–0.26 kg ai/ha (SC 500 formulation) were applied to melon plants either by foliar application or by drip line irrigation. In both plots the interval between applications was 5 days.

In the plots treated by foliar application, CO<sub>2</sub> plot sprayers or backpack sprayers were used to apply 139–172 L/spray mix/ha. In the drip line irrigation treated plots, fluopyram concentrations

equivalent to 16–29 kg ai/100 L were applied at rates of 3.3–6.1 L per emitter per hour, to achieve an application rate equivalent to 0.25 kg ai/ha.

Duplicate samples of mature melons (12 fruit from 12 areas within each plot) were taken from each plot, frozen within 3.5 hours of sampling and held in frozen storage for up to 219 days before being analysed for fluopyram using LC/MS/MS Method GM-001-P07-01 (LOQ 0.01 mg/kg).

Table 19 Fluopyram residues in melons from trials in the USA, involving foliar applications of fluopyram (SC formulations).

MELON Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)		Reference
	No	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	mean	
USA, 2007 Sycamore, GA (Edisto 74) Muskmelon	2	0.252 0.246	0.155 0.143	163 172	Fruit	0	0.07, 0.08	0.07	RAGMP082 GM055-07HA/A
USA, 2007 Gardner, ND (Minnesota Midget) Muskmelon	2	0.263 0.262	0.177 0.179	149 146	Fruit	0	0.24, 0.45	0.35	RAGMP082 GM056-07HA/A
USA, 2007 East Bernard, TX (Mainstream) Muskmelon	2	0.248 0.254	0.178 0.176	139 144	Fruit	0	0.35, 0.53	0.44	RAGMP082 GM057-07HA/A
USA, 2007 Orland, CA (Hales Best) Muskmelon	2	0.248 0.251	0.177 0.178	140 141	Fruit Fruit Fruit Fruit	0 1 3 7 10	0.08, 0.07 0.16, 0.1 0.14, 0.12 0.15, 0.14 0.08, 0.13	0.08 0.13 0.13 0.14 0.11	RAGMP082 GM058-07DA/A
USA, 2007 Sanger, CA (Hales Best Jumbo) Muskmelon	2	0.255 0.251	0.159 0.159	160 158	Fruit	0	0.1, 0.17	0.14	RAGMP082 GM059-07HA/A
USA, 2007 Porterville, CA (Top Mark) Muskmelon	2	0.25 0.25	0.176 0.177	142 141	Fruit	0	0.25, 0.22	0.23	RAGMP082 GM060-07HA/A

Study RAGMP082 was also provided to the 2010 JMPR [2010 JMPR Fluopyram Evaluation: Table 120]

### *Watermelon*

Results from supervised trials from Europe on outdoor watermelons were provided to the Meeting. In these trials, two applications of 0.25 kg ai/ha fluopyram (SC 500 formulations) were applied in 500–1000 L/water/ha at 7 day intervals to mature plants using knapsack mini-booms (1–8 nozzles).

Unreplicated samples of at least 12 fruit were taken from each plot, some of the larger fruit were sub-sampled in the field, with 4–6/12 segments frozen within 24 hours of sampling and stored at -18 °C or below for up to 338 days before analysis of whole fruit, peel and pulp for fluopyram using LC/MS/MS Method 00984. The reported LOQ was 0.01 mg/kg and the mean recovery rates in samples spiked with 0.01 to 1.0 mg/kg ranged from 97–109% in whole fruit, 86–106% in peel and 93–110% in pulp.

Table 20 Fluopyram residues in watermelon from trials in North and South Europe, involving foliar applications of fluopyram (SC formulations)

WATERMELON Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	No	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
Germany, 2008 Meckenbeuren (Crimson sweet) Watermelon	2	0.25	0.05	500	Fruit	-0	0.02	08-2042 08-2042-01
					Fruit	0	0.12	
					Fruit	1	0.12	
					Fruit	3	0.12	
					Peel	3	0.19	
					Pulp	3	< 0.01	
					Fruit	7	0.07	
					Peel Pulp	7 7	0.13 < 0.01	
Germany, 2008 Monheim (Crisby) Watermelon	2	0.25	0.05	500	Fruit	-0	0.02	08-2042 08-2042-02
					Fruit	0	0.14	
					Fruit	1	0.12	
					Fruit	3	0.15	
					Peel	3	0.24	
					Pulp	3	< 0.01	
					Fruit	7	0.11	
					Peel Pulp	7 7	0.18 < 0.01	

### Leafy vegetables

#### *Lettuce, leaf and head*

Results from supervised trials from Europe on field and protected lettuce were provided to the Meeting. Trials conducted on outdoor crops and on indoor lettuce in 2006 and 2007 were also provided to the 2010 JMPR. In these trials, two foliar applications of fluopyram (SC 500 formulations) were applied to head or leaf lettuce (non-hearting) at a rate of 0.25 kg ai/ha in 300–1000 L of water and 7 days apart in the greenhouse trials and in 200–800 L water and 7–10 days apart in the field trials. Application was by knapsack sprayers and hand-held booms with 3–12 flat fan or hollow-cone nozzles.

In the more recent trials on protected lettuce, either two applications of 0.2 kg ai/ha, 7 days apart or one application of 0.3 kg ai/ha were applied in 300–1000 L spray mix/ha using knapsack and mini-boom (3–8 nozzle) sprayers.

Unreplicated samples of at least 12 lettuce heads were taken from each plot, frozen within 24 hours of sampling and stored at -18 °C or below for up to 520 days before analysis for fluopyram using LC/MS/MS Methods 00984 or 00984-M001. The reported LOQ was 0.01 mg/kg and the mean recovery rates in samples spiked with 0.01 to 20.0 mg/kg ranged from 72–120%.

Table 21 Fluopyram residues in outdoor leaf and head lettuce from trials in North and South Europe, involving foliar applications of fluopyram (SC formulations)

LETTUCE Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	No	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
GAP: Netherlands	2	0.25				7		7 day interval
France, 2006 Cergy (Estelle) Butterhead	2	0.25	0.05	500	Leaf	-0 0 3 7 10 13	1.9 5.9 0.87 0.62 0.46 0.34	RA-2592/06 R 2006 0375 4
Germany, 2006 Meckenbeuren (Jiska) Butterhead	2	0.25	0.05	500	Leaf	-0 0 3 7 11 14	0.08 8.2 1.9 0.18 0.05 0.01	RA-2592/06 R 2006 0604 4
Germany, 2006 Langenfeld-Reusrath (Gisela) Butterhead	2	0.25	0.042	600	Leaf	-0 0 3 7 10 14	0.2 4.3 1.3 0.93 0.47 0.30	RA-2592/06 R 2006 0605 2
Netherlands, 2006 Zwaagdijk-Oost (Namia) Butterhead	2	0.25	0.032	800	Leaf	-0 0 3 7 10 14	0.37 1.7 0.71 0.26 0.1 0.02	RA-2592/06 R 2006 0606 0
UK, 2006 Cambridgeshire (Iceburg) Crisphead	2	0.25 0.27	0.125 0.125	200 216	Head	-0 0 3 7 10 14	0.75 7.6 1.2 0.13 0.02 < 0.01	RA-2592/06 R 2006 0607 9
France, 2006 St Jory (Toucan) Butterhead	2	0.25	0.042	600	Leaf	-0 0 3 7 10 14	0.47 2.7 0.61 0.25 0.17 0.09	RA-2593/06 R 2006 0376 2
Spain, 2006 Vilanova del Vallés (Rumina) Butterhead	2	0.25 0.25	0.063 0.042	400 600	Leaf	-0 0 4 7 10 14	0.27 3.5 1.5 0.29 0.07 0.01	RA-2593/06 R 2006 0608 7
Italy, 2006 Andria (Brest) Crisphead	2	0.25	0.036	700	Head	-0 0 4 7 10 14	0.09 0.62 0.02 0.02 0.03 0.02	RA-2593/06 R 2006 0609 5
Italy, 2006 Catania (Trocadero) Butterhead	2	0.25	0.042	600	Leaf	-0 0 3 8 10 14	0.59 1.8 0.92 0.46 0.23 0.1	RA-2593/06 R 2006 0610 9

## Fluopyram

LETTUCE Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	No	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
Greece, 2006 Katerini/ Paralia (White Boston) Butterhead	2	0.25	0.05	500	Leaf	-0 0 3 8 10 14	2.1 11 6.4 1.7 0.39 0.02	RA-2593/06 R 2006 0611 7
UK, 2007 Cambridgeshire (Elenar) Loose Leaf	2	0.25	0.084	300	Leaf	-0 0 3 6 9 13	036 6.1 0.82 0.18 0.02 < 0.01	RA-2509/07 R 2007 0011/3
Germany, 2007 Meckenbeuren (Nobilan) Butterhead	2	0.27 0.25	0.084 0.084	321 300	Leaf	-0 0 2 7 10 13	0.41 4.5 3.6 0.61 0.44 0.13	RA-2509/07 R 2007 0244/2
Germany, 2007 Langenfeld-Reusrath (Torpedo)	2	0.25	0.042	600	Head	-0 0 3 7 10 14	0.85 6.1 1.1 0.57 0.43 0.33	RA-2509/07 R 2007 0537/9
France, 2007 Puzeaux (Madras)	2	0.25	0.084	300	Head	-0 0 4 7 11 15	< 0.01 6 0.12 0.12 0.04 0.02	RA-2509/07 R 2007 0538/7
Belgium, 2007 Villers-Perwin (Appia)	2	0.25	0.063	400	Head	-0 0 3 7 10 14	0.09 5.9 2.1 0.63 0.42 0.26	RA-2509/07 R 2007 0539/5
Netherlands, 2007 Zwaagdijk-Oost (Lolo Rosso)	2	0.25	0.034	750	Leaf	-0 0 3 7 10 14	0.48 6.5 1.3 0.53 0.16 0.07	RA-2509/07 R 2007 0540/9
Portugal, 2007 Olho Marinho (Faustinas)	2	0.25	0.063	400	Head	-0 0 3 7 10 14	0.31 4.5 1.3 0.48 0.24 0.05	RA-2510/07 R 2007 0012 1
Greece, 2007 Agia Marina (Atraction)	2	0.25	0.063	400	Head	-0 0 3 7 10 14	0.11 7 1.2 0.29 0.1 0.03	RA-2510/07 R 2007 0245 0



LETTUCE Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)		Reference
	No	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram		
France, 2007 Ouzilly (Santoro)	2	0.25	0.042	600	Head	-0	0.17	RA-2510/07 R 2007 0246 9	
						0	6		
						3	0.56		
						7	0.27		
						10	0.14		
						14	0.12		
Italy, 2007 Manfredonia (Antony) Loose Leaf	2	0.25	0.036	700	Leaf	-0	0.8	RA-2510/07 R 2007 0541 7	
						0	7.4		
						3	4.8		
						7	5.3		
						10	0.87		
						14	0.98		

Leaf=non-heating lettuce, whole plant sampled with roots and main stalk removed  
Studies RA-2509, RA-2510, RA-2592, RA-2593 were also provided to the 2010 JMPR [2010 JMPR Fluopyram  
Evaluation: Table 138]

Results from supervised trials from USA on outdoor lettuce were provided to the Meeting. The trials conducted in 2007 and 2008 were also provided to the 2010 JMPR. In the trials, two foliar applications of fluopyram (SC 500 formulation) were applied to leaf lettuce or head lettuce plants at 0.24–0.26 kg ai/ha in 110–190 L of water, 4–7 days apart, using CO<sub>2</sub> pressurised plot sprayers or knapsack sprayers.

At each site, additional plots were treated with two narrow (3–15 cm) band spray applications of 0.24–0.26 kg ai/ha in 23–180 L of water over the top of the row, the first just after transplanting and the second being 1–5 weeks later, at the 5-leaf growth stage (BBCH 15) with treatment intervals ranging from 7 to 35 days.

In the trials conducted in 2009, a single application of 0.25 kg ai/ha (SC formulations) was applied to leaf lettuce, with and without added surfactant, using CO<sub>2</sub> pressurised plot sprayers or knapsack sprayers to apply 180–300 L spray mix/ha.

Duplicate samples (lettuce leaves or lettuce heads with wrapper leaves) were taken from each plot, frozen within 4 hours of sampling, held in frozen storage for up to 429 days before analysis for fluopyram using LC/MS/MS Method GM-001-P07-01.

The reported LOQ was 0.01 mg/kg and the mean recovery rates in samples spiked with 0.01 to 10.0 mg/kg ranged from 87–101%.

