

**PROTHIOCONAZOLE (232)**

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**EXPLANATION**

Prothioconazole was evaluated for the first time by the 2008 JMPR, which recommended maximum residue limits for peanut, rape seed, barley, oats, rye, triticale and wheat grain and straws, and for meat, mammalian fats and milks based on a residue definition of 'prothioconazole-desthio'.

At the 41<sup>st</sup> Session of the CCPR, the Delegation of the USA expressed concern that because JMPR had adopted this residue definition, all US field trial data which reported only 'total residue' (i.e., the sum of prothioconazole and desthio-prothioconazole) had been disregarded, even though residues of the parent compound, prothioconazole was a very small part of the total residue.

The CCPR noted this concern and requested JMPR to review the existing US data (together with any additional residue information) on pulses, sugar beet, cereal grains (wheat, barley), canola (rape seed), soya bean, and cereal forages/straws.

The present meeting was provided with additional information on residues of the sulfonic acid and desthio metabolites of prothioconazole that were analysed separately in the above US/Canadian field trials (but initially summed and reported as 'total prothioconazole' residues).

**USE PATTERN**

Information provided to the JMPR 2008 meeting on registered uses for prothioconazole on the crops under reconsideration, are summarised in the following tables.

Table 1 Use pattern of prothioconazole for foliar application with spraying in cereals in Canada, USA [See 2008 JMPR Evaluations, Prothioconazole, Table 47]

Crop	Country	Form (conc) <sup>a</sup>	Application			PHI (GS/days)	Notes
			Rate (max) (kg ai/ha)	litres/ha	No <sup>b</sup>		
Barley	Canada	SC (480)	0.2		2	30	
Barley	United States	SC (480)	0.2		1+1	32 <sup>c</sup>	Up to 5d after full head emergence Max 330 g ai/ha/year 14d interval
Wheat	Canada	SC (480)	0.2		2	30	Spring, durum & winter wheat
Wheat	United States	SC (480)	0.2		1+1	30 <sup>c</sup>	Up to full flower (Feekes 10.52). Max 330 g ai/ha/year 14d interval

<sup>a</sup> concentration expressed as g ai/litre

<sup>b</sup> Maximum rate/ha/year requires at least 1 application at less than the maximum rate/ha

<sup>c</sup> Minimum PHI. Harvest interval based on last application at full head emergence (barley) or full flowering (wheat) growth stages

Note: PHIs of 5 days for wheat forage and 12 days for wheat and barley hay used by US EPA for establishing MRLs in these commodities.

Table 2 Use pattern of prothioconazole for foliar application in pulses, canola, rape and sugarbeet in Canada, USA [See 2008 JMPR Evaluations, Prothioconazole, Tables 48–49]

Crop	Country	Form (conc) <sup>a</sup>	Application			PHI (days)	Notes
			Rate (kg ai/ha)	Water rate (L/ha)	No.		
Canola	Canada	SC (480)	0.175		1	36 <sup>b</sup>	Incl rapeseed, Oriental mustard Apply at 20-50% bloom
Canola	USA	SC (480)	0.2		2	36 <sup>b</sup>	14d interval up to 50% bloom Max 400 g ai/ha/year
Chick pea	Canada	SC (480)	0.2		3	7	10-14d intervals
Chick pea	USA	SC (480)	0.2		3	7	10-14d intervals Max 600 g ai/ha/year
Lentils	Canada	SC (480)	0.2		2	7	10-14d intervals
Lentils	USA	SC (480)	0.2		3	7	10-14d intervals Max 600 g ai/ha/year
Peanut	USA	SC (143)	0.11		4	14	14d intervals With tebuconazole (287) Not for animal feed or grazing
Peanut	USA	SC (480)	0.2		4	14	14-21d intervals Max 800 g ai/ha/year Not for animal feed or grazing
Peas & beans (dried, shelled)	USA	SC (480)	0.2		3	7	5-14 day intervals Max 600 g ai/ha/year Includes <i>Lupinus</i> , <i>Phaseolus</i> , <i>Vigna</i> , <i>Pisum</i> spp, dry broad, guar & lablab beans
Rape	USA	SC (480)	0.2		2	36 <sup>b</sup>	14d interval up to 50% bloom Max 400 g ai/ha/year Also Indian rape, Field mustard, Crambe
Soya bean	USA	SC (480)	0.11	140 min	3	21	Aerial: 47 L/ha min 10-21 d intervals Max 315 g ai/ha/year
Sugar beet	USA	SC (480)	0.2		3	7	14-21d intervals Max 600 g ai/ha/year
Sugar beet	USA	SC (480)	0.2				Soil-borne diseases: Band spray (180mm) before row closure

<sup>a</sup> concentration expressed as g ai/litre

<sup>b</sup> Minimum PHI of 36 days. Harvest interval based on last application at 50% bloom growth stage

## RESIDUES RESULTING FROM SUPERVISED TRIALS ON CROPS

The 2008 JMPR meeting received supervised trial data for prothioconazole uses on barley, wheat, triticale (one seed dressing trial), dried bean and pea, oil seed rape and canola, sugar beet, soya bean and peanut. Prothioconazole was applied as a foliar spray using an EC (emulsifiable concentrate), SC (suspension concentrate) formulation, and for seed dressing of cereals using a FS (flowable concentrate) formulation. The use patterns permit both uses on cereals.

The present meeting received further information on the individual residue components measured in the trials from Canada and USA on pulses (dried beans and peas), soya beans, sugar beet, wheat, barley, rape seed and peanut and these new data are summarised in the following tables (taken

from the 2008 JMPR Evaluation of prothioconazole). In these tables, results have been rounded to 2 significant figures, or one significant figure when the results are close to the Limit of Quantification.