Table 22 Fluopyram residues in outdoor lettuce from trials in USA, involving foliar applications of fluopyram (SC formulations)

LETTUCE Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)		Reference
	No	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	mean	
USA, 2007 Germansville, Pennsylvania (New Red Fire)	2	0.247	0.143	173	Leaf	0	5.4, 4.4	4.9	RAGMP085-1 GM082-07HA-A
		0.257	0.14	183					
USA, 2008 Belle Glade, Florida (SVR0071)	2	0.254	0.148	172	Leaf	0	1.9, 0.57	1.2	RAGMP085-1 GM083-07HA-A
		0.246	0.14	176					
USA, 2007 King City, CA (Sunbelt)	2	0.246	0.168	146	Leaf	0	5.0, 4.4	4.7	RAGMP085-1 GM084-07HA-A
				133		1	4.3, 5.2	4.8	
		3	0.7, 0.7	0.69					
		7	0.3, 0.3	0.3					
		10	0.08, 0.11	0.1					

## Fluopyram

LETTUCE Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)		Reference
	No	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	mean	
USA, 2007 Corning, CA (Unspecified)	2	0.247 0.248	0.132 0.133	187 187	Leaf	0	5.5, 6.4	5.96	RAGMP085-1 GM085-07HA-A
USA, 2008 Fresno, CA (Salad Bowl)	2	0.25 0.249	0.214 0.215	117 116	Leaf	0	9.5, 8.6	9.05	RAGMP085-1 GM086-07HA-A
USA, 2007 Porterville, CA (Salad Bowl)	2	0.248 0.258	0.15 0.142	165 182	Leaf	0	6.3, 7.2	6.8	RAGMP085-1 GM087-07HA-A
USA, 2007 Germansville, PA (Ithaca)	2	0.26 0.253	0.141 0.138	185 184	Head Trimmed	0 0	1.9, 3 0.06, 0.03	2.5 0.05	RAGMP085-1 GM088-07HA-A
USA, 2008 Belle Glade, FL (Gator)	2	0.254 0.248	0.148 0.139	172 178	Head Trimmed	0 0	1.8, 0.79 0.04, < 0.01	1.3 0.02	RAGMP085-1 GM089-07HA-A
USA, 2007 Sanger, CA (Great Lakes)	2	0.236 0.26	0.183 0.157	129 166	Head Head Head Head Trimmed	0 1 3 7 10 0	5.2, 5.4 2.1, 3.8 2.4, 2.1 1.1, 1.3 0.89, 0.7 0.62, 1.5	5.3 3 2.2 1.2 0.8 1.1	RAGMP085-1 GM090-07DA-A
USA, 2007 Corning, CA (Great Lake 659)	2	0.247 0.247	0.132 0.132	187 187	Head Trimmed	0 0	2.4, 2.6 0.17, 0.09	2.5 0.13	RAGMP085-1 GM091-07HA-A
USA, 2008 Fresno, CA (Great Lake 659)	2	0.251 0.249	0.215 0.215	117 116	Head Trimmed	0 0	4.7, 4 0.98, 0.71	4.4 0.85	RAGMP085-1 GM092-07HA-A
USA, 2007 Porterville, CA (Vandenburg)	2	0.25 0.251	0.227 0.226	110 111	Head Trimmed	0 0	0.35, 0.81 0.01, 0.03	0.58 0.02	RAGMP085-1 GM093-07HA-A
USA, 2009, High Springs, FL (Coastal Star)	1	0.253	0.138	184	Leaf Leaf Leaf	0 3 13	7.5, 7.4 2.5, 3.4 0.26, 0.22	7.5 2.9 0.24	RAGMP157 GM058-09HA-A
USA, 2009 High Springs, FL (Coastal Star)	1	0.252	0.138	183	Leaf Leaf Leaf	0 3 13	6.5, 7 2.4, 3.5 0.24, 0.3	6.7 2.9 0.27	RAGMP157 GM058-09HA-B (with adjuvant)
USA, 2009 Hickman, CA (Paris Island Cosmi)	1	0.247	0.0882	280	Leaf Leaf Leaf	0 3 14	2.7, 2.4 2.3, 2.5 0.93, 1.0	2.5 2.4 0.99	RAGMP157 GM059-09HA-A
USA, 2009 Hickman, CA (Paris Island Cosmi)	1	0.246	0.0885	278	Leaf Leaf Leaf	0 3 14	3.3, 3.7 1.9, 1.9 0.31, 0.85	3.5 1.9 0.58	RAGMP157 GM059-09HA-B (with adjuvant)
USA, 2009 King City, CA (Sunbelt)	1	0.247	0.0885	279	Leaf Leaf Leaf	0 3 14	5.8 4.5 1.2, 1.3 0.13, 0.11	5.1 1.3 0.12	RAGMP157 GM060-09HA-A
USA, 2009 King City, CA Sunbelt	1	0.254	0.0885	287	Leaf Leaf Leaf	0 3 14	4.2, 4.1 0.55, 0.49 0.1, 0.13	4.1 0.52 0.12	RAGMP157 GM060-09HA-B (with adjuvant)

Study RAGMP085 was also provided to the 2010 JMPR [2010 JMPR Fluopyram Evaluation: Table 135]

Table 23 Fluopyram residues in indoor head and leaf lettuce from trials in North and South Europe, involving foliar applications of fluopyram (SC formulations)

LETTUCE Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	No	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
GAP: Netherlands	2	0.25				7		7 day interval
France, 2006 Ouzilly (Arcadia) Butterhead	2	0.25	0.0415	600	Leaf	-0 0 3 7 10 14	5.2 11 1.7 <u>1.2</u> 0.86 0.51	RA-2586/06 R 2006 0367 3
France, 2006 Fondettes (Sestice) Butterhead	2	0.25	0.0415	600	Leaf	-0 0 3 7 10 14	0.51 7.3 0.66 <u>0.16</u> 0.12 0.02	RA-2586/06 R 2006 0576 5
Germany, 2006 Leichlingen (Alexandria) Head lettuce	2	0.25	0.0835	300	Head	-0 0 3 7 10 14	3.2 7.2 1.8 <u>1.9</u> 1.8 1.4	RA-2586/06 R 2006 0577 3
Germany, 2006 Meckenbeuren (Natalie) Butterhead	2	0.25	0.0835	300	Leaf	-0 0 3 7 10 14	0.89 4.3 0.99 <u>0.81</u> 0.35 0.33	RA-2586/06 R 2006 0578 1
Spain, 2006 Bigues i Riells (Trocadero) Butterhead	2	0.25 0.25	0.05 0.036	500 700	Leaf	-0 0 3 7 10 14	3.4 8.7 6.2 <u>3.8</u> 2.8 1.6	RA-2586/06 R 2006 0580 3
Italy, 2006 Monopoli (Brest) Head lettuce	2	0.25	0.0415	600	Head	-0 0 3 7 10 14	2.7 9.1 6 4.9 <u>7.7</u> 5.2	RA-2586/06 R 2006 0581 1 (24 small immature heads/1.5-2 kg samples)
Portugal, 2006 Olho Marinho (Gisela) Butterhead	2	0.25	0.05	500	Leaf	-0 0 3 7 10 14	4.6 8.6 9.1 <u>4.4</u> 3.5 1.9	RA-2586/06 R 2006 0583 8
Greece, 2006 Marathonas (Manita) Butterhead	2	0.25	0.05	500	Leaf	-0 0 3 7 10 14	6 22 11 <u>8.4</u> 7 6.5	RA-2586/06 R 2006 0584 6 (13 small heads/1.2-1.8 kg samples)

## Fluopyram

LETTUCE Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	No	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
France, 2007 St Rémy de Provence (Zandria) Head lettuce	2	0.25	0.025	1000	Head	-0 0 3 7 10 14	1.4 5.1 4 <u>2.5</u> 2.2 1.5	RA-2604/07 R 2007 0247/7
Germany, 2007 Leichlingen (Locarno) Loose leaf	2	0.25	0.0415	600	Leaf	-0 0 3 7 10 14	2 9.4 7.8 <u>2.7</u> 2.1 1.4	RA-2604/07 R 2007 0542/5
Italy, 2007 Manfredonia (Canasta rossa-Holter) Loose leaf	2	0.25	0.028	900	Leaf	-0 0 3 7 10 14	1.9 5.5 2.4 0.83 <u>2.3</u> 1.1	RA-2604/07 R 2007 0543/3
Spain, 2007 Bigues i Riells (Batavia) Loose leaf	2	0.25 0.25	0.05 0.0415	500 600	Leaf	-0 0 3 7 10 14	6.6 11 8.3 <u>7.2</u> 5.5 4.9	RA-2604/07 R 2007 0544/1
Germany, 2007 Leichlingen (Alexandria) Head lettuce	2	0.2	0.033	600	Head	-0 0 3 7 14 21	1.5 5.8 4.7 <u>2.1</u> 0.73 0.51	RA-2620/07 R 2007 0266 3
Netherlands, 2007 Wervershoof (Lolo Rosso) Loose leaf	2	0.2	0.02	1000	Leaf	-0 0 3 7 14 21	0.81 5.5 1.2 <u>0.92</u> 0.44 0.24	RA-2620/07 R 2007 0642 1
France, 2007 Ouzilly (Santoro) Head lettuce	2	0.2	0.033	600	Head	-0 0 3 7 14 21	0.39 3.4 2.3 <u>1.4</u> 0.37 0.07	RA-2620/07 R 2007 0644 8
Germany, 2007 Meckenbeuren (Alexandria) Head lettuce	2	0.2	0.067	300	Head	-0 0 3 7 13 21	0.69 3.5 0.63 <u>0.23</u> 0.19 0.07	RA-2620/07 R 2007 0645 6
Portugal, 2008, Brejenjas (Complice) Head lettuce	1	0.3	0.038	800	Head	0 3 7 11 14	14 11 10 6.4 4.8	08-2080 08-2080-01
France, 2008 Fondettes (Appia) Butterhead	1	0.3	0.05	600	Leaf	0 3 7 10 14	8.2 0.98 0.45 0.23 0.15	08-2080 08-2080-02

LETTUCE Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	No	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
Greece, 2008 Aronas/Katerini (Sanguine "Clause") Head lettuce	1	0.3	0.075	400	Head	0	15	08-2080 08-2080-03
						3	1.8	
						7	0.88	
						10	0.68	
						14	0.31	
Germany, 2008 Meckenbeuren (Mafalda) Butterhead	1	0.32	0.075	426	Leaf	0	7.1	08-2080 08-2080-04
						3	1.9	
						7	0.44	
						10	0.44	
						14	0.16	

Leaf=non-hearting lettuce, whole plant sampled with roots and main stalk removed

Studies RA-2586, RA-2604 were also provided to the 2010 JMPR [2010 JMPR Fluopyram Evaluation: Table 137]

### Stalk and stem vegetables

#### Asparagus

Results from supervised trials from Europe on asparagus were provided to the Meeting. In these trials, two applications of 0.15–0.2 kg ai/ha fluopyram (SC formulations) in 300–800 L/water/ha of were applied at 10–11 day intervals to mature ferns (just prior to senescence) as foliar sprays using knapsack and hand lance or mini-boom (4–12 nozzle) sprayers.

Unreplicated samples of at least 1 kg or 24 spears (with soil removed and in some trials, trimmed to 20 cm length) were taken from each plot, frozen within 24 hours of sampling and stored at -18 °C or below for up to 187 days before analysis for fluopyram using LC/MS/MS Method 00984. The reported LOQ was 0.01 mg/kg and the mean recovery rates in samples spiked with 0.01 to 1.0 mg/kg ranged from 72–99%.

Table 24 Fluopyram residues in asparagus from trials in North and South Europe, involving foliar applications of fluopyram (SC formulations)

ASPARAGUS Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)	Reference
	No	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram	
GAP: Switzerland	2	0.2					Pre-senescence	
Germany, 2008 Malsch – Neumalsch (Rhapsody)	2	0.2	0.033	600	Spears	209	< 0.01	08-2209 08-2209-01  17-spear sample
France, 2008 Fienvillers (Andreas)	2	0.2	0.067	300	Spears	238	< 0.01	08-2209 08-2209-02
France, 2009 Truyes Centre (Andreas white)	2	0.2	0.067	300	Spears	205	< 0.01	09-2073 09-2073-01
Netherlands, 2009 Hoogerheide Zeeland (Grolim white)	2	0.2	0.025	800	Spears	202	< 0.01	09-2073 09-2073-02
France, 2008 Le Burgaud (Larac)	3	0.15	0.025	600	Spears	164	< 0.01	08-2210 08-2210-01
Italy, 2008 Manfredonia(UC 157)	3	0.15	0.019	800	Spears	255	< 0.01	08-2210 08-2210-02

ASPARAGUS Country, Year Location (Variety)	Application				Matrix	DAT	Residues (mg/kg)		Reference
	No	kg ai/ha	kg ai/hL	Water (L/ha)			Fluopyram		
France, 2009 Truyes, Centre (Andreas white)	3	0.15	0.05	300	Spears	213	< 0.01		09-2072 09-2072-01
Germany, 2009 Neumalsch (Rhapsody white)	3	0.15	0.025	600	Spears	225	< 0.01		09-2072 09-2072-02
Belgium, 2009 Gembloux (Thiclim white)	2+ 1	0.15 0.15	0.025 0.025	600 639	Spears	202	< 0.01		09-2072 09-2072-03
Netherlands, 2009 Hoogerheide (Grolim white)	3	0.15	0.019	800	Spears	202	< 0.01		09-2072 09-2072-04
France, 2009 Ouzilly (Blackim white)	3	0.15	0.025	600	Spears	188	< 0.01		09-2072 09-2072-05
Spain, 2009 Talayueta (Grolim green)	3	0.15	0.019	800	Spears	183	< 0.01		09-2072 09-2072-06

### Oilseeds

#### Rape seed

Results from supervised trials on winter and summer rape in Europe were provided to the Meeting. The trials conducted in 2006 and 2007 were also provided to the 2010 Meeting. In these trials, two applications of fluopyram (SC 500 formulation or as a 250 SC formulation, in combination with prothioconazole) were applied to rape plants at BBCH 63 (30% flowers open) and again, 14–39 days later, at BBCH 73 (30% pods at full size), as foliar sprays using knapsack sprayers with spray booms (3–12 flat fan nozzles), applying 0.125 kg ai/ha in 200–400 L/water/ha. Plot sizes in these trials ranged from 48–563 square metres.

Unreplicated samples of mature seeds (min 1 kg), pods and seeds (min 0.7 kg) and/or plants (min 2 kg green material, including pods and seeds) were taken from each plot, frozen within 24 hours of sampling and stored at -18 °C or below for up to 15 months before analysis using LC/MS/MS Method 00984 (with minor variations). The reported LOQ was 0.01 mg/kg.

Table 25 Residues in oilseed rape from supervised trials in France, Germany, Italy and UK, involving two foliar applications of fluopyram (SC formulations)

RAPE SEED Country, year Location (variety)	Application					DAT	Residues (mg/kg)		Reference & Comments
	no	kg ai/ha	kg ai/hL	water (L/ha)	GS last application		matrix	Fluopyram	
GAP: Ukraine	2	0.113		200–400		30			
Germany, 2006 Werl-Westönnen (Smart)  winter rape	2	0.125	0.0415	300	BBCH 73	50	seed	0.11	RA-2609/06 0406-06
France (N), 2006 Beuvraignes (Salomon)  winter rape	2	0.125	0.05	250	BBCH 73	66	seed	0.02	RA-2609/06 0408-06

RAPE SEED Country, year Location (variety)	Application					DAT	Residues (mg/kg)		Reference & Comments
	no	kg ai/ha	kg ai/hL	water (L/ha)	GS last application		matrix	Fluopyram	
Germany, 2006 Burscheid (Talent)  winter rape	2	0.125	0.0415	300	BBCH 73	57	seed	0.04	RA-2609/06 0409-06
United Kingdom, 2006 Royston (Canberra)  winter rape	2	0.125	0.0625	200	BBCH 73	-0 0 43	plant plant seed	0.04 1.4 0.1	RA-2609/06 0410-06
France (N), 2007 Braslou (Grizzly)  winter rape	2	0.125	0.0416	300	BBCH 73	50	seed	0.09	RA-2616/07 0238-07
Germany, 2007 Burscheid (Elektra)  winter rape	2	0.125	0.0416	300	BBCH 73	69	seed	0.08	RA-2616/07 0808-07
Germany, 2007 Werl-Westönnen (Oase)  winter rape	2	0.125	0.0416	300	BBCH 73	61	seed	0.11 (c=0.02)	RA-2616/07 0809-07
United Kingdom, 2007 Near Eye (Es Astrid)  winter rape	2	0.125	0.0416	300	BBCH 73	57	seed	0.19 (c=0.01)	RA-2616/07 0810-07
France (S), 2006 Latille (Savana)  winter rape	2	0.125	0.0415	300	BBCH 73	50	seed	0.06	RA-2610/06 0625-06
Italy, 2006 Bologna (Molino)  summer rape	2	0.125	0.038	330	BBCH 73	34	seed	0.07	RA-2610/06 0626-06
France (S), 2007 Gargas (Corail)  winter rape	2	0.125	0.0416	300	BBCH 73	59	seed	0.1	RA-2617/07 0239-07
Italy, 2007 Conselice (Belcanto)  winter rape	2	0.125	0.0313	400	BBCH 73	40	seed	0.14	RA-2617/07 0811-07
Belgium, 2010 Cortil-Noirmont (Exocet)  winter rape	2	0.125	0.063	200	BBCH 78	28	seed	0.61	10-2134 10-2134-01

## Fluopyram

RAPE SEED Country, year Location (variety)	Application					DAT	Residues (mg/kg)		Reference & Comments
	no	kg ai/ha	kg ai/hL	water (L/ha)	GS last application		matrix	Fluopyram	
UK, 2010 Royston (Cabernet)  winter rape	2	0.125	0.063	200	BBCH 78	28	seed	0.27	10-2134 10-2134-02
Netherlands, 2010 Slootdrop (Haydn)  summer rape	2	0.125	0.042	300	BBCH 73	28	seed	0.35	10-2134 10-2134-03
France (N), 2010 Bouafle (Olindigo)  summer rape	2	0.125	0.042	300	BBCH 72	21	seed	0.47	10-2134 10-2134-04
Spain, 2010 Vilobi d'Onyar (Artist-Hybrid)  winter rape	2	0.125 0.136	0.042 0.042	300 327	BBCH 78	28	seed	0.38	10-2134 10-2134-05
France (S), 2010 Vouille (Aviator)  winter rape	2	0.125	0.042	300	BBCH 78	27	seed	0.14	10-2134 10-2134-06
Spain, 2010 Malaga (Kavel)  winter rape	2	0.125	0.063	200	BBCH 72	28	seed	0.25	10-2244 10-2244-01
France (S), 2010 Gontaud de Nogaret (Hybri Star)  winter rape	2	0.125	0.05	250	BBCH 79	29	seed	0.46	10-2244 10-2244-02
Germany, 2011 Burscheid (Elektra)  winter rape	2	0.125	0.042	300	BBCH 79	48	seed	0.26	11-2003 11-2003-01
Belgium, 2011 Sombrefe (Limone Hybrid)  winter rape	2	0.125	0.063	200	BBCH 80	29	seed	0.29	11-2003 11-2003-02
UK, 2011 Royston (Flash Hybrid)  winter rape	2	0.125	0.063	200	BBCH 79	28	seed	0.1	11-2003 11-2003-03
France (N), 2011 Chambourg sur Indre (Dynastie)  winter rape	2	0.125	0.042	300	BBCH 79	27	seed	0.34	11-2003 11-2003-04



RAPE SEED Country, year Location (variety)	Application					DAT	Residues (mg/kg)		Reference & Comments
	no	kg ai/ha	kg ai/hL	water (L/ha)	GS last application		matrix	Fluopyram	
Spain, 2011 La Luisiana (Eswilliams)  winter rape	2	0.125	0.042	300	BBCH 72	28	seed	0.38	11-2124 11-2124-01
France (N), 2011 Boulloc (Nk Almir)  winter rape	2	0.125	0.042	300	BBCH 79	28	seed	0.33	11-2124 11-2124-02
Italy, 2011 Tarquinia (Hybridstar)  winter rape	2	0.125	0.042	300	BBCH 75	28	seed	0.27	11-2124 11-2124-03
Spain, 2011 Llerona (Pacific)  winter rape	2	0.125	0.042	300	BBCH 78	28	seed	0.46	11-2124 11-2124-04

Studies RA-2609, RA-2616, RA-2610, RA-2617 were also provided to the 2010 JMPR [2010 JMPR Fluopyram Evaluation: Table 177]

Results from supervised trials from USA on oilseed rape (canola) were provided to the Meeting. These trials were also provided to the 2010 Meeting. In these trials, two applications of 0.242–0.256 kg ai/ha (SC 500 formulation) were applied to canola, 13–14 days apart from flowering as foliar sprays using CO<sub>2</sub> plot sprayers or knapsack sprayers with hand-held spray booms, field sprayers or tractor-mounted spray booms to apply 92–184 L/spray mix/ha. Plot sizes in these trials ranged from 70–210 square metres.

Duplicate samples of rape seed (min 1 kg) were taken from at least 12 areas within each plot, frozen within 3 hours of sampling and held in frozen storage for up to 516 days before analysis for fluopyram using LC/MS/MS Method GM-001-P07-01, with a reported LOQ of 0.01 mg/kg.

Table 26 Fluopyram residues in rape seed from supervised trials in USA involving two foliar applications (500 SC formulations)

RAPE SEED Country, year Location (variety)	Application					DALA	Fluopyram residues (mg/kg)		Reference & Comments
	no	kg ai/ha	kg ai/hL	water (L/ha)	GS last application		Fluopyram	mean	
USA, 2007 Sycamore, GA (Hyola)	2	0.25 0.242	0.184 0.161	136 150	BBCH 88	13	0.12, 0.14	0.13	RAGMP035 GM012-06HA
USA, 2006 Sabin, MN (5630)	2	0.256 0.252	0.16 0.144	160 175	BBCH 86	14	0.09, 0.1	0.1	RAGMP035 GM014-06HA
USA, 2006 Eledridge, ND (Hyola357RR)	2	0.252 0.252	0.187 0.177	135 142	BBCH 79	14	0.11, 0.11	0.11	RAGMP035 GM015-06HA
USA, 2006 Velva, ND (Hyola 357RR Magnum)	2	0.253 0.248	0.209 0.203	121 122	BBCH 80	14	0.22, 0.17	0.2	RAGMP035 GM016-06HA

RAPE SEED Country, year Location (variety)	Application					DALA	Fluopyram residues (mg/kg)		Reference & Comments
	no	kg ai/ha	kg ai/hL	water (L/ha)	GS last application		Fluopyram	mean	
USA, 2006 Jerome, ID (Phoenix)	2	0.247 0.249	0.143 0.15	173 166	BBCH 84	12	2.8, 3.0	2.9	RAGMP035 GM017-06HA
USA, 2006 Madras, OR (CrackerJack)	2	0.252 0.25	0.215 0.216	117 116	BBCH 89	14	0.44, 0.41	0.43	RAGMP035 GM018-06HA
USA, 2006 Ephrata, WA (47755 / 65037)	2	0.248 0.248	0.14 0.139	177 178	BBCH 72	14	0.09, 0.14	0.11	RAGMP035 GM019-06HA
USA, 2006 Springfield, NE (Invigor 4870 LL)	2	0.249 0.248	0.196 0.195	127 127	BBCH 89	0 6 12 19 26	1.6, 1.6 0.2, 0.19 0.14 0.15 0.12, 0.157 0.2, 0.18	1.6 0.2 0.14 0.14 0.19	RAGMP035 GM013-06DA

Studies RAGMP035 was also provided to the 2010 JMPR [2010 JMPR Fluopyram Evaluation: Table 178]

### Animal feeds

#### Rape forage

Results from supervised trials on winter and summer rape in Europe were provided to the Meeting. The trials conducted in 2006 and 2007 were also provided to the 2010 Meeting. In these trials, two applications of fluopyram (SC 500 formulation or as a 250 SC formulation, in combination with prothioconazole) were applied to rape plants at BBCH 63 (30% flowers open) and again, 14–39 days later, at BBCH 73 (30% pods at full size), as foliar sprays using knapsack sprayers with spray booms (3–12 flat fan nozzles), applying 0.125 kg ai/ha in 200–400 L/water/ha. Plot sizes in these trials ranged from 48–563 square metres.

Unreplicated samples of pods and plants (min 2 kg green material, including pods and seeds) were taken from each plot, frozen within 24 hours of sampling and stored at –18 °C or below for up to 15 months before analysis using LC/MS/MS Method 00984 (with minor variations). The reported LOQ was 0.01 mg/kg.

Table 27 Residues in oilseed rape plants from supervised trials in France, Germany, Italy and UK, involving two foliar applications of fluopyram (SC formulations)

OILSEED RAPE FORAGE Country, year Location (variety)	Application					DAT	Residues (mg/kg)		Reference & Comments
	no	kg ai/ha	kg ai/hL	water (L/ha)	GS last application		matrix	Fluopyram	
GAP: Ukraine	2	0.113		200–400		30			
Germany, 2006 Werl-Westönnen (Smart)  winter rape	2	0.125	0.0415	300	BBCH 73	–0 0 12 41	plant plant plant plant	0.06 1.6 0.41 0.1	RA-2609/06 0406-06
France (N), 2006 Beuvraignes (Salomon)  winter rape	2	0.125	0.05	250	BBCH 73	–0 0 29 54	plant plant plant plant	0.06 1 0.12 0.04	RA-2609/06 0408-06

OILSEED RAPE FORAGE Country, year Location (variety)	Application					DAT	Residues (mg/kg)		Reference & Comments
	no	kg ai/ha	kg ai/hL	water (L/ha)	GS last application		matrix	Fluopyram	
Germany, 2006 Burscheid (Talent)  winter rape	2	0.125	0.0415	300	BBCH 73	-0 0	plant plant	0.07 1.6	RA-2609/06 0409-06
United Kingdom, 2006 Royston (Canberra)  winter rape	2	0.125	0.0625	200	BBCH 73	-0 0	plant plant	0.04 1.4	RA-2609/06 0410-06
France (N), 2007 Braslou (Grizzly)  winter rape	2	0.125	0.0416	300	BBCH 73	-0 0 14  36	plant plant plant  pod	0.27 0.98 0.45  0.3	RA-2616/07 0238-07
Germany, 2007 Burscheid (Elektra)  winter rape	2	0.125	0.0416	300	BBCH 73	-0 0 14  49	plant plant plant  pod	0.45 0.91 0.36  0.07	RA-2616/07 0808-07
Germany, 2007 Werl-Westönnen (Oase)  winter rape	2	0.125	0.0416	300	BBCH 73	-0 0 17  44	plant plant plant  pod	0.05 0.75 0.29  0.37	RA-2616/07 0809-07
United Kingdom, 2007 Near Eye (Es Astrid)  winter rape	2	0.125	0.0416	300	BBCH 73	-0 0 25  46	plant plant plant  pod	0.18 0.91 0.31  0.13	RA-2616/07 0810-07
France (S), 2006 Latille (Savana)  winter rape	2	0.125	0.0415	300	BBCH 73	-0 0 11 35	plant plant plant plant	0.23 1.1 0.2 0.09	RA-2610/06 0625-06
Italy, 2006 Bologna (Molino)  summer rape	2	0.125	0.038	330	BBCH 73	-0 0 20 27	plant plant plant plant	0.25 1.1 0.1 0.35	RA-2610/06 0626-06
France (S), 2007 Gargas (Corail)  winter rape	2	0.125	0.0416	300	BBCH 73	-0 0 10	plant plant plant	1.1 0.95 0.31	RA-2617/07 0239-07
Italy, 2007 Conselice (Belcanto)  winter rape	2	0.125	0.0313	400	BBCH 73	-0 0 14  30	plant plant plant  pod	0.26 0.87 0.71  0.71	RA-2617/07 0811-07