Commodity		Table
Beans, dry (beans)	Canada, USA	Table 3
Peas, dry (peas)	Canada, USA	Table 4
Soya bean (beans)	USA	Table 5
Sugar beet (roots)	USA	Table 6
Wheat (grain)	Canada, USA	Table 7
Barley (grain)	Canada, USA	Table 8
Oil seed rape (seeds)	Canada, USA	Table 9
Peanut (meat)	USA	Table 10
Sugar beet (tops)	USA	Table 11
Wheat (forage)	Canada, USA	Table 12
Wheat fodder (hay, straw)	Canada, USA	Table 13
Barley fodder (hay, straw)	Canada, USA	Table 14
Soya bean (forage)	USA	Table 15
Soya bean (hay)	USA	Table 16
Peanut (hay)	USA	Table 17

#### *Pulses (beans, dry and peas, dry)*

The 2008 JMPR reported that a total of 22 trials on peas, dry and beans, dry were carried out with 3 foliar application of SC480 formulation at a target rate of 200 g/ha in Canada (9) and USA (13). The interval between applications was 9 to 14 days. Mature (dry) seeds (BBCH 89 to 92) were harvested 7 to 8 days after the last treatment. As a part of normal agricultural practice, plants were cut and allowed to dry in the field for 2 to 8 days prior to collecting the dried seeds. The pre-harvest interval (PHI) for the dried peas and beans is based on the date when the dried peas and beans were cut.

Residues of prothioconazole, desthio-prothioconazole and prothioconazole sulfonic acid were analysed using Method RPA JA/03/01 which extracts residues of the desthio metabolite unchanged, converts prothioconazole residues to a mixture of the sulfonic acid and desthio metabolites and measures these two components separately using LC/MS-MS. The reported limit of quantification for this method is 0.05 mg/kg for both components.

Tables 3 and 4 summarise the results of these trials, initially reported in the 2008 JMPR Evaluation (Prothioconazole – Table 52), with the inclusion of the additional information on reported residues of prothioconazole sulfonic acid and desthio-prothioconazole [BCS 2009-05-05].

Table 3 Residues in beans, dry from residue trials conducted with three foliar applications of prothioconazole (480 SC) on beans in North America.

BEANS, DRY (Variety) Country Location Year	Application			Residues (mg/kg) in dry beans			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Lentil (Canada)	2 × 0.2		7				
Chickpea (Canada)	3 × 0.2		7				
Dried & shelled peas & beans (USA)	3 × 0.2		7				Max 0.6 kg ai/ha/year
Bean (OAC Thunder) Canada Lynden, Ontario 2002	0.196- 0.24	0.067- 0.077	8	< 0.05, < 0.05	< 0.05, < 0.05	< 0.05, < 0.05	200956 J6020-02H M-001515-01-1
Bean (Othello) USA Fromberg, Montana 2002	0.202- 0.204	0.085-0.2	7	0.06, 0.07	0.14, <u>0.22</u>	0.2, 0.29	200956 J6027-02H M-001515-01-1
Bean (Pinto – Othello) Canada Taber, Alberta 2002	0.194- 0.204	0.199-0.2	7	< 0.05, < 0.05	<u>0.12</u> , 0.1	0.14, 0.12	200956 J6025-02H M-001515-01-1
Bean (Pinto – Othello) USA Ephrata, Washington 2002	0.202	0.071- 0.087	7	< 0.05, < 0.05	<u>&lt; 0.05</u> , < 0.05	< 0.05, < 0.05	200956 J6029-02H M-001515-01-1
Bean (Pinto) USA Carlyle, Illinois 2002	0.203- 0.206	0.115- 0.214	7	< 0.05, < 0.05	<u>&lt; 0.05</u> , < 0.05	< 0.05, < 0.05	200956 J6021-02H M-001515-01-1
Bean (Pinto) USA Plainview, Texas 2002	0.196- 0.204	0.102- 0.139	7	< 0.05, < 0.05	<u>&lt; 0.05</u> , < 0.05	< 0.05, < 0.05	200956 J6026-02H M-001515-01-1
Bean (Pinto) USA Stilwell, Kansas 2002	0.203- 0.211	0.106- 0.108	0 7 14 21	< 0.05, < 0.05 < 0.05, < 0.05 < 0.05, < 0.05 < 0.05, < 0.05	0.13, 0.09 <u>0.08</u> , < 0.05 0.08, < 0.05 < 0.05, < 0.05	0.16, 0.11 0.01, 0.05 0.09, 0.05 < 0.05, < 0.05	200956 J6023-02D M-001515-01-1
Bean (Red Kidney) USA Fresno, California 2002	0.198- 0.205	0.08- 0.087	7	< 0.05, < 0.05	<u>&lt; 0.05</u> , < 0.05	< 0.05, < 0.05	200956 J6028-02H M-001515-01-1
Bean (Remington) USA Eldridge, N Dakota 2002	0.198- 0.204	0.072- 0.072	7	< 0.05, < 0.05	<u>&lt; 0.05</u> , < 0.05	< 0.05, < 0.05	200956 J6024-02H M-001515-01-1
Bean (Sanilac) USA Oxford, Indiana 2002	0.197- 0.210	0.138- 0.142	8	< 0.05, < 0.05	<u>&lt; 0.05</u> , < 0.05	< 0.05, < 0.05	200956 J6022-02H M-001515-01-1

Table 4 Residues in peas, dry from residue trials conducted with three foliar applications of prothioconazole (JAU 6476 - 480 SC) on peas in North America