## Fluopyram

OILSEED RAPE FORAGE Country, year Location (variety)	Application					DAT	Residues (mg/kg)		Reference & Comments
	no	kg ai/ha	kg ai/hL	water (L/ha)	GS last application		matrix	Fluopyram	
Belgium, 2010 Cortil-Noirmont (Exocet)  winter rape	2	0.125	0.063	200	BBCH 78	-0 0  14 21  14 21	plant plant  pod pod  foliage foliage	0.59 1.7  1.7 1.7  0.8 0.4	10-2134 10-2134-01
UK, 2010 Royston (Cabernet)  winter rape	2	0.125	0.063	200	BBCH 78	-0 0  14 22  14 22	plant plant  pod pod  foliage foliage	1 2.3  3.4 3.1  1.4 0.89	10-2134 10-2134-02
Netherlands, 2010 Slootdrop (Haydn)  summer rape	2	0.125	0.042	300	BBCH 73	-0 0  14 21  14 21	plant plant  pod pod  foliage foliage	0.68 2.7  2.5 2.8  0.36 0.22	10-2134 10-2134-03
France (N), 2010 Bouafle (Olindigo)  summer rape	2	0.125	0.042	300	BBCH 72	-0 0  14  14	plant plant  pod  foliage	2.1 6.7  11  6.4	10-2134 10-2134-04
Spain, 2010 Vilobi d'Onyar (Artist-Hybrid)  winter rape	2	0.125 0.136	0.042 0.042	300 327	BBCH 78	-0 0  14  14	plant plant  pod  foliage	0.16 1.3  0.91  0.25	10-2134 10-2134-05
France (S), 2010 Vouille (Aviator)  winter rape	2	0.125	0.042	300	BBCH 78	-0 0  14 21  14 21	plant plant  pod pod  foliage foliage	0.78 2.1  1.8 1.3  0.17 0.11	10-2134 10-2134-06
Spain, 2010 Malaga (Kavel)  winter rape	2	0.125	0.063	200	BBCH 72	-0 0  14 21  14 21	plant plant  pod pod  foliage foliage	0.8 2.5  0.37 1.7  0.24 0.16	10-2244 10-2244-01

OILSEED RAPE FORAGE Country, year Location (variety)	Application					DAT	Residues (mg/kg)		Reference & Comments
	no	kg ai/ha	kg ai/hL	water (L/ha)	GS last application		matrix	Fluopyram	
France (S), 2010 Gontaud de Nogaret (Hybri Star)  winter rape	2	0.125	0.05	250	BBCH 79	-0	plant	1.2	10-2244 10-2244-02
						0	plant	3.2	
						14	pod	4	
						22	pod	< 0.01	
						14	foliage	0.47	
						22	foliage	0.47	
Germany, 2011 Burscheid (Elektra)  winter rape	2	0.125	0.042	300	BBCH 79	-0	plant	0.34	11-2003 11-2003-01
						0	plant	1.9	
						14	pod	0.89	
						21	pod	0.79	
						29	pod	0.91	
						14	foliage	0.76	
						21	foliage	0.77	
Belgium, 2011 Sombrefe (Limone Hybrid)  winter rape	2	0.125	0.063	200	BBCH 80	-0	plant	0.41	11-2003 11-2003-02
						0	plant	1.4	
						14	pod	1	
						21	pod	0.96	
						14	foliage	0.14	
						21	foliage	0.1	
UK, 2011 Royston (Flash Hybrid)  winter rape	2	0.125	0.063	200	BBCH 79	-0	plant	0.17	11-2003 11-2003-03
						0	plant	1.5	
						14	pod	0.4	
						21	pod	0.44	
						14	foliage	0.11	
						21	foliage	0.14	
France (N), 2011 Chambourg sur Indre (Dynastie)  winter rape	2	0.125	0.042	300	BBCH 79	-0	plant	1	11-2003 11-2003-04
						0	plant	2.6	
						14	pod	2.7	
						21	pod	3.1	
						14	foliage	0.28	
						21	foliage	0.23	
Spain, 2011 La Luisiana (Eswilliams)  winter rape	2	0.125	0.042	300	BBCH 72	-0	plant	1.6	11-2124 11-2124-01
						0	plant	3.8	
						14	pod	8.6	
						21	pod	7.2	
						14	foliage	2.2	
						21	foliage	2.2	
France (N), 2011 Bouloc (Nk Alimir)  winter rape	2	0.125	0.042	300	BBCH 79	-0	plant	0.94	11-2124 11-2124-02
						0	plant	3	
						14	pod	3.5	
						21	pod	4	
						14	foliage	0.55	
						21	foliage	0.43	

OILSEED RAPE FORAGE Country, year Location (variety)	Application					DAT	Residues (mg/kg)		Reference & Comments
	no	kg ai/ha	kg ai/hL	water (L/ha)	GS last application		matrix	Fluopyram	
Italy, 2011 Tarquinia (Hybridstar)  winter rape	2	0.125	0.042	300	BBCH 75	-0	plant	0.48	11-2124 11-2124-03
						0	plant	1.3	
						14	pod	2.1	
						21	pod	2.3	
14	foliage	0.33							
21	foliage	0.27							
Spain, 2011 Llerona (Pacific)  winter rape	2	0.125	0.042	300	BBCH 78	-0	plant	0.48	11-2124 11-2124-04
						0	plant	0.81	
						14	pod	1.9	
						21	pod	< 0.01	
14	foliage	0.29							
21	foliage	0.016							

Studies RA-2609, RA-2616, RA-2610, RA-2617 were also provided to the 2010 JMPR [2010 JMPR Fluopyram Evaluation: Table 177]

## FATE OF RESIDUES IN STORAGE AND IN PROCESSING

### *Magnitude of the residue in processing*

Information was provided to the 2010 JMPR on the residue distribution of fluopyram in peel and pulp (melons), on the effects of trimming, washing and cooking of strawberries, blueberries, cabbage, broccoli, summer squash, lettuce, spinach, Mustard greens, celery and on the effects of simulated commercial processing on residues of fluopyram and metabolites in oranges, apples, plums, grapes, tomatoes, potatoes, sugar beet, soya beans, wheat, maize, peanut, rape seed, cotton seed and sunflower seed.

Processing factors derived by the 2010 JMPR of relevance to the commodities considered for maximum residue levels, dietary intake or livestock dietary burden estimation by the current meeting are summarized below:

Table 28 Summary of selected processing factors for fluopyram

Raw agricultural commodity	Processed commodity	Calculated processing factors <sup>a</sup>	Processing factor (mean or median)
Melons & Watermelon	Pulp	< 0.02, < 0.05, 0.05, < 0.06, < 0.06, < 0.07, < 0.08, < 0.09, 0.09, < 0.11, < 0.13, < 0.13, < 0.13, 0.13, 0.13, < 0.17, < 0.17, < 0.2, < 0.2	< 0.11
Cabbage	Washed heads	0.17, 0.25, < 0.5, < 0.5	< 0.36
	Cooked washed heads	< 0.17, < 0.25, < 0.5, < 0.5	< 0.36
	Trimmed heads <sup>b</sup>	0.01, 0.02, 0.02, 0.03, 0.09, 0.34	0.03 (median)
Lettuce	Trimmed heads <sup>b</sup>	0.02, 0.02, 0.03, 0.05, 0.19, 0.2	0.09
	Washed leaves	0.24, 0.85	0.55
Broccoli	Washed heads	0.8	0.8
	Cooked washed heads	0.62	0.62
Plums	Washed fruit	0.49	0.49
	Dried fruit	1.1	1.1
Rape seed	Oil (crude)	1.0, 1.3, 1.3, 2.1	1.4
	Oil (refined)	0.01, 0.64, 0.83, 1.0, 1.7	0.71
	Meal	0.29, 0.34, 0.67, 0.75, 1.4	0.69

<sup>a</sup> Each value represents a separate study where residues were above the LOQ in the RAC. The factor is the ratio of the total

residue in the processed item divided by the total residue in the RAC.

<sup>b</sup> Wrapper leaves removed

## APPRAISAL

Fluopyram, a pyridylethylamide broad spectrum fungicide was evaluated for the first time by the 2010 JMPR, where an ADI of 0–0.01 mg/kg bw and an ARfD of 0.5 mg/kg bw were established, residue definitions were proposed and maximum residue levels were recommended for a number of uses where GAP information was available. New GAP and supporting information were evaluated by the 2012 JMPR and a number of additional maximum residue levels were recommended.

Residue definitions established by the 2010 JMPR are:

For plant products (compliance with MRLs and dietary intake assessment): *fluopyram*

For animal products (compliance with MRLs): *sum of fluopyram and 2-(trifluoromethyl) benzamide, expressed as fluopyram*

For animal products (dietary intake assessment): *sum of fluopyram, 2-(trifluoromethyl)benzamide and the combined residues N-{(E)-2-[3-chloro-5-(trifluoromethyl)pyridin-2-yl]ethenyl}-2-trifluoromethyl benzamide and N-{(Z)-2-[3-chloro-5-(trifluoromethyl)pyridin-2-yl]ethenyl}-2-trifluoromethyl benzamide, all expressed as fluopyram.*

New GAP information and supporting residue data were provided by the manufacturer for evaluation by the Meeting.

### ***Supervised residue trials on crops***

The Meeting received new supervised trial data for foliar applications of fluopyram (SC formulations) on plum, peach, apricot, raspberry, onion, leek, Brussels sprouts, cabbage, cauliflower, melon, lettuce, asparagus and oilseed rape and noted that data for some of these crops had also been provided to the 2010 JMPR. New supervised trial data were also provided for watermelon and currants, but because no GAP information was available for these crops, these data were not considered by the Meeting.

The results from these new trials and those previously reported by the 2010 JMPR and either matching critical GAP or where the results can be proportionally adjusted (scaled) to reflect GAP application rates were used to estimate maximum residue levels, STMRs and HRs for a number of commodities for which GAP information was available. The proportionality approach was used to scale the results from trials where the application rates range from  $0.33 \times \text{GAP}$  to  $4 \times \text{GAP}$  and where all other parameters matched the critical GAP). Frozen sample storage times in the new trials were within the storage intervals considered acceptable by the 2010 JMPR.

#### *Stone fruit*

Results from supervised field trials on apricots, peaches and plums conducted in Europe were considered by the Meeting, including some data for peaches that were also provided to the 2010 JMPR.

##### *Peaches (sub-group 003C)*

The critical GAP for apricots is in Greece, up to two applications of 0.15 kg ai/ha, 7–14 days apart with a PHI of 3 days. No trials were available matching this GAP. In trials from Europe where apricots were treated with  $2 \times 0.21\text{--}0.25$  kg ai/ha fluopyram, residues at 3 DALA (days after the last application) were: 0.16, 0.2, 0.33, 0.38, 0.43, 0.46, 0.58 and 0.95 mg/kg. When proportionally adjusted to the 0.15 kg ai/hL GAP application rate (scaling factors of 0.6–0.75), fluopyram residues in apricots from these trials were: 0.12, 0.14, 0.22, 0.26, 0.27, 0.28, 0.35 and 0.69 mg/kg (n=8).

For peaches, the 2012 JMPR recommended a maximum residue level of 0.4 mg/kg based on trials from Southern Europe proportionally adjusted to the GAP in Turkey (0.005 kg ai/hL, PHI 3 days).

The Meeting was advised that new GAP existed in Europe, with a new critical GAP (Greece) of up to two applications of 0.15 kg ai/ha, 7–14 days apart and a PHI of 3 days. No trials were available matching this new GAP. In trials from Europe where peaches were treated with  $2 \times 0.21$ – $0.25$  kg ai/ha fluopyram, residues at 3 DALA were: 0.2, 0.26, 0.28, 0.28, 0.31, 0.36, 0.63 and 0.73 mg/kg. When proportionally adjusted to the 0.15 kg ai/ha GAP application rate (scaling factors of 0.6–0.75), fluopyram residues in peaches from these trials were: 0.12, 0.16, 0.17, 0.17, 0.19, 0.22, 0.45 and 0.53 mg/kg (n=8).

The Meeting noted that the medians of the data sets for apricots and peaches differed by less than 5-fold and agreed to consider a group maximum residue level for peaches (subgroup 003C) since GAP exists in Europe for all crops within this subgroup. In deciding on the data set to use for estimating a group maximum residue level, since a Mann-Whitney U-test indicated that the residue populations for apricots and peaches were not different it was agreed to combine the results to give a data set of 0.12, 0.12, 0.14, 0.16, 0.17, 0.17, 0.19, 0.22, 0.22, 0.26, 0.27, 0.28, 0.35, 0.45, 0.53 and 0.69 mg/kg (n=16).

The Meeting estimated a group maximum residue level of 1 mg/kg, an STMR of 0.22 mg/kg and an HR of 0.69 mg/kg for fluopyram on peaches (subgroup 003C) and to recommend withdrawal of the previous maximum residue level recommendation of 0.4 mg/kg for peach.

#### *Plums (sub-group 003B)*

The critical GAP for plums is in Greece, up to three applications of 0.1 kg ai/ha with a PHI of 3 days. In trials from Europe matching the GAP in Greece, residues were: 0.08, 0.1, 0.1, 0.13, 0.13, 0.14, 0.16, 0.18, 0.2, 0.2 and 0.22 mg/kg (n=11).

The Meeting estimated a sub-group maximum residue level of 0.5 mg/kg, an STMR of 0.13 mg/kg and an HR of 0.22 mg/kg for fluopyram on plums (subgroup 003B).

#### *Berries and small fruit*

Results from supervised trials on outdoor and protected raspberries conducted in Europe and outdoor raspberries were provided to the Meeting.

#### *Cane berries*

The critical GAP for small berries (including blackberries and raspberries) is in South Africa, up to two applications of 0.25 kg ai/ha, 10–14 days apart, with a PHI of 3 days. In trials from Europe where protected raspberries were treated with  $2 \times 0.2$  kg ai/ha fluopyram, residues at 3 DAT were: 0.51, 0.69, 0.7 and 1.2 mg/kg (n=4).

Since the South African GAP does not exclude use on protected crops the Meeting agreed to use the European trial results on protected raspberries matching the GAP in South Africa to estimate a maximum residue level of 3 mg/kg, an STMR of 0.7 mg/kg and an HR of 1.2 mg/kg for fluopyram on raspberries and agreed to extrapolate these estimations to blackberries.

#### *Bulb vegetables*

Results from supervised field trials on bulb onions and leeks in Europe and bulb onions in USA were considered by the Meeting, including some data that were also provided to the 2010 JMPR.

#### *Onion (bulb)*

The critical GAP in Northern Europe for bulb onions is in Germany, a maximum of two applications of 0.1 kg ai/ha, with a PHI of 7 days. In trials in Europe matching the GAP in Germany, fluopyram residues in onion bulbs were: < 0.01 (3), < 0.01, 0.01, 0.02, 0.03 and 0.04 mg/kg (n=8).



GAP for bulb onions exists in Southern Europe (Greece and Spain), a maximum of one application of 0.2 kg ai/ha with a PHI of 7 days. In trials in Europe matching this GAP, fluopyram residues in onion bulbs were: < 0.01 (6), 0.03 and 0.04 mg/kg (n=8).

The Meeting agreed to use the results matching the GAP in Germany to estimate a maximum residue level, noting that this would accommodate the GAP in Greece and Spain.

The Meeting estimated a maximum residue level of 0.07 mg/kg, an STMR of 0.01 mg/kg and an HR of 0.04 mg/kg for fluopyram on onion (bulb).

#### *Garlic*

The Meeting noted that the GAP for onions in Greece and Spain also applied to garlic and agreed to extrapolate the results of the European onion trials matching this GAP to garlic and estimated a maximum residue level of 0.07 mg/kg, an STMR of 0.01 mg/kg and an HR of 0.04 mg/kg for fluopyram on garlic.

#### *Leek*

The critical GAP for leeks is in Germany and Switzerland, a maximum of one application of 0.2 kg ai/ha, with a PHI of 21 days. In trials in Europe matching this GAP, fluopyram residues in leeks were: < 0.01 (4), 0.01, 0.03, 0.06 and 0.07 mg/kg.

The Meeting estimated a maximum residue level of 0.15 mg/kg, an STMR of 0.01 mg/kg and an HR of 0.07 mg/kg for fluopyram on leek.

#### *Brassica vegetables*

Results from supervised field trials on broccoli, Brussels sprouts, head cabbage and cauliflower in Europe were considered by the Meeting, including some data that were also provided to the 2010 JMPR.

#### *Broccoli*

The critical GAP for broccoli (flowerhead brassicas) is in Germany, a maximum of two foliar applications of 0.18 kg ai/ha, with a PHI of 14 days. In trials on broccoli in Europe matching this GAP, fluopyram residues in broccoli were: < 0.01, < 0.01, 0.02, 0.03, 0.05, 0.05, 0.06, 0.13 and 0.14 mg/kg (n=9).

The Meeting estimated a maximum residue level of 0.3 mg/kg, an STMR of 0.05 mg/kg and an HR of 0.14 mg/kg for fluopyram on broccoli.

#### *Cauliflower*

In trials on cauliflowers in Europe matching the GAP in Germany for cauliflower (flower head Brassicas), up to two foliar applications of 0.18 kg ai/ha, with a PHI of 14 days. fluopyram residues were: < 0.01 (4), 0.01 (5), 0.02, 0.05, 0.05 and 0.05 mg/kg (n=13).

The Meeting estimated a maximum residue level of 0.09 mg/kg, an STMR of 0.01 mg/kg and an HR of 0.05 mg/kg for fluopyram on cauliflower.

#### *Brussels sprouts*

The critical GAP for Brussels sprouts is in Germany, a maximum of two foliar applications of 0.18 kg ai/ha, with a PHI of 14 days. In trials in Europe matching this GAP, fluopyram residues in Brussels sprouts were: 0.01, 0.04, 0.04, 0.04, 0.04, 0.05, 0.07, 0.07, 0.07, 0.09, 0.14 and 0.15 mg/kg (n=12).

The Meeting estimated a maximum residue level of 0.3 mg/kg, an STMR of 0.06 mg/kg and an HR of 0.15 mg/kg for fluopyram on Brussels sprouts.

*Cabbages, head*

The critical GAP for head cabbages is in Germany, a maximum of two foliar applications of 0.18 kg ai/ha, with a PHI of 14 days. In trials in Europe matching this GAP, fluopyram residues in cabbage heads were: < 0.01 (4), 0.01, 0.01, 0.01, 0.02, 0.02, 0.04 and 0.08 mg/kg (n=11).

The Meeting estimated a maximum residue level of 0.15 mg/kg, an STMR of 0.01 mg/kg and an HR of 0.08 mg/kg for fluopyram on cabbage, head.

*Fruiting vegetables, Cucurbits*

Results from supervised field trials on protected melons and on field melons in Europe, USA and Australia were considered by the Meeting, including some data that were also provided to the 2010 JMPR.

*Melons (except watermelon)*

The critical GAP for melons is in South Korea, up to three applications of 0.225 kg ai/ha, 10 days apart, with a PHI of 3 days. Since this GAP does not exclude use on protected crops, the Meeting agreed to consider the data from trials on protected melons in Europe involving three applications of 0.1 kg ai/ha where residues at 3 DAT were < 0.01, 0.02, 0.07 and 0.12 mg/kg. When the results of three of these trials where residues were found above the LOQ are proportionally adjusted to the South Korean GAP (scaling factor of 2.25), fluopyram residues in these trials are: 0.05, 0.06 and 0.27 mg/kg.

The Meeting agreed that these data were not sufficient to estimate a maximum residue level for fluopyram on melons (except watermelon).

*Leafy vegetables, including brassica leafy vegetables**Lettuce*

The critical GAP for lettuce is in Netherlands, up to two applications of 0.25 kg ai/ha, 7 days apart, with a PHI of 7 days.

In outdoor lettuce trials in Europe matching this GAP, fluopyram residues in head lettuce were 0.12, 0.13, 0.57, and 0.63 mg/kg and in leaf lettuce were 0.18, 0.18, 0.25, 0.26, 0.27, 0.53, 0.61, 0.62 and 0.93 mg/kg.

In protected lettuce matching the GAP in Netherlands, fluopyram residues in head lettuce were 0.23, 1.4, 1.9, 2.1, 2.5 and 7.7 mg/kg and in leaf lettuce were 0.16, 0.81, 0.92, 1.2, 2.3, 2.7, 3.8, 4.4, 7.2 and 8.4 mg/kg

The Meeting noted that highest residues were in protected lettuce and since the data sets for leaf and head lettuce were not from different populations (Mann Whitney), agreed to use the combined data set for protected head and leaf lettuce to estimate maximum residue levels for leaf and head lettuce.

The combined data set of results from the protected lettuce trials matching the GAP in Netherlands is: 0.16, 0.23, 0.81, 0.92, 1.2, 1.4, 1.9, 2.1, 2.3, 2.5, 2.7, 3.8, 4.4, 7.2, 7.7 and 8.4 mg/kg (n=16).

The Meeting estimated maximum residue levels of 15 mg/kg, STMRs of 2.2 mg/kg and HRs of 8.4 mg/kg for fluopyram on lettuce, head and lettuce, leaf.

*Stalk and stem vegetables**Asparagus*

The critical GAP for asparagus is in Switzerland, up to two applications of 0.2 kg ai/ha, applied to mature ferns prior to senescence, about 6 months or more before the new spears emerge. In four European trials matching this GAP, fluopyram residues in the new spears were all < 0.01 mg/kg.

The Meeting estimated a maximum residue level of 0.01 (\*) mg/kg, an STMR of 0 mg/kg and an HR of 0 mg/kg for fluopyram on asparagus.

*Oilseeds**Rape seed*

The critical GAP for oilseed rape is in Ukraine, up to two applications of 0.113 kg ai/ha with a PHI of 30 days. Fluopyram residues in rape seed from European trials matching this GAP were: 0.07, 0.1, 0.14, 0.25, 0.27, 0.27, 0.29, 0.33, 0.34, 0.35, 0.38, 0.38, 0.46, 0.46 and 0.61 mg/kg (n=15).

The Meeting estimated a maximum residue level of 1 mg/kg and an STMR of 0.33 mg/kg for fluopyram on rape seed.

*Animal feeds**Oilseed rape, forage*

The Meeting noted that the GAP for fluopyram in Europe is for use on oilseed rape over the flowering period or at early maturity (up to 30 days before harvest). The use of oilseed rape as a forage crop is normally earlier in the season, up to about BBCH 39, prior to the first application of fluopyram and the Meeting concluded that the reported GAP for fluopyram is not relevant for the use of oilseed rape as an animal forage crop.

***Fate of residues during processing***

The 2010 JMPR reported that fluopyram was stable under conditions simulating pasteurisation, boiling and sterilisation and also estimated processing factors and STMR-Ps for a range of commodities. Relevant processing factors and STMR-Ps for the commodities considered at this Meeting and used for dietary intake risk assessment or for estimating livestock animal burdens are summarised below.

Summary of relevant processing factors and STMR-P values for fluopyram residues

Raw agricultural commodity	Processed commodity	Processing factors <sup>a</sup> (mean or median)	RAC (mg/kg)		STMR-P (mg/kg)	HR-P (mg/kg)
			STMR	HR		
Cabbage			0.01	0.14		
	Cooked washed heads	< 0.36			0.004	0.05
Plums			0.13	0.22		
	Dried fruit	1.1			0.14	0.24
Rape seed			0.33			
	Oil (refined)	0.71			0.23	
	Meal	0.69			0.23	

<sup>a</sup> The processing factor is the ratio of the total residue in the processed item divided by the total residue in the RAC.

**Animal commodity maximum residue levels***Cattle*

The two new cattle feed commodities considered by the Meeting (rape meal and cabbage leaves) increased these dietary burdens by less than 1.5% and the Meeting agreed that the maximum residue levels, STMRs and HRs estimated by the 2012 JMPR for animal commodities did not need to be revised.

*Poultry*

The new poultry feed commodity considered by the Meeting (rape meal) increased the maximum dietary burden by less than 1% and increased the mean dietary burden by 11%. The Meeting agreed that the maximum residue levels and HRs estimated by the 2012 JMPR for poultry commodities did not need to be revised.

**RECOMMENDATIONS**

On the basis of the data from supervised trials the Meeting concluded that the residue levels listed below are suitable for establishing maximum residue limits and for IEDI assessment.

Definition of the residue for compliance with the MRL and for the estimation of dietary intake for plant commodities: *fluopyram*

Definition of the residue for compliance with the MRL for animal commodities: *Sum of fluopyram and 2-(trifluoromethyl) benzamide, expressed as fluopyram*

Definition of the residue for the estimation of dietary intake for animal commodities: *Sum of fluopyram, 2-(trifluoromethyl)benzamide and the combined residues N-{(E)-2-[3-chloro-5-(trifluoromethyl)pyridin-2-yl]ethenyl}-2-trifluoromethyl benzamide and N-{(Z)-2-[3-chloro-5-(trifluoromethyl)pyridin-2-yl]ethenyl}-2-trifluoromethyl benzamide, all expressed as fluopyram.*

CCN	Commodity Name	MRL (mg/kg)		STMR or	HR or
		New	Prev	STMR-P	HR-P
FS 2001	Peaches	1		0.22	0.69
FS 0247	Peach	W	0.4		
FS 0014	Plums	0.5		0.13	0.22
DF 0014	Dried plums (prunes)			0.14	0.24
FB 0272	Raspberries, Red, Black	3		0.7	1.2
FB 0264	Blackberries	3		0.7	1.2
VA 385	Onion, Bulb	0.07		0.01	0.04
VA 381	Garlic	0.07		0.01	0.04
VA 384	Leek	0.15		0.01	0.07
VB 0400	Broccoli	0.3		0.05	0.14
VB 402	Brussels sprouts	0.3		0.06	0.15
VB 041	Cabbages, Head	0.15		0.01	0.08
VB 404	Cauliflower	0.09		0.01	0.05
VL 482	Lettuce, Head	15		2.2	8.4
VL 483	Lettuce, Leaf	15		2.2	8.4
VS 621	Asparagus	0.01 (*)		0	0
SO 495	Rape seed	1		0.33	
	Cabbage, washed, cooked			0.004	0.05

CCN	Commodity	MRL (mg/kg)		STMR or	HR or
	Name	New	Prev	STMR-P	HR-P
OC 495	Rape seed oil (edible)			0.23	
OR 495	Rape meal			0.23	

## DIETARY RISK ASSESSMENT

### *Long-term intake*

The International Estimated Daily Intakes (IEDIs) for fluopyram were calculated for the food commodities for which STMRs or HRs were estimated and for which consumption data were available. The results are shown in Annex 3.

The International Estimated Daily Intakes of fluopyram for the 17 GEMS/Food regional diets, based on estimated STMRs were 3–20% of the maximum ADI of 0.01 mg/kg bw (Annex 3 to the 2014 Report). The Meeting concluded that the long-term intake of residues of fluopyram from uses that have been considered by the JMPR is unlikely to present a public health concern.

### *Short-term intake*

The International Estimated Short-term Intakes (IESTIs) for fluopyram were calculated for the food commodities for which STMRs or HRs were estimated and for which consumption data were available (Annex 4 to the 2014 Report).

For fluopyram the IESTI varied from 0–100% of the ARfD (0.5 mg/kg bw) and the Meeting concluded that the short-term intake of residues of fluopyram from uses considered by the Meeting is unlikely to present a public health concern.