PEAS, DRY (Variety) Country Location Year	Application			Residues (mg/kg) in dry peas			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Lentil (Canada)	2 × 0.2		7				
Chickpea (Canada)	3 × 0.2		7				
Dried & shelled peas & beans (USA)	3 × 0.2		7				Max 0.6 kg ai/ha/year
Pea, field (Carnival) USA Campbell, Minnesota 2002	0.201- 0.202	0.108- 0.108	7	< 0.05, < 0.05	≤ 0.05, < 0.05	< 0.05, < 0.05	200956 J6012-02H M-001515-01-1
Pea, field (Delta) Canada Rosthern, Saskatchewan 2002	0.201- 0.203	0.182- 0.183	8	0.01, 0.11	0.54, 0.57	0.64, 0.68	200956 J6018-02H M-001515-01-1
Pea, field (Delta) Canada Wakaw, Saskatchewan 2002	0.199- 0.202	0.179- 0.183	7	0.16, 0.14	0.49, 0.38	0.66, 0.52	200956 J6017-02H M-001515-01-1
Pea, field (DS Admiral) Canada Brookdale, Manitoba 2002	0.195- 0.201	0.0848- 0.177	7	< 0.05, < 0.05	≤ 0.05, < 0.05	< 0.05, < 0.05	200956 J6016-02H M-001515-01-1
Pea, field (Eiffel) Canada Edmonton, Alberta 2002	0.202- 0.205	0.191- 0.209	0 3 7 15 22	< 0.05, < 0.05 < 0.05, < 0.05 < 0.05, < 0.05 < 0.05, < 0.05 < 0.05, < 0.05	0.11, 0.09 0.059, 0.06 0.04, 0.05 0.06, < 0.05 < 0.05, 0.06	0.12, 0.1 0.06, 0.06 < 0.05, 0.05 0.06, < 0.05 < 0.05, 0.06	200956 J6019-02D M-001515-01-1
Pea, field (Eiffel) Canada Kipp, Alberta 2002	0.203- 0.206	0.201- 0.202	7	< 0.05, < 0.05	≤ 0.05, < 0.05	< 0.05, 0.076	200956 J6014-02H M-001515-01-1
Pea, field (Keoma) Canada Rosthern, Saskatchewan 2002	0.197- 0.205	0.181- 0.203	7	< 0.05, < 0.05	≤ 0.05, < 0.05	< 0.05, < 0.05	200956 J6015-02H M-001515-01-1
Pea, field (Majorettes) USA Hermiston, Oregon 2002	0.196- 0.201	0.0766- 0.0768	7	< 0.05, < 0.05	≤ 0.05, < 0.05	< 0.05, < 0.05	200956 J6010-02H M-001515-01-1
Pea, field (Sugar Snap) USA Hood River, Oregon 2002	0.201- 0.205	0.093- 0.105	0 4 7 14 21	< 0.05, < 0.05 < 0.05, < 0.05 < 0.05, < 0.05 < 0.05, < 0.05 < 0.05, < 0.05	0.31, 0.28 0.42, 0.4 0.29, 0.32 0.28, 0.29 0.31, 0.36	0.39, 0.29 0.43, 0.4 0.29, 0.33 0.28, 0.29 0.31, 0.37	200956 J6011-02D M-001515-01-1
Pea, field (Talbot) USA Jerome, Idaho 2002	0.199- 0.202	0.105- 0.106	7	< 0.05, < 0.05	0.09, 0.1	0.1, 0.12	200956 J6008-02H M-001515-01-1
Pea, field (Tonic) USA Ephrata, Washington 2002	0.202- 0.205	0.0998- 0.105	7	< 0.05, < 0.05	0.11, 0.11	0.12, 0.12	200956 J6007-02H M-001515-01-1





SOYA BEAN (Variety) Country Location Year	Application			Residues (mg/kg) in soya bean seed			Report No Trial No. Doc No	
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total		
Soya (DynaGro DG 32M32RR) USA York, Nebraska 2004	0.149- 0.15	0.08- 0.08	GS80	19	< 0.05, < 0.05	< 0.05, < 0.05	< 0.05, < 0.05	RAJAY026 JA028-04H-P2 M-270206-01-1
Soya (Pioneer RR) USA Sheridan, Indiana 2004	0.146- 0.148	0.094- 0.095	GS97	21	< 0.05, < 0.05	< 0.05, < 0.05	< 0.05, < 0.05	RAJAY026 JA029-04H M-270206-01-1
Soya (Pioneer 93M80) USA Richland, Iowa 2004	0.15- 0.152	0.093- 0.118	GS83	21	< 0.05, < 0.05	< 0.05, < 0.05	< 0.05, < 0.05	RAJAY026 JA030-04H-P2 M-270206-01-1
Soya (Pioneer 91M50) USA Geneva, Minnesota 2004	0.15- 0.152	0.094- 0.097	GS80	20	< 0.05, < 0.05	< 0.05, < 0.05	< 0.05, < 0.05	RAJAY026 JA031-04H-P2 M-270206-01-1
Soya (Pioneer 93B85) USA Geneva, Minnesota 2004	0.149- 0.15	0.088- 0.089	GS77	21	< 0.05, < 0.05	< 0.05, < 0.05	< 0.05, < 0.05	RAJAY026 JA032-04H-P2 M-270206-01-1
Soya (BT-383CR) USA Carlyle, Illinois 2004	0.15- 0.15	0.155- 0.161	GS79	21	< 0.05, < 0.05	< 0.05, < 0.05	< 0.05, < 0.05	RAJAY026 JA033-04H M-270206-01-1
Soya (RG 200 RR) USA Sabin, Minnesota 2005	0.148- 0.15	0.093- 0.099	GS69	19	< 0.05, < 0.05	< 0.05, < 0.05	< 0.05, < 0.05	RAJAY026 JA022-04HA M-270206-01-1

GS: growth stage at last application

### *Sugar beet*

The 2008 Meeting received reports of 12 residue trials on sugar beet from USA complying with US GAP. In these trials, three foliar spray applications of JAU6476 480 SC were made to sugar beets at a target rate of 200 g/ha/application (actual ranged from 192 to 214 g/ha) using spray volumes ranging from 85 to 187 L/ha. Intervals between applications were from 8 to 10 days. A non-ionic surfactant (NIS) was added as a spray adjuvant at the lowest labelled rate. All applications were made using ground-based equipment. Sugar beet tops and roots were harvested when the beets had reached harvestable size (BBCH 49). Sampling was performed at 6 -7 and 13 - 14 days after last treatment. Residues of JAU6476, JAU6476-desthio and JAU-sulfonic acid were measured.

In these trials, residues of prothioconazole, desthio-prothioconazole and prothioconazole sulfonic acid were analysed using Method RPA JA/03/01 which extracts residues of the desthio metabolite unchanged, converts prothioconazole residues to a mixture of the sulfonic acid and desthio metabolites and measures these two components separately using LC/MS-MS. The reported limit of quantification for this method is 0.05 mg/kg for both components in sugar beet roots and tops.

Table 6 summarises the results of these trials, initially reported in the 2008 JMPR Evaluation (Prothioconazole – Table 53), with the inclusion of the additional information on residues of prothioconazole sulfonic acid and desthio-prothioconazole [BCS 2009-05-05].