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10-2256	Noss, G and Reineke, A	2011	Determination of the residues of AE C656948 and tebuconazole in/on peach after spraying of Fluopyram & Tebuconazole SC 400 in the field in France (North) and Germany. Bayer CropScience. Report No.: 10-2256. Report includes Trial Nos.: 10-2256-01, 10-2256-02. Edition Number: M-401644-02-1. Date: 2011-02-09. ...Amended: 2011-02-15. GLP/GEP: yes, unpublished
10-2260	Noss, G and Bauer, J	2011	Determination of the residues of AE C656948 and tebuconazole in/on plum after spraying of Fluopyram & Tebuconazole SC 400 in the field in France (North) and Poland. Bayer CropScience. Report No.: 10-2260. Report includes Trial Nos.: 10-2260-01, 10-2260-03. Edition Number: M-401951-01-1. Date: 2011-02-11. GLP/GEP: yes, unpublished
10L03113-01-RABE	Witte, A	2010	Determination of residues of fluopyram (AE C656948) and its metabolite fluopyram-benzamide (AE F148815) after two applications of formulation BAY 18500 F in berries, 9 field trials in 2010. CIP Chemisches Institut Pforzheim GmbH, Pforzheim, Germany. Bayer CropScience. Report No.: 10L03113-01-RABE. Edition Number: M-431227-01-1. Date: 2010-12-28. GLP/GEP: yes, unpublished

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11-2017	Fargeix, G	2012	Determination of the residues of fluopyram in/on plum after spray application of Fluopyram SC 500 in Germany, the Netherlands and United Kingdom. Bayer S.A.S., Bayer CropScience, Lyon, France. Bayer CropScience. Report No.: 11-2017. Report includes Trial Nos.: 11-2017-01, 11-2017-02, 11-2017-03, 11-2017-04. Edition Number: M-444164-01-1. Date: 2012-12-20. GLP/GEP: yes, unpublished
11-2028	Fargeix, G	2012	Determination of the residues of fluopyram and tebuconazole in/on onion after spray application of fluopyram & tebuconazole SC 400 in northern France, Germany and United Kingdom. Bayer CropScience, Lyon, France. Bayer CropScience. Report No.: 11-2028. Report includes Trial Nos.: 11-2028-01, 11-2028-02, 11-2028-03, 11-2028-04. Edition Number: M-441997-01-1. Date: 2012-11-20. GLP/GEP: yes, unpublished
11-2029	Fargeix, G	2012	Determination of the residues of fluopyram and tebuconazole in/on leek after spray application of fluopyram & tebuconazole SC 400 in northern France, Germany and Belgium. Bayer S.A.S., Bayer CropScience, Lyon, France. Bayer CropScience. Report No.: 11-2029. Report includes Trial Nos.: 11-2029-01, 11-2029-02, 11-2029-03, 11-2029-04. Edition Number: M-442996-01-1. Date: 2012-11-30. GLP/GEP: yes, unpublished
11-2108	Fargeix, G	2013	Determination of the residues of fluopyram and tebuconazole in/on onion after spray application of fluopyram & tebuconazole SC 400 in Italy and Spain. Bayer S.A.S., Bayer CropScience, Lyon, France. Bayer CropScience. Report No.: 11-2108. Report includes Trial Nos.: 11-2108-01, 11-2108-02. Edition Number: M-444957-01-1. Date: 2013-01-21. GLP/GEP: yes, unpublished
11-2124	Bomke, S and Ballmann, C	2012	Determination of the residues of AE C656948 and prothioconazole in/on winter rape after spray application of AE C656948 & JAU 6476 SE 250 in Spain, southern France and Italy. Bayer CropScience. Report No.: 11-2124. Report includes Trial Nos.: 11-2124-01, 11-2124-02, 11-2124-03, 11-2124-04. Edition Number: M-442130-01-1. Date: 2012-11-20. GLP/GEP: yes, unpublished
12-2033	Schoening, R and Ballmann, C	2013	Determination of the residues of fluopyram and tebuconazole in/on leek after spray application of fluopyram & tebuconazole SC 400 in the field in Germany, France (North), United Kingdom and Belgium. Bayer CropScience. Report No.: 12-2033. Report includes Trial Nos.: 12-2033-01, 12-2033-02, 12-2033-03, 12-2033-04. Edition Number: M-468609-01-1. Date: 2013-10-29. GLP/GEP: yes, unpublished
12-2034	Schoening, R and Ballmann, C	2013	Determination of the residues of fluopyram and tebuconazole in/on onion after spray application of fluopyram & tebuconazole SC 400 in the field in Germany, France (North), United Kingdom and Belgium. Bayer CropScience. Report No.: 12-2034. Report includes Trial Nos.: 12-2034-01, 12-2034-02, 12-2034-03, 12-2034-04. Edition Number: M-468615-01-1. Date: 2013-10-30. GLP/GEP: yes, unpublished
12-2041	Schoening, R and Ballmann, C	2013	Determination of the residues of fluopyram and tebuconazole in/on onion after spray application of fluopyram & tebuconazole SC 400 in the field in Italy, Spain and France (South). Bayer CropScience. Report No.: 12-2041. Report includes Trial Nos.: 12-2041-01, 12-2041-02, 12-2041-03, 12-2041-04, 12-2041-05, 12-2041-06. Edition Number: M-468612-01-1. Date: 2013-10-29. GLP/GEP: yes, unpublished
12-2042	Schoening, R and Ballmann, C	2013	Determination of the residues of fluopyram and tebuconazole in/on cabbage, white after spray application of fluopyram & tebuconazole SC 400 in Italy. Bayer CropScience. Report No.: 12-2042. Report includes Trial Nos.: 12-2042-01. Edition Number: M-468617-01-1. Date: 2013-10-30. GLP/GEP: yes, unpublished
12-2046	Noss, G van and Berkum, S	2013	Determination of the residues of AE C656948 in/on apricot after spray application of fluopyram SC 500 in Germany and Austria. Bayer CropScience. Report No.: 12-2046. Report includes Trial Nos.: 12-2046-01, 12-2046-03, 12-2046-04. Edition Number: M-473280-01-1. Date: 2013-12-19. GLP/GEP: yes, unpublished
12-2158	Fargeix, G	2013	Determination of the residues of AE C656948 in/on apricot after spray application of fluopyram SC 500 in the field in southern France, Spain and Italy. Bayer S.A.S., Bayer CropScience, Lyon, France. Bayer CropScience. Report No.: 12-2158. Report includes Trial Nos.: 12-2158-01, 12-2158-02, 12-2158-03, 12-2158-04. Edition Number: M-468035-01-1. Date: 2013-10-28. GLP/GEP: yes, unpublished
13-2005	Bellof, S	2014	Determination of the residues of AE C656948 in/on apricot after spray application of fluopyram SC 500 in Germany. Report No.: 13-2005. Edition Number: M-481905-01-1. Date: 2014-04-30. GLP/GEP: yes, unpublished



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BCS-0242	Radunz, L	2009	Determination of residues of AE C656948 (fluopyram) in rockmelon following three applications of AE C656948 500 SC at rates of 75, 125 or 187.5 g ai/ha, five days apart just before harvest. Bayer CropScience, Eight Mile Plains, QLD, Australia. Bayer CropScience. Report No.: BCS-0242. Report includes Trial Nos.: C312, C313. Edition Number: M-358358-01-1. Date: 2009-10-22. GLP/GEP: yes, unpublished.
BCS-0252	Radunz, L	2010	Determination of residues of AE C656948 (fluopyram) in rockmelons following three applications of AE C656948 500 SC at rates of 75, 125 or 187.5 g ai/ha, five days apart just before harvest. Bayer CropScience, Eight Mile Plains, QLD, Australia. Bayer CropScience. Report No.: BCS-0252. Edition Number: M-371302-01-1. Date: 2010-04-30. GLP/GEP: yes, unpublished.
BCS-G401-11	Loriau, P	2012	Residues of fluopyram and trifloxystrobin in raspberry under plastic umbrella at intervals following two foliar applications of FLU+TFS 500 SC—Belgium, season 2011. Redebel S.A., Saint Amand, Belgium. Bayer CropScience. Report No.: BCS-G401-11. Edition Number: M-433737-01-1. Date: 2012-02-27. GLP/GEP: yes, unpublished
BCS-G402-11	Loriau, P	2012	Residues of fluopyram and trifloxystrobin in red currant under plastic umbrella at intervals following two foliar applications of FLU+TFS 500 SC—Belgium, season 2011. Redebel S.A., Saint Amand, Belgium. Bayer CropScience. Report No.: BCS-G402-11. Edition Number: M-433738-01-1. Date: 2012-03-22. GLP/GEP: yes, unpublished
P 1799 G	Bacher, R	2010	Determination of residues of fluopyram and metabolites in currant and raspberry: Minor crop study 2009. PTRL Europe GmbH, Ulm, Germany. Bayer CropScience. Report No.: P 1799 G. Edition Number: M-431229-01-1. Date: 2010-04-07. GLP/GEP: yes, unpublished
P 2428 G	Bacher, R	2012	Determination of residues of fluopyram and metabolites and tebuconazole in/on raspberry: Minor crop study 2011. PTRL Europe GmbH, Ulm, Germany. Bayer CropScience. Report No.: P 2428 G. Edition Number: M-431230-01-1. Date: 2012-02-20. GLP/GEP: yes, unpublished
PTZ-NLI-11796	Oostingh, C	2012	Amendment no. 1 to report no: PTZ-NLI-11796—Residues of fluopyram + trifloxystrobin in red currant under plastic umbrella at intervals following two foliar applications of fluopyram & trifloxystrobin SC 500. Proeftuin Zwaagdijk, Zwaagdijk, Netherlands. Bayer CropScience. Report No.: PTZ-NLI-11796. Edition Number: M-434301-02-1. Date: 2012-06-08. ...Amended: 2013-03-06. GLP/GEP: yes, unpublished
PTZ-NLI-11797	Oostingh, C	2012	Amendment no. 1 to report no: PTZ-NLI-11797—Residues of fluopyram + trifloxystrobin in red raspberry under plastic umbrella at intervals following two foliar applications of fluopyram & trifloxystrobin SC 500. Proeftuin Zwaagdijk, Zwaagdijk, Netherlands. Bayer CropScience. Report No.: PTZ-NLI-11797. Edition Number: M-434309-02-1. Date: 2012-06-08. ...Amended: 2013-03-06. GLP/GEP: yes, unpublished
RA 2591/06	Diot, R	2007	Determination of the residues of AE C656948 in/on peach after spraying of AE C656948 (500 SC) in the field in (the) Southern France, Spain and Italy. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA 2591/06. Report includes Trial Nos.: R 2006 0374/6, R 2006 0600/, R 2006 0602/8, R 2006 0603/6, R 2006 0603/6. Edition Number: M-290819-01-1. Date: 2007-07-23. GLP/GEP: yes, unpublished
RA-2508/07	Ballesteros, C	2008	Determination of the residues of AE C656948 in/on melon and watermelon after spraying of AE C656948 (500 SC) in the field in Greece, Italy, Portugal and Spain. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2508/07. Report includes Trial Nos.: R 2007 0009/1=0009 - 07, R 2007 0010/5=0010 - 07, R 2007 0535/2=0535 - 07, R 2007 0536/0=0536 - 07. Edition Number: M-302924-01-1. Date: 2008-06-19. GLP/GEP: yes, unpublished.
RA-2509/07	Portet, M	2008	Determination of the residues of AE C656948 in/on head lettuce and lettuce after spraying of AE C656948 (500 SC) in the field in United Kingdom, Germany, Northern France, Belgium and Netherlands. Bayer CropScience, Lyon, France. Bayer CropScience. Report No.: RA-2509/07. Report includes Trial Nos.: R 2007 0011/3=0011 - 07, R 2007 0244/2=0244 - 07, R 2007 0537/9=0537 - 07, R 2007 0538/7=0538 - 07, R 2007 0539/5=0539 - 07, R 2007 0540/9=0540 - 07. Edition Number: M-304280-01-1. Date: 2008-07-01. GLP/GEP: yes, unpublished

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RA-2510/07	Portet, M	2008	Determination of the residues of AE C656948 in/on head lettuce and lettuce after spraying of AE C656948 (500 SC) in the field in Portugal, Greece, Southern France and Italy. Bayer CropScience, Lyon, France. Bayer CropScience. Report No.: RA-2510/07. Report includes Trial Nos.: R 2007 0012/1=0012 - 07, R 2007 0245/0=0245 - 07, R 2007 0246/9=0246 - 07, R 2007 0541/7=0541 - 07. Edition Number: M-304278-01-1. Date: 2008-07-01. GLP/GEP: yes, unpublished
RA-2517/07	Ballesteros, C	2008	Determination of the residues of AE C656948 and tebuconazole in/on onion after spraying of AE C656948 & HWG 1608 (400 SC) in the field in Germany, Northern France and Netherlands. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2517/07. Report includes Trial Nos.: R 2007 0038/5=0038 - 07, R 2007 0558/1=0558 - 07, R 2007 0560/3=0560 - 07, R 2007 0561/1=0561 - 07. Edition Number: M-303586-01-1. Date: 2008-07-03. GLP/GEP: yes, unpublished
RA-2518/07	Ballesteros, C	2008	Determination of the residues of AE C656948 and tebuconazole in/on onion after spraying of AE C656948 & HWG 1608 (400 SC) in the field in Southern France, Italy, Spain, Portugal and Greece. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2518/07. Report includes Trial Nos.: R 2007 0040/7=0040 - 07, R 2007 0563/8=0563 - 07, R 2007 0564/6=0564 - 07, R 2007 0565/4=0565 - 07, R 2007 0566/2=0566 - 07. Edition Number: M-303588-01-1. Date: 2008-07-03. GLP/GEP: yes, unpublished
RA-2519/07	Ballesteros, C	2008	Determination of the residues of AE C656948 and tebuconazole in/on onion, welsh after spraying of AE C656948 & HWG 1608 (400 SC) in the field in Germany and United Kingdom. Bayer CropScience S.A., Lyon, France. Report No.: BCSRA-2519/07. Report includes Trial Nos.: R 2007 0042/3, R 2007 0567/0. Edition Number: M-302330-01-1. Date: 2008-06-04. GLP/GEP: yes, unpublished
RA-2520/07	Ballesteros, C	2008	Determination of the residues of AE C656948 and tebuconazole in/on onion, welsh after spraying of AE C656948 & HWG 1608 (400 SC) in the field in Southern France and Italy. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2520/07. Report includes Trial Nos.: R 2007 0043/1=0043 - 07, R 2007 0568/9=0568 - 07. Edition Number: M-302325-01-1. Date: 2008-06-04. GLP/GEP: yes, unpublished
RA-2521/07	Portet, M	2008	Determination of the residues of AE C656948 and tebuconazole in/on leek after spraying of AE C656948 & HWG 1608 (400 SC) in the field in Germany, Northern France and Netherlands. Bayer CropScience, Lyon, France. Bayer CropScience. Report No.: RA-2521/07. Report includes Trial Nos.: R 2007 0056/3=0056 - 07, R 2007 0569/7=0569 - 07, R 2007 0570/0=0570 - 07, R 2007 0571/9=0571 - 07. Edition Number: M-304288-01-1. Date: 2008-07-17. GLP/GEP: yes, unpublished
RA-2522/07	Portet, M	2008	Determination of the residues of AE C656948 in/on leek after spraying of AE C656948 & HWG 1608 (400 SC) in the field in Southern France and Italy. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2522/07. Report includes Trial Nos.: R 2007 0057/1=0057 - 07, R 2007 0572/7=0572 - 07. Edition Number: M-302775-01-1. Date: 2008-06-13. GLP/GEP: yes, unpublished
RA-2529/07	Uceda, L	2008	Determination of the residues of AE C656948 and tebuconazole in/on round cabbage and red cabbage after spraying of AE C656948 & HWG 1608 (400 SC) in the field in Germany, Northern France, United Kingdom and Belgium. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2529/07. Report includes Trial Nos.: R 2007 0073/3=0073 - 07, R 2007 0270/1=0270 - 07, R 2007 0589/1=0589 - 07, R 2007 0590/5=0590 - 07, R 2007 0591/3=0591 - 07. Edition Number: M-302866-01-1. Date: 2008-06-19. GLP/GEP: yes, unpublished
RA-2530/07	Uceda, L	2008	Determination of the residues of AE C656948 and tebuconazole in/on round cabbage after spraying of AE C656948 & HWG 1608 (400 SC) in the field in Italy. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2530/07. Report includes Trial Nos.: R 2007 0592/1=0592 - 07. Edition Number: M-302078-01-1. Date: 2008-05-30. GLP/GEP: yes, unpublished
RA-2531/07	Portet, M	2008	Determination of the residues of AE C656948 and tebuconazole in/on Brussels sprouts after spraying of AE C656948 & HWG 1608 (400 SC) in the field in Germany, Northern France, Netherlands and United Kingdom. Bayer CropScience, Lyon, France. Bayer CropScience. Report No.: RA-2531/07. Report includes Trial Nos.: R 2007 0076/8=0076 - 07, R 2007 0594/8=0594 - 07, R 2007 0595/6=0595 - 07, R 2007 0596/4=0596 - 07. Edition Number: M-304284-01-1. Date: 2008-07-04. GLP/GEP: yes, unpublished

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RA-2533/07	Uceda, L	2008	Determination of the residues of AE C656948 and tebuconazole in/on Chinese cabbage after spraying of AE C656948 & HWG 1608 (400 SC) in the field in United Kingdom and Germany. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2533/07. Report includes Trial Nos.: R 2007 0078/4=0078 - 07, R 2007 0599/9=0599 - 07. Edition Number: M-302101-01-1. Date: 2008-06-02. GLP/GEP: yes, unpublished
RA-2534/07	Uceda, L	2008	Determination of the residues of AE C656948 and tebuconazole in/on Chinese cabbage after spraying of AE C656948 & HWG 1608 (400 SC) in the field in southern France and Spain. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2534/07. Report includes Trial Nos.: R 2007 0079/2=0079 - 07, R 2007 0600/6=0600 - 07. Edition Number: M-302044-01-1. Date: 2008-05-30. GLP/GEP: yes, unpublished
RA-2565/06	Cavaille, C	2007	Determination of the residues of AE C656948 and tebuconazole in/on onion, Welsh after spraying of AE C656948 & HWG 1608 (400 SC) in the field in (the) northern France and Germany. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2565/06. Report includes Trial Nos.: R 2006 0337/1, R 2006 0504/. Edition Number: M-292996-01-1. Date: 2007-09-25. GLP/GEP: yes, unpublished
RA-2566/06	Cavaillé, C and Portet, M	2007	Determination of the residues of AE C656948 and tebuconazole in/on onion, Welsh after spraying of AE C656948 & HWG 1608 (400 SC) in the field in (the) Southern France and Italy. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2566/06. Report includes Trial Nos.: R 2006 0339/8, R 2006 0505/6. Edition Number: M-292098-01-1. Date: 2007-09-03. GLP/GEP: yes, unpublished
RA-2567/06	Cavaillé, C and Portet, M	2007	Determination of the residues of AE C656948 and tebuconazole in/on onion after spraying of AE C656948 & HWG 1608 (400 SC) in the field in (the) Northern France, Germany and United Kingdom. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2567/06. Report includes Trial Nos.: R 2006 0340/1, R 2006 0537/4, R 2006 0538/2, R 2006 0539/0. Edition Number: M-293181-01-1. Date: 2007-09-28. GLP/GEP: yes, unpublished
RA-2568/06	Cavaillé, C and Portet, M	2007	Determination of the residues of AE C656948 and tebuconazole in/on onion after spraying of AE C656948 & HWG 1608 (400 SC) in the field in (the) Southern France, Spain, Italy and Greece. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2568/06. Report includes Trial Nos.: R 2006 0342/8, R 2006 0540/4, R 2006 0541/2, R 2006 0542/0. Edition Number: M-293014-01-1. Date: 2007-09-25. GLP/GEP: yes, unpublished
RA-2569/06	Cavaille, C and Portet, M	2007	Determination of the residues of AE C656948 and tebuconazole in/on leek after spraying of AE C656948 & HWG 1608 (400 SC) in the field in (the) Northern France, Germany and United Kingdom. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2569/06. Report includes Trial Nos.: R 2006 0343/6=0343 - 06, R 2006 0465/3=0465 - 06, R 2006 0466/1=0466 - 06, R 2006 0468/8=0468 - 06. Edition Number: M-292101-02-1. Date: 2007-09-03. ...Amended: 2008-09-05. GLP/GEP: yes, unpublished
RA-2570/06	Cavaillé, C and Portet, M	2007	Determination of the residues of AE C656948 and tebuconazole in/on leek after spraying of AE C656948 & HWG 1608 (400 SC) in the field in (the) Southern France and Spain. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2570/06. Report includes Trial Nos.: R 2006 0344/4=0344 - 06, R 2006 0469/6=0469 - 06. Edition Number: M-292082-01-1. Date: 2007-08-31. GLP/GEP: yes, unpublished
RA-2573/06	Cavaillé, C and Portet, M	2007	Determination of the residues of AE C656948 and tebuconazole in/on Chinese cabbage after spraying of AE C656948 & HWG 1608 (400 SC) in the field in (the) Northern France and United Kingdom. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2573/06. Report includes Trial Nos.: R 2006 0347/9=0347 - 06, R 2006 0543/9=0543 - 06. Edition Number: M-292103-01-1. Date: 2007-09-03. GLP/GEP: yes, unpublished

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RA-2574/06	Cavaillé, C and Portet, M	2007	Determination of the residues of AE C656948 and tebuconazole in/on Chinese cabbage after spraying of AE C656948 & HWG 1608 (400 SC) in the field in (the) Southern France and Italy. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2574/06. Report includes Trial Nos.: R 2006 0348/7=0348 - 06, R 2006 0544/7=0544 - 06. Edition Number: M-293182-01-1. Date: 2007-09-28. GLP/GEP: yes, unpublished
RA-2575/06	Cavaillé, C and Portet, M	2007	Determination of the residues of AE C656948 and tebuconazole in/on Brussels sprouts after spraying of AE C656948 & HWG 1608 (400 SC) in the field in (the) Northern France, United Kingdom and Germany. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2575/06. Report includes Trial Nos.: R 2006 0349/5=0349 - 06, R 2006 0473/4=0473 - 06, R 2006 0474/2=0474 - 06, R 2006 0475/0=0475 - 06. Edition Number: M-290883-01-1. Date: 2007-07-25. GLP/GEP: yes, unpublished
RA-2576/06	Cavaillé, C and Portet, M	2007	Determination of the residues of AE C656948 and tebuconazole in/on Brussels sprouts after spraying of AE C656948 & HWG 1608 (400 SC) in the field in (the) Southern France and Italy. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2576/06. Report includes Trial Nos.: R 2006 0350/9=0350 - 06, R 2006 0476/9=0476 - 06. Edition Number: M-290881-01-1. Date: 2007-07-24. GLP/GEP: yes, unpublished
RA-2577/06	Schoening, R, Erler, S and Wolters, A	2007	Determination of the residues of AE C656948 and tebuconazole in/on round cabbage after spraying of AE C656948 & HWG 1608 (400 SC) in the field in Northern France, the Netherlands, and Germany. Bayer CropScience. Report No.: RA-2577/06. Report includes Trial Nos.: R 2006 0354/1=0354 - 06, R 2006 0356/8=0356 - 06, R 2006 0477/7=0477 - 06, R 2006 0478/5=0478 - 06. Edition Number: M-295534-01-1. Date: 2007-11-30. GLP/GEP: yes, unpublished
RA-2578/06	Schoening, R and Wolters, A	2008	Determination of the residues of AE C656948 and tebuconazole in/on round cabbage after spraying of AE C656948 & HWG 1608 (400 SC) in the field in Southern France and Italy. Bayer CropScience. Report No.: RA-2578/06. Report includes Trial Nos.: R 2006 0357/6=0357 - 06, R 2006 0479/3=0479 - 06. Edition Number: M-296522-01-1. Date: 2008-01-18. GLP/GEP: yes, unpublished
RA-2581/06	Cavaillé, C	2007	Determination of the residues of AE C656948 and tebuconazole in/on peach after spraying of AE C656948 & HWG 1608 (400 SC) in the field in (the) Southern France, Italy, Spain and Portugal. Bayer CropScience S.A., Lyon, France. BCS. Report No.: RA-2581/06. Report includes Trial Nos.: R 2006 0362/2=0362 - 06, R 2006 0487/4=0487 - 06, R 2006 0488/2=0488 - 06, R 2006 0489/0=0489 - 06. Edition Number: M-290544-01-1. Date: 2007-07-12. GLP/GEP: yes, unpublished
RA-2585/07	Portet, M	2008	Determination of the residues of AE C656948 and tebuconazole in/on peach after spraying of AE C656948 & HWG 1608 (400 SC) in the field in Southern France, Spain, Italy and Greece. Bayer CropScience, Lyon, France. Bayer CropScience. Report No.: RA-2585/07. Report includes Trial Nos.: R 2007 0225/6=0225 - 07, R 2007 0496/8=0496 - 07, R 2007 0497/6=0497 - 07, R 2007 0498/4=0498 - 07. Edition Number: M-304286-01-1. Date: 2008-07-04. GLP/GEP: yes, unpublished
RA-2586/06	Diot, R	2007	Determination of the residues of AE C656948 in/on head lettuce after spraying of AE C656948 (500 SC) in the greenhouse in France, Germany, Spain, Italy, Portugal and Greece. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2586/06. Report includes Trial Nos.: R 2006 0367/, R 2006 0576/5, R 2006 0577/, R 2006 0578/1, R 2006 0580/, R 2006 0581/, R 2006 0583/8, R 2006 0584/6. Edition Number: M-291173-01-1. Date: 2007-08-02. GLP/GEP: yes, unpublished
RA-2587/06	Diot, R	2007	Determination of the residues of AE C656948 in/on melon after spraying of AE C656948 (500 SC) in the greenhouse and in the field in Southern France, Spain, Italy, Germany, Greece and Portugal. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2587/06. Report includes Trial Nos.: R 2006 0368/1, R 2006 0585/4, R 2006 0586/2, R 2006 0587/0, R 2006 0589/7, R 2006 0590/0, R 2006 0591/9. Edition Number: M-291162-01-1. Date: 2007-07-26. GLP/GEP: yes, unpublished.
RA-2588/06	Diot, R	2007	Determination of the residues of AE C656948 in/on melon after spraying of AE C656948 (500 SC) in the field in (the) Northern France and Germany. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2588/06. Report includes Trial Nos.: R 2006 0370/3=0370 - 06, R 2006 0592/7=0592 - 06. Edition Number: M-290921-01-1. Date: 2007-07-26. GLP/GEP: yes, unpublished.