Table 6 Residues in sugar beet roots from trials conducted with three foliar applications of prothioconazole (JAU 6474 - 480 SC) on sugar beet in USA

SUGAR BEET (Variety) Country Location Year	Application			Residues (mg/kg) in sugar beet roots			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Sugar beet (USA)	3 × 0.2		7				Max 0.6 kg ai/ha/year
Sugar beet (unknown) USA Springfield, Nebraska 2004	0.201- 0.204	0.147- 0.149	0 7 13 20 27	< 0.05, < 0.05 < 0.05, < 0.05 < 0.05, < 0.05 < 0.05, < 0.05 < 0.05, < 0.05	0.06, 0.06 0.07, <u>0.19</u> 0.1, < 0.05 0.06, < 0.05 0.05, < 0.05	0.07, 0.07 0.08, 0.24 0.13, < 0.05 < 0.05, 0.07 < 0.05, 0.06	RAJAY024 JA001-04D M-278843-01-1
Sugar beet (Tonic) USA Sabin, Minnesota 2004	0.203- 0.208	0.197- 0.204	6 14	< 0.05, < 0.05 < 0.05, < 0.05	0.09, <u>0.17</u> 0.1, 0.07	0.12, 0.22 0.14, 0.08	RAJAY024 JA002-04H M-278843-01-1
Sugar beet (Talbot) USA Rockwood, Ontario 2004	0.2- 0.214	0.21- 0.235	6 14	< 0.05, < 0.05 < 0.05, < 0.05	≤ <u>0.05</u> , < 0.05 < 0.05, < 0.05	< 0.05, < 0.05 < 0.05, < 0.05	RAJAY024 JA003-04H M-278843-01-1
Sugar beet (Hilleshog 2433RZ) USA Britton, South Dakota 2004	0.199	0.212	7 14	< 0.05, < 0.05 < 0.05, < 0.05	≤ <u>0.05</u> , < 0.05 < 0.05, < 0.05	< 0.05, < 0.05 < 0.05, < 0.05	RAJAY024 JA004-04H M-278843-01-1
Sugar beet (66283 Medium) USA Theilman, Minnesota 2004	0.201	0.177	6 14	< 0.05, < 0.05 < 0.05, < 0.05	≤ <u>0.05</u> , < 0.05 < 0.05, < 0.05	< 0.05, < 0.05 < 0.05, < 0.05	RAJAY024 JA005-04H M-278843-01-1
Sugar beet (Crystal 955) USA Velva, North Dakota 2004	0.196- 0.201	0.138- 0.143	7 14	< 0.05, < 0.05 < 0.05, < 0.05	≤ <u>0.05</u> , < 0.05 < 0.05, < 0.05	< 0.05, < 0.05 < 0.05, < 0.05	RAJAY024 JA006-04H M-278843-01-1
Sugar beet (Wrangler) USA Levelland, Texas 2004	0.202- 0.208	0.136- 0.14	7 14	< 0.05, < 0.05 < 0.05, < 0.05	≤ <u>0.05</u> , < 0.05 < 0.05, < 0.05	< 0.05, < 0.05 < 0.05, < 0.05	RAJAY024 JA007-04H M-278843-01-1
Sugar beet (Beta 8757 LL) USA Jerome, Idaho 2004	0.199- 0.203	0.108- 0.11	7 14	< 0.05, < 0.05 < 0.05, < 0.05	≤ <u>0.05</u> , < 0.05 < 0.05, < 0.05	< 0.05, < 0.05 < 0.05, < 0.05	RAJAY024 JA008-04H M-278843-01-1
Sugar beet (Beta 4430R) USA Porterville, California 2004	0.200- 0.202	0.112- 0.143	7 14	< 0.05, < 0.05 < 0.05, < 0.05	<u>0.11</u> , 0.05 0.05, 0.06	0.13, 0.07 0.06, 0.08	RAJAY024 JA009-04H M-278843-01-1
Sugar beet (Alpine) USA Fresno, California 2004	0.194- 0.208	0.114- 0.118	7 14	< 0.05, < 0.05 < 0.05, < 0.05	≤ <u>0.05</u> , < 0.05 < 0.05, < 0.05	< 0.05, < 0.05 0.07, < 0.05	RAJAY024 JA010-04H M-278843-01-1
Sugar beet (Beta 4490R) USA Rupert, Idaho 2004	0.199- 0.202	0.192- 0.201	7 14	< 0.05, < 0.05 < 0.05, < 0.05	≤ <u>0.05</u> , < 0.05 < 0.05, < 0.05	< 0.05, < 0.05 < 0.05, < 0.05	RAJAY024 JA011-04H M-278843-01-1
Sugar beet (Beta 4490R) USA Twin Falls, Idaho 2004	0.198- 0.202	0.108- 0.115	7 14	< 0.05, < 0.05 < 0.05, < 0.05	≤ <u>0.05</u> , < 0.05 < 0.05, < 0.05	< 0.05, < 0.05 < 0.05, < 0.05	RAJAY024 JA012-04H M-278843-01-1

*Cereal grains*

The 2008 JMPR reported that in USA and Canada, a total of 54 residue trials (52 harvest and 2 decline) were conducted on wheat with the 480 SC formulation of prothioconazole. Two foliar spray applications of JAU6476 480 SC were made 14 ( $\pm$ 2) days apart to each treated plot at a target rate of 127 g ai/ha (120–143 g ai/ha) for the first application made at BBCH growth stage 34 to 65 (“Node 4 at least 2 cm above node 2” to “full flowering: 50% of anthers mature”) and 202 g ai/ha (190–223 g ai/ha) for the second application made at BBCH growth stage 59 to 71 (“end of heading; inflorescence fully emerged” to “first grains have reached half their final size”) in target spray volumes ranging from 103 to 421 L/ha. The interval between applications was 13 to 18 days.

Residues of desthio-prothioconazole and prothioconazole sulfonic acid in forage, hay, grain and straw were determined after 2 spray applications were analysed using Method RPA JA/03/01 which extracts residues of the desthio metabolite unchanged, converts prothioconazole residues to a mixture of the sulfonic acid and desthio metabolites and measures these two components separately using LC/MS-MS. The reported limits of quantification for both residue components are 0.02 mg/kg in grain and 0.05 mg/kg in forage, hay and straw.

From the treated plot of each trial, duplicate composite samples of forage, hay, grain, or straw were collected. Both residue values are reported for each of the matrices, however only the larger ones were taken into account for estimation of maximum residue levels.

*Wheat*

Table 7 summarises the results in wheat grain from these trials, initially reported in the 2008 JMPR Evaluation (Prothioconazole – Tables 71 and 72), with the inclusion of the additional information on residues of prothioconazole sulfonic acid and desthio-prothioconazole [BCS 2009-05-05].

Table 7 Residues in wheat grain from trials conducted with two foliar applications of prothioconazole (JAU 6474 - 480 SC) on wheat in North America

WHEAT (Variety) Country Location Year	Application			Residues (mg/kg) in wheat grain			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Wheat (Canada)	2 × 0.2		30				SC 480
Wheat (USA)	1+1 <sup>a</sup> × 0.2		32	Maximum 0.33 kg ai/ha/year			SC 480
Wheat (Russ Wheat) USA New Rockford, N Dakota 2000	0.123- 0.203	0.044- 0.072	36	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02,	200524 J6046-00D M-001538-01-1
40			< 0.02, < 0.02	< 0.02, < 0.02	< 0.02,		
46			< 0.02, < 0.02	< 0.02, < 0.02	< 0.02,		
50			< 0.02, < 0.02	< 0.02, < 0.02	< 0.02,		
Wheat (Arapahoe) USA Louisville, Nebraska 2001	0.127- 0.202	0.078- 0.126	35	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02,	200524 J6045-00D M-001538-01-1
39			< 0.02, < 0.02	< 0.02, < 0.02	< 0.02,		
44			< 0.02, < 0.02	< 0.02, < 0.02	< 0.02,		
49			< 0.02, < 0.02	< 0.02, < 0.02	< 0.02,		
Wheat (Tahoe) Canada St. George, Ontario 2000	0.135- 0.211	0.061- 0.101	42	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200524 J6044-00H M-001538-01-1

WHEAT (Variety) Country Location Year	Application			Residues (mg/kg) in wheat grain			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Wheat (Penawawa) USA Hermiston, Oregon 200	0.129- 0.206	0.045- 0.071	42	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200524 J6047-00H M-001538-01-1
Wheat (Ogallala) USA Uvalde, Texas 2001	0.130- 0.196	0.069- 0.116	42	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200524 J6048-00H M-001538-01-1
Wheat (Jagger) USA Claude, Texas 2001	0.128- 0.207	0.065- 0.103	41	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200524 J6049-00H M-001538-01-1
Wheat (Custer) USA Cordell, Oklahoma 2001	0.123- 0.203	0.099- 0.158	38	< 0.02, < 0.02	< 0.02, <u>&lt; 0.02</u>	< 0.02, < 0.02	200524 J6050-00H M-001538-01-1
Wheat (Custer) USA Frederick, Oklahoma 2001	0.12- 0.198	0.064- 0.102	40	< 0.02, < 0.02	< 0.02, <u>&lt; 0.02</u>	< 0.02, < 0.02	200524 J6051-00H M-001538-01-1
Wheat (Tam 200) USA Hart, Texas 2001	0.127- 0.201	0.084- 0.135	35	< 0.02, < 0.02	< 0.02, <u>&lt; 0.02</u>	< 0.02, < 0.02	200524 J6052-00H M-001538-01-1 2001
Wheat (2375) USA Velva, North Dakota 2000	0.128- 0.201	0.045- 0.072	33	< 0.02, < 0.02	< 0.02, <u>&lt; 0.02</u>	< 0.02, < 0.02	200524 J6053-00H M-001538-01-1
Wheat (Tam 202, Lot Star 10) USA Levelland, Texas 2001	0.127- 0.202	0.067- 0.107	43	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200524 J6054-00H M-001538-01-1
Wheat (Alsen) USA Ellendale, North Dakota 2000	0.126- 0.202	0.068- 0.108	39	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200524 J6055-00H M-001538-01-1
Wheat (Forge spring wheat) USA Lake Andes, S Dakota 2000	0.126- 0.201	0.071- 0.112	46	< 0.02, < 0.02	< 0.02, 0.022	< 0.02, 0.03	200524 J6056-00H M-001538-01-1
Wheat (Tahoe) Canada Paris, Ontario 2000	0.144- 0.2	0.061- 0.1	42	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200524 J6057-00H M-001538-01-1
Wheat (Mit) USA East Bernard, Texas 2001	0.126- 0.196	0.09- 0.138	32	< 0.02, < 0.02	< 0.02, <u>&lt; 0.02</u>	< 0.02, < 0.02	200524 J6058-00H M-001538-01-1
Wheat (Karl 92) USA Stilwell, Kansas 2001	0.129- 0.202	0.068- 0.106	42	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200524 J6059-00H M-001538-01-1

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WHEAT (Variety) Country Location Year	Application			Residues (mg/kg) in wheat grain			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Wheat (Becks 107) USA Oxford, Indiana 2001	0.13- 0.203	0.093- 0.147	43	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200524 J6060-00H M-001538-01-1
Wheat (Barrie) Canada Red Deer, Alberta 2000	0.126- 0.211	0.043- 0.07	57	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200524 J6061-00H M-001538-01-1
Wheat (HRS wheat prodigy) Canada Monarch, Alberta 2000	0.127- 0.202	0.032- 0.051	30	< 0.02, < 0.02	<u>0.04</u> , 0.03	0.05, 0.04	200524 J6062-00H M-001538-01-1
Wheat (Pioneer 2684) USA Benoit, Mississippi 2001	0.123- 0.205	0.079- 0.12	42	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	00524 J6063-00H M-001538-01-1
Wheat (Cooker 107) USA Knightdale, N Carolina 2001	0.126- 0.199	0.04- 0.062	37	< 0.02, < 0.02	< 0.02, <u>&lt; 0.02</u>	< 0.02, < 0.02	200524 J6064-00H M-001538-01-1
Wheat (AC Cora) Canada Minto, Manitoba 2000	0.133- 0.21	0.032- 0.051	47	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200524 J6066-00H M-001538-01-1
Wheat (AC Cora) Canada Minto, Manitoba 2000	0.1319- 0.207	0.032- 0.05	49	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200524 J6067-00H M-001538-01-1
Wheat (AC Barrie) Canada Wakaw, Saskatchewan 2000	0.129- 0.197	0.118- 0.18	55	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200524 J6068-00H M-001538-01-1
Wheat (McKenzie) Canada Leask, Saskatchewan 2000	0.125- 0.201	0.032- 0.05	48	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200524 J6069-00H M-001538-01-1
Wheat (AC Cadillac) Canada Rostern, Saskatchewan 2000	0.126- 0.195	0.032- 0.05	53	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200524 J6070-00H M-001538-01-1
Wheat (Barrie) Canada Brookdale, Manitoba 2000	0.128- 0.204	0.114- 0.184	43	< 0.02, < 0.02	0.02, 0.03	0.03, 0.04	200524 J6071-00H M-001538-01-1
Wheat (Barrie) Canada Lacombe, Alberta 2000	0.126- 0.201	0.042- 0.067	57	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200524 J6072-00H M-001538-01-1
Wheat (AC Barrie) Canada Delisle, Saskatchewan 2000	0.127- 0.2	0.032- 0.05	38	< 0.02, < 0.02	< 0.02, <u>&lt; 0.02</u>	< 0.02, < 0.02	200524 J6073-00H M-001538-01-1