Code	Author(s)	Year	Title, Institute, Report reference
RA-2588/07	Ballesteros, C and Ratajczak, M	2008	Determination of the residues of AE C656948 in/on plum after spraying of AE C656948 (500 SC) in the field in Germany and Netherlands. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2588/07. Report includes Trial Nos.: R 2007 0231/0=0231 - 07, R 2007 0499/2=0499 - 07, R 2007 0501/8=0501 - 0, R 2007 0502/6=0502 - 07. Edition Number: M-326998-01-1. Date: 2008-12-23. GLP/GEP: yes, unpublished
RA-2589/06	Diot, R	2007	Determination of the residues of AE C656948 in/on melon after spraying of AE C656948 (500 SC) in the field in Southern France, Greece, Spain and Italy. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2589/06. Report includes Trial Nos.: R 2006 0371/1=0371 - 06, R 2006 0593/5=0593 - 06, R 2006 0594/3=0594 - 06, R 2006 0595/1=0595 - 06. Edition Number: M-291434-01-1. Date: 2007-07-26. GLP/GEP: yes, unpublished.
RA-2589/07	Ballesteros, C	2008	Determination of the residues of AE C656948 in/on plum after spraying of AE C656948 (500 SC) in the field in Spain and Italy. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2589/07. Report includes Trial Nos.: R 2007 0232/9=0232 - 07, R 2007 0503/4=0503 - 07. Edition Number: M-302341-01-1. Date: 2008-06-05. GLP/GEP: yes, unpublished
RA-2592/06	Diot, R	2007	Determination of the residues of AE C656948 in/on head lettuce after spraying of AE C656948 (500 SC) in the field in (the) Northern France, Germany, Netherlands and United Kingdom. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2592/06. Report includes Trial Nos.: R 2006 0375/4=0375 - 06, R 2006 0604/4=0604 - 06, R 2006 0605/2=0605 - 06, R 2006 0606/0=0606 - 06, R 2006 0607/9=0607 - 06. Edition Number: M-292048-01-1. Date: 2007-08-28. GLP/GEP: yes, unpublished
RA-2593/06	Diot, R	2007	Determination of the residues of AE C656948 in/on head lettuce after spraying of AE C656948 (500 SC) in the field in Southern France, Spain, Italy and Greece. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2593/06. Report includes Trial Nos.: R 2006 0376/2=0376 - 06, R 2006 0608/7=0608 - 06, R 2006 0609/5=0609 - 06, R 2006 0610/9=0610 - 06, R 2006 0611/7=0611 - 06. Edition Number: M-292050-01-1. Date: 2007-08-28. GLP/GEP: yes, unpublished
RA-2604/07	Portet, M	2008	Determination of the residues of AE C656948 in/on lettuce after spraying of AE C656948 (500 SC) in the greenhouse in Southern France, Germany, Italy and Spain. Bayer CropScience, Lyon, France. Bayer CropScience. Report No.: RA-2604/07. Report includes Trial Nos.: R 2007 0247/7=0247 - 07, R 2007 0542/5=0542 - 07, R 2007 0543/3=0543 - 07, R 2007 0544/1=0544 - 07. Edition Number: M-304274-01-1. Date: 2008-07-04. GLP/GEP: yes, unpublished
RA-2609/06	Schoening, R, Raecker, T and Telscher, M	2007	Determination of the residues of AE C656948 in/on winter rape after spraying of AE C656948 (500 SC) in the field in Germany, Northern France, and the United Kingdom. Bayer CropScience. Report No.: RA-2609/06. Report includes Trial Nos.: R 2006 0406/8=0406 - 06, R 2006 0408/4=0408 - 06, R 2006 0409/2=0409 - 06, R 2006 0410/6=0410 - 06. Edition Number: M-295651-01-1. Date: 2007-12-13. GLP/GEP: yes, unpublished
RA-2609/07	Portet, M	2008	Determination of the residues of AE C656948 and tebuconazole in/on leek after spraying of AE C656948 & HWG 1608 (400 SC) in the field in Germany, Northern France and Netherlands. Bayer CropScience, Lyon, France. Bayer CropScience. Report No.: RA-2609/07. Report includes Trial Nos.: R 2007 0249/3=0249 - 07, R 2007 0573/5=0573 - 07, R 2007 0574/3=0574 - 07. Edition Number: M-304276-01-1. Date: 2008-07-08. GLP/GEP: yes, unpublished
RA-2610/06	Schoening, R, Raecker, T and Telscher, M	2007	Determination of the residues of AE C656948 in/on winter rape and summer rape after spraying of AE C656948 (500 SC) in the field in Southern France and Italy. Bayer CropScience. Report No.: RA-2610/06. Report includes Trial Nos.: R 2006 0625/7=0625 - 06, R 2006 0626/5=0626 - 06. Edition Number: M-295825-01-1. Date: 2007-12-19. GLP/GEP: yes, unpublished
RA-2610/07	Portet, M	2008	Determination of the residues of AE C656948 and tebuconazole in/on leek after spraying of AE C656948 & HWG 1608 (400 SC) in the field in Southern France. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2610/07. Report includes Trial Nos.: R 2007 0250/7=0250 - 07. Edition Number: M-302780-01-1. Date: 2008-06-13. GLP/GEP: yes, unpublished

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Code	Author(s)	Year	Title, Institute, Report reference
RA-2612/07	Uceda, L	2008	Determination of the residues of AE C656948 and tebuconazole in/on round cabbage and red cabbage after spraying of AE C656948 & HWG 1608 (400 SC) in the field in Germany, United Kingdom and Belgium. Bayer CropScience S.A., Lyon, France. Bayer CropScience. Report No.: RA-2612/07. Report includes Trial Nos.: R 2007 0251/5=0251 - 07, R 2007 0272/8=0272 - 07, R 2007 0598/0=0598 - 07. Edition Number: M-302872-01-1. Date: 2008-06-19. GLP/GEP: yes, unpublished
RA-2616/07	Schmeer, K and Stuke, S	2008	Determination of the residues of AE C656948 and JAU 6476 (250 SC) in the field in Northern France, Germany and the United Kingdom. Report No.: BCSRA-2616/07. Report includes Trial Nos.: R 2007 0238/8=0238 - 07, R 2007 0808/4=0808 - 07, R 2007 0809/2=0809 - 07, R 2007 0810/6=0810 - 07. Edition Number: M-308224-01-1. Date: 2008-09-29. GLP/GEP: yes, unpublished
RA-2617/07	Stuke, S and Schmeer, K	2008	Determination of the residues of AE C656948 and JAU 6476 (250 SC) in the field in Southern France and Italy. Report No.: BCSRA-2617/07. Report includes Trial Nos.: R 2007 0239/6=0239 - 07, R 2007 0811/4=0811 - 07. Edition Number: M-306557-01-1. Date: 2008-08-26. GLP/GEP: no, unpublished
RA-2620/07	Schmeer, K and Stuke, S	2008	Determination of the residues of AE C656948 and trifloxystrobin in/on head lettuce and lettuce after spraying of AE C656948 & CGA279202 (500 SC) in the greenhouse in Germany, Netherlands and Southern France. Bayer CropScience. Report No.: RA-2620/07. Report includes Trial Nos.: R 2007 0266/3=0266 - 07, R 2007 0642/1=0642 - 07, R 2007 0644/8=0644 - 07, R 2007 0645/6=0645 - 07. Edition Number: M-308622-01-1. Date: 2008-10-06. GLP/GEP: yes, unpublished
RA-2680/07	Ballesteros, C	2008	Determination of the residues of AE C656948 in/on melon after spraying of AE C656948 (500 SC) in the greenhouse in Spain. Bayer CropScience S.A., Lyon, France. Report No.: RA-2680/07. Report includes Trial Nos.: R 2007 0877/7=0877 - 07. Edition Number: M-303139-01-1. Date: 2008-06-26. GLP/GEP: yes, unpublished.
RA-3577/06	Schoening, R, Billian, P, Erler, S and Wolters, A	2007	Determination of the residues of AE C656948 and tebuconazole in/on round cabbage head and the processed fractions (washings; cooking water; head, cooked; head, washed) after spraying of AE C656948 & HWG 1608 (400 SC) in the field in Northern. Bayer CropScience. Report No.: RA-3577/06. Report includes Trial Nos.: R 2006 0354/1=0354 - 06, R 2006 0478/5=0478 - 06. Edition Number: M-295531-01-1. Date: 2007-11-30. GLP/GEP: yes, unpublished
RA-3609/06	Schoening, R, Raecker, T and Telscher, M	2007	Determination of the residues of AE C656948 in/on winter rape seed and the processed fractions (oil, refined; oil, screwpressed; crude oil; extracted meal; oil, solv. extracted; pomace) after spraying of AE C656948 (500 SC) in the field in. Bayer CropScience. Report No.: RA-3609/06. Report includes Trial Nos.: R 2006 0406/8=0406 - 06, R 2006 0409/2=0409 - 06. Edition Number: M-295666-01-1. Date: 2007-12-13. GLP/GEP: yes, unpublished.
RA-3610-06	Schoening, R, Raecker, T and Telscher, M	2007	Determination of the residues of AE C656948 in/on winter rape and summer rape and the processed fractions (oil, refined; oil, screwpressed; crude oil) after spraying of AE C656948 (500 SC) in the field in Southern France and Italy. Bayer CropScience. Report No.: RA-3610-06. Report includes Trial Nos.: R 2006 0625/7=0625 - 06, R 2006 0626/5=0626 - 06. Edition Number: M-295843-01-1. Date: 2007-12-19. GLP/GEP: yes, unpublished.
RAFR00810	Malet, JC and Allard, L	2012	Mesure du niveau de résidu de fluopyram et de trifloxystrobine, après 2 applications de la préparation F413BCS sur framboisier dans le cadre d'une extension d'usage sur la culture - Residues of fluopyram and trifloxystrobine, after 2 applications of F413BCS in raspberry in support of the registration. Ministère de l'Agriculture et de la Pêche, Paris, France. Bayer CropScience. Report No.: RAFR00810. Edition Number: M-434815-01-1. Date: 2012-06-15. GLP/GEP: yes, unpublished
RAFR03509	Malet, JC and Allard, L	2012	Mesure du niveau de résidu de fluopyram et de trifloxystrobine, après 2 applications de la préparation F413BCS sur framboisier dans le cadre d'une extension d'usage sur la culture - Residues of fluopyram and trifloxystrobine, after 2 applications of F413BCS in raspberry in support of the registration. Ministère de l'Agriculture et de la Pêche, Paris, France. Bayer CropScience. Report No.: RAFR03509. Edition Number: M-434818-01-1. Date: 2012-05-07. GLP/GEP: yes, unpublished
RAGML001	Rupprecht, JK and Fischer, DR	2008	AE C656948 500 SC—Magnitude of the residue in/on dry bulb onions. Bayer CropScience LP, Stilwell, KS, USA. Bayer CropScience. Report No.: RAGML001. Edition Number: M-307690-01-1. EPA MRID No.: 47567021. Date: 2008-09-24. GLP/GEP: yes, unpublished

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RAGMP034	Lenz, CA	2008	AE C656948 500 SC: Magnitude of the residue in/on canola processed commodities. Bayer CropScience LP, Stilwell, KS, USA. Bayer CropScience. Report No.: RAGMP034. Edition Number: M-306046-01-1. EPA MRID No.: 47567116. Date: 2008-08-13. GLP/GEP: yes, unpublished
RAGMP035	Tang, Z and Fischer, DR	2008	AE C656948 500 SC—Magnitude of the residue in/on canola. Bayer CropScience LP, Stilwell, KS, USA. Bayer CropScience. Report No.: RAGMP035. Edition Number: M-307681-01-1. EPA MRID No.: 47567013. Date: 2008-09-22. GLP/GEP: yes, unpublished
RAGMP076	Fischer, DR and Harbin, AM	2008	AE C656948 500 SC and trifloxystrobin 500 SC—Magnitude of the residue in/on head and stem brassica (crop subgroup 5A). Bayer CropScience LP, Stilwell, KS, USA. Bayer CropScience. Report No.: RAGMP076. Edition Number: M-307503-01-1. EPA MRID No.: 47567025. Date: 2008-09-17. GLP/GEP: yes, unpublished.
RAGMP079	Dallstream, KA and Fischer, DR	2008	AE C656948 500 SC + pyrimethanil 600 SC—Magnitude of the residue in/on caneberry. Bayer CropScience LP, Stilwell, KS, USA. BCS. Report No.: RAGMP079. Edition Number: M-307677-01-1. EPA MRID No.: 47567034. Date: 2008-09-17. GLP/GEP: yes, unpublished
RAGMP081	Timberlake, BC	2008	AE C656948 500 SC—Magnitude of the residue in/on green onions. Bayer CropScience LP, Stilwell, KS, USA. Bayer CropScience. Report No.: RAGMP081. Edition Number: M-306500-01-1. EPA MRID No.: 47567022. Date: 2008-08-27. GLP/GEP: yes, unpublished
RAGMP082	Murphy, IM and Fischer, DR	2008	AE C656948 500 SC—Magnitude of the residue in/on cucurbit vegetables (crop group 9). Bayer CropScience LP, Stilwell, KS, USA. Bayer CropScience. Report No.: RAGMP082. Edition Number: M-307341-01-1. EPA MRID No.: 47567030. Date: 2008-09-17. GLP/GEP: yes, unpublished
RAGMP083	Fischer, DR and Helfrich, KK	2008	AE C656948 500 SC + trifloxystrobin 500 SC—Magnitude of the residue in/on globe herbs (crop subgroup 19A). Bayer CropScience LP, Stilwell, KS, USA. Bayer CropScience. Report No.: RAGMP083. Edition Number: M-307687-01-1. EPA MRID No.: 47567037. Date: 2008-09-23. GLP/GEP: yes, unpublished.
RAGMP085-1	Fischer, DR and Harbin, AM	2008	AE C656948 500 SC and trifloxystrobin 500 SC—Magnitude of the residue in/on leafy vegetables (crop subgroup 4). Bayer CropScience LP, Stilwell, KS, USA. Bayer CropScience. Report No.: RAGMP085-1. Edition Number: M-307507-02-1. EPA MRID No.: 48239917. Date: 2008-09-17. Amended: 2010-09-20. GLP/GEP: yes, unpublished.
RAGMP155	Miller, AL	2010	AE C656948 500 SC, Folicur 3.6 F and Scala 600 SC—Magnitude of the residue in/on dry bulb onions. Bayer CropScience LP, Stilwell, KS, USA. Bayer CropScience. Report No.: RAGMP155. Report includes Trial Nos.: GM052-09HA, GM053-09HA, GM054-09HA. Edition Number: M-366786-01-1. EPA MRID No.: 48239921. Date: 2010-04-12. GLP/GEP: yes, unpublished
RAGMP157	Timberlake, B and Burkett, E	2010	AE C656948 500 SC, Folicur 3.6 F and Gem 500 SC—Magnitude of the residue in/on lettuce. Bayer CropScience LP, Stilwell, KS, USA. Bayer CropScience. Report No.: RAGMP157. Report includes Trial Nos.: GM058-09HA, GM059-09HA, GM060-09HA. Edition Number: M-366788-01-1. EPA MRID No.: 48239923. Date: 2010-04-12. GLP/GEP: yes, unpublished