WHEAT (Variety) Country Location Year	Application			Residues (mg/kg) in wheat grain			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Wheat (Prodigy) Canada Delisle, Saskatchewan 2000	0.126-0.2	0.032-0.051	43	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200524 J6074-00H M-001538-01-1
Wheat (HRS wheat prodigy) Canada Warner, Alberta 2000	0.124-0.205	0.031-0.05	31	< 0.02, < 0.02	0.025, <u>0.03</u>	0.029, 0.04	200524 J6075-00H M-001538-01-1
Wheat (Prodigy) Canada Coaldale, Alberta 2000	0.125-0.198	0.032-0.05	35	< 0.02, < 0.02	< 0.02, <u>0.02</u>	< 0.02, 0.02	200524 J6076-00H M-001538-01-1
Wheat (Prodigy) Canada Kipp, Alberta 2000	0.126-0.2	0.032-0.051	30	< 0.02, < 0.02	0.02, <u>0.05</u>	0.03, 0.06	200524 J6077-00H M-001538-01-1

<sup>a</sup> Maximum rate/ha/year requires at least 1 application at less than the maximum rate/ha

### Barley

The 2008 JMPR received a total of 25 residue trials (23 harvest and 2 decline) conducted with two foliar applications with 480 SC formulation of prothioconazole on barley USA and Canada. The first application rate was made at growth stage of BBCH 45 to 47 at a target rate of 123 g a.s/ha (120–143 g ai/ha) using spray volumes ranging from 187 to 468 L/ha. The second application was made at full flowering BBCH 65 ( $\pm 2$  days) at a target rate of 202 g a.i/ha (190–213 g ai/ha) using spray volumes ranging from 187 to 468 L/ha. The interval between applications was 5 to 27 days.

Residues of desthio-prothioconazole and prothioconazole sulfonic acid in hay, grain and straw were determined after 2 spray applications were analysed using Method RPA JA/03/01 which extracts residues of the desthio metabolite unchanged, converts prothioconazole residues to a mixture of the sulfonic acid and desthio metabolites and measures these two components separately using LC/MS-MS. The reported limits of quantification for both residue components are 0.02 mg/kg in grain and 0.05 mg/kg in hay and straw.

From the treated plot of each trial, duplicate composite samples of barley hay, grain, or straw were collected. Both residue values are reported for each of the matrices, however only the larger ones were taken into account for estimation of maximum residue levels.

Table 8 summarises the results in barley grain from these trials, initially reported in the 2008 JMPR Evaluation (Prothioconazole – Table 73), with the inclusion of the additional information on residues of prothioconazole sulfonic acid and desthio-prothioconazole [BCS 2009-05-05].

Table 8 Residues in barley grain from trials conducted with two foliar applications of prothioconazole (JAU 6474 - 480 SC) on barley in North America

BARLEY (Variety) Country Location Year	Application			Residues (mg/kg) in barley grain			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Barley (Canada)	1 × 0.2		30				SC 480
Barley (USA)	1+1 <sup>a</sup> × 0.2		32	Maximum 0.33 kg ai/ha/year			SC 480

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BARLEY (Variety) Country Location Year	Application			Residues (mg/kg) in barley grain			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Barley (Robust) USA Northwood, N Dakota 2000	0.131- 0.198	0.047- 0.07	32 37 44 47	< 0.02, < 0.02 < 0.02, < 0.02 < 0.02, < 0.02 < 0.02, < 0.02	0.03, 0.03 0.03, 0.04 0.03, <u>0.04</u> < 0.02, 0.02	0.04, 0.04 0.04, 0.05 0.04, 0.05 < 0.02, 0.03	200806 J6001-00D M-000715-01-1
Barley (Chapais) Canada Branchton, Ontario 2000	0.128- 0.202	0.062- 0.097	36 39 45 49	< 0.02, < 0.02 < 0.02, < 0.02 < 0.02, < 0.02 < 0.02, < 0.02	< 0.02, < 0.02 <u>0.03</u> , 0.03 0.02, 0.02 0.03, < 0.02	0.03, 0.02 0.05, 0.04 0.03, 0.03 0.04, 0.02	200806 J6008-00D M-000715-01-1
Barley (Steptoe) USA Hermiston, Oregon 2000	0.124- 0.206	0.046- 0.07	42	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200806 J6002-00H M-000715-01-1
Barley (Baretta) USA Maricopa, Arizona 2001	0.131- 0.206	0.046- 0.073	48	0.02, 0.02	0.07, 0.06	0.09, 0.08	200806 J6003-00H M-000715-01-1
Barley (Baretta) USA Wilcox, Arizona 2001	0.126- 0.195	0.045- 0.072	71	< 0.02, 0.02	0.04, 0.06	0.06, 0.08	200806 J6004-00H M-000715-01-1
Barley (Robust) USA Velva, North Dakota 2000	0.128- 0.203	0.046- 0.072	33	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200806 J6005-00H M-000715-01-1
Barley (Robust) USA New Rockford, N Dakota, 2000	0.126- 0.212	0.044- 0.075	36	< 0.02, < 0.02	0.02, <u>0.03</u>	0.03, 0.04	200806 J6006-00H M-000715-01-1
Barley (Robust) USA Ellendale, North Dakota, 2000	0.128- 0.202	0.068- 0.107	43	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200806 J6007-00H M-000715-01-1
Barley (Morex) USA Jerome, Idaho 2000	0.126- 0.204	0.0452- 0.0727	43	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200806 J6009-00H M-000715-01-1
Barley (Robust) USA Northwood, N Dakota 2000	0.126- 0.201	0.045- 0.072	44	< 0.02, < 0.02	0.02, 0.02	0.03, 0.03	200806 J6010-00H M-000715-01-1
Barley (AC Stephen) USA Germans-ville, PA 2000	0.131- 0.197	0.038- 0.065	57	< 0.02, < 0.02	< 0.02, < 0.02	0.02, < 0.02	200806 J6013-00H M-000715-01-1
Barley (Robust) Canada Minto, Manitoba 2000	0.126- 0.206	0.032- 0.051	36	0.09, 0.08	0.05, <u>0.05</u>	0.14, 0.13	200806 J6078-00H M-000715-01-1
Barley (Robust) Canada Minto, Manitoba 2000	0.128- 0.194	0.032- 0.051	32	0.08, 0.09	<u>0.07</u> , 0.07	0.14, 0.16	200806 J6079-00H M-000715-01-1
Barley (AC Rosser) Canada Brookdale, Manitoba 2000	0.131- 0.202	0.115- 0.183	43	0.03, < 0.02	0.03, 0.04	0.05, 0.06	200806 J6080-00H M-000715-01-1

BARLEY (Variety) Country Location Year	Application			Residues (mg/kg) in barley grain			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Barley (Bedford) Canada Clanwilliam, Manitoba, 2000	0.127- 0.204	0.116- 0.183	65	< 0.02, < 0.02	< 0.02, 0.02	0.02, 0.03	200806 J6081-00H M-000715-01-1
Barley (AC Metcalf) Canada Marcelin, Saskatchewan, 2000	0.124- 0.201	0.032- 0.051	48	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200806 J6082-00H M-000715-01-1
Barley (Harrington) Canada Rosthem, Saskatchewan, 2000	0.127- 0.201	0.032- 0.05	43	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200806 J6083-00H M-000715-01-1
Barley (Harrington) Canada Wakaw, Saskatchewan, 2000	0.127- 0.2	0.116- 0.184	34	< 0.02, < 0.02	<u>&lt; 0.02</u> , < 0.02	< 0.02, < 0.02	200806 J6084-00H M-000715-01-1
Barley Canada Lacombe, Alberta 2001	0.139- 0.211	0.138- 0.211	71	< 0.02	< 0.02	< 0.02	200806 J6085-00H M-000715-01-1
Barley Canada Penhold, Alberta 2001	0.133- 0.212	0.133- 0.211	71	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200806 J6086-00H M-000715-01-1
Barley (Stein) Canada Rosthem, Saskatchewan, 2000	0.124- 0.205	0.115- 0.183	52	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200806 J6087-00H M-000715-01-1
Barley (AC Harper) Canada Kipp, Alberta, 2000	0.127- 0.209	0.063- 0.102	47	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200806 J6088-00H M-000715-01-1
Barley (Lacombe) Canada Leduc, Alberta, 2000	0.129- 0.209	0.113- 0.183	33	< 0.02, < 0.02	<u>&lt; 0.02</u> , < 0.02	< 0.02, 0.02	200806 J6089-00H M-000715-01-1
Barley (Excel) Canada Delisle, Saskatchewan 2000	0.127- 0.201	0.032- 0.051	30	< 0.02, 0.02	0.04, <u>0.07</u>	0.05, 0.09	200806 J6090-00H M-000715-01-1
Barley (Chapais) Canada St-Paul-d'Abbotsford, Quebec, 2000	0.139- 0.209	0.281- 0.465	36	< 0.02, 0.02	0.08, <u>0.09</u>	0.1, 0.11	200806 J6091-00H M-000715-01-1

<sup>a</sup> Maximum rate/ha/year requires at least 1 application at less than the maximum rate/ha

### Rape seed

The 2008 JMPR received the results from North-American trials on oil seed rape (canola) where two foliar spray applications of JAU6476 480 SC were made at a target rate of 202 g/ha/application (actual ranged from 190 to 213 g/ha) using spray volumes ranging from 150 to 384 L/ha. All applications were made using ground-based equipment. The first application was made at BBCH 51 to 53 (flower buds visible to flower buds raised above the youngest leaves), and the second application was made at BBCH 65± 2 days (full flowering). The interval between applications was 7

to 44 days. Canola seed was harvested from the treated plots at earliest commercial harvest ( BBCH growth stage 83) which ranged from 36 to 83 days after the last treatment.

Residues of desthio-prothioconazole and prothioconazole sulfonic acid in rape seed were analysed using Method RPA JA/03/01 which extracts residues of the desthio metabolite unchanged, converts prothioconazole residues to a mixture of the sulfonic acid and desthio metabolites and measures these two components separately using LC/MS-MS. The reported limit of quantification for both residue components are 0.02 mg/kg in rape seed.

Table 9 summarises the results in rape seed from these trials, initially reported in the 2008 JMPR Evaluation (Prothioconazole – Table 63), with the inclusion of the additional information on residues of prothioconazole sulfonic acid and desthio-prothioconazole [BCS 2008-09-12].

Table 9 Residues in rape seed from trials conducted with two foliar applications of prothioconazole (JAU 6474 - 480 SC) on oil seed rape (canola) in North America

OIL SEED RAPE (Var) Country Location Year	Application			Residues (mg/kg) in rape seed			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Canola (USA)	2 × 0.2		30	14 day spray intervals			Max 0.6 kg ai/ha/year
Canola (Canada)	0.175		36				
Rape (USA) Incl Indian rape	2 × 0.2		30	14 day spray intervals			Max 0.6 kg ai/ha/year
Rape (Phoenix) USA Jerome, Idaho 2000	0.201- 0.202	0.072- 0.076	50 54 59 64	< 0.02, < 0.02 < 0.02, < 0.02 < 0.02, < 0.02 < 0.02, < 0.02	< 0.02, < 0.02 < 0.02, < 0.02, < 0.02, < 0.02, < 0.02	< 0.02, < 0.02 < 0.02, < 0.02 < 0.02, < 0.02 < 0.02, < 0.02	200464 J6128-00D M-0599785-01-1 33d spray intervals
Rape (Invigor 2473L) Canada Branchton, Ontario 2000	0.202- 0.208	0.1	41 <sup>a</sup> 41+5d 41+10d 41+15d	< 0.02, < 0.02 < 0.02, < 0.02 < 0.02, < 0.02 < 0.02, < 0.02	< 0.02, < 0.02 < 0.02, < 0.02, < 0.02, < 0.02, < 0.02	< 0.02, < 0.02 < 0.02, < 0.02 < 0.02, < 0.02 < 0.02, < 0.02	200464 J6131-00D M-0599785-01-1 27d spray intervals
Rape (Quest) Canada Bethany, Manitoba 2000	0.198- 0.209	0.183- 0.184	56	< 0.02, < 0.02	≤ 0.02, < 0.02	< 0.02, < 0.02	200464 J6014-00H M-0599785-01-1 11d spray intervals
Rape (Exceed) Canada Dundern, Saskatchewan 2000	0.199- 0.202	0.182- 0.183	54	< 0.02, < 0.02	≤ 0.02, < 0.02	< 0.02, < 0.02	200464 J6015-00H M-0599785-01-1 10d spray intervals
Rape (45A51) Canada Brookdale, Manitoba 2000	0.202	0.183	55	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200464 J6016-00H M-0599785-01-1 9d spray intervals
Rape (45A71) Canada Wakaw, Saskatchewan 2000	0.2- 0.204	0.183- 0.185	59	< 0.02, < 0.02	≤ 0.02, < 0.02	< 0.02, < 0.02	200464 J6017-00H M-0599785-01-1 10d spray intervals



OIL SEED RAPE (Var) Country Location Year	Application			Residues (mg/kg) in rape seed			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Rape (SW Legion) Canada Hepburn, Saskatchewan 2000	0.193-0.201	0.051	61	< 0.02, < 0.02	≤ 0.02, < 0.02	< 0.02, < 0.02	200464 J6018-00H M-0599785-01-1 10d spray intervals
Rape (46A76) Canada Rosthern, Saskatchewan 2000	0.199-0.202	0.183-0.184	63	< 0.02, < 0.02	≤ 0.02, < 0.02	< 0.02, < 0.02	200464 J6019-00H M-0599785-01-1 13d spray intervals
Rape (Quest) Canada Blaine Lake, Saskatchewan, 2000	0.202-0.205	0.184	69	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200464 J6020-00H M-0599785-01-1 8d spray intervals
Rape (LG3235) Canada Lacombe, Alberta 2000	0.196-0.204	0.101	48	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200464 J6021-00H M-0599785-01-1 9d spray intervals
Rape (Round up ready, Quest) Canada Kemnay, Manitoba, 2000	0.206-0.211	0.183-0.184	56	< 0.02, < 0.02	≤ 0.02, < 0.02	< 0.02, < 0.02	200464 J6022-00H M-0599785-01-1 17d spray intervals
Rape (2273 invigor) Canada Carberry, Manitoba 2000	0.193-0.203	0.182-0.183	71	< 0.02, < 0.02	0.03, < 0.02	0.029, < 0.02	200464 J6023-00HA M-0599785-01-1 11d spray intervals
Rape (Q2) Canada Kipp, Alberta, 2000	0.197	0.1	36	< 0.02, < 0.02	< 0.02, 0.04	0.02, 0.05	200464 J6024-00H M-0599785-01-1 14d spray intervals
Rape (Agassiz) Canada Leduc, Alberta 2000	0.201-0.203	0.184	83	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200464 J6025-00H M-0599785-01-1 7d spray intervals
Rape (Agassiz) Canada Gwyne, Alberta 2000	0.197-0.199	0.182-0.184	73	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200464 J6026-00H M-0599785-01-1 2 <sup>nd</sup> app BBCH 67 44d spray intervals
Rape (46A65) Canada Glenboro, Manitoba 2000	0.196-0.2	0.183-0.184	57	< 0.02, < 0.02	≤ 0.02, < 0.02	< 0.02, < 0.02	200464 J6027-00H M-0599785-01-1 15d spray intervals
Rape (Flint) USA Chula, Georgia 2001	0.201-0.202	0.075-0.081	78	< 0.02, < 0.02	≤ 0.02, < 0.02	< 0.02, < 0.02	200464 J6125-00H M-0599785-01-1 16d spray intervals
Rape (Quantum) USA Northwood, N Dakota 2000	0.203-0.214	0.072-0.073	43	< 0.02, < 0.02	≤ 0.02, < 0.02	< 0.02, < 0.02	200464 J6126-00H M-0599785-01-1 19d spray intervals
Rape (Quantum) USA New Rockford, N Dakota, 2000	0.204-0.210	0.073-0.075	36	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200464 J6127-00H M-0599785-01-1 21d spray intervals

OIL SEED RAPE (Var) Country Location Year	Application			Residues (mg/kg) in rape seed			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Rape (RaideRR) USA Ashton, Idaho, 2000	0.198-0.202	0.123-0.13	55	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200464 J6129-00H M-0599785-01-1 24d spray intervals
Rape (Chinook) USA Ashton, Idaho 2001	0.194-0.205	0.114-0.117	37	< 0.02, 0.02	0.06, <u>0.08</u>	0.07, 0.1	200464 J6130-00HA M-0599785-01-1 17d spray intervals
Rape (46A74) Canada Melfort, Saskatchewan 2000	0.2-0.203	0.181-0.183	58	< 0.02, < 0.02	< 0.02, < 0.02	< 0.02, < 0.02	200464 J6132-00H M-0599785-01-1 7d spray intervals

<sup>a</sup> Samples harvested 41 DAT and collected after 0, 5, 10 and 15 days field drying

### Peanut

The 2008 JMPR received information on 12 residue trials on peanuts carried out with prothioconazole SC 480 in the USA. Four foliar spray applications of prothioconazole 480 SC were made to peanuts at a target rate of 202 g/ha/application (actual rate ranged from 202 to 213 g/ha) using spray volumes ranging from 122 to 346 L/ha. The interval between applications was 12 to 15 days. All applications were made using ground-based equipment. Samples were collected at  $14 \pm 1$  days PHI.

As a part of normal agricultural practice for growing peanuts, following digging, the peanuts with shells and the peanut hay samples were both allowed to dry in the field for five to eight days prior to collecting the samples (except for trial J6040-00H in which the samples were only dried for two days due to the threat of rain). The PHI for the peanuts and peanut hay is based on the date that the peanut plants were dug.

Residues of desthio-prothioconazole and prothioconazole sulfonic acid in peanut nutmeat and hay were analysed using Method RPA JA/03/01 which extracts residues of the desthio metabolite unchanged, converts prothioconazole residues to a mixture of the sulfonic acid and desthio metabolites and measures these two components separately using LC/MS-MS. The reported limit of quantification for both residue components are 0.02 mg/kg in nutmeat and 0.05 mg/kg in hay.

Table 10 summarises the results in peanut nutmeat from these trials, initially reported in the 2008 JMPR Evaluation (Prothioconazole – Table 64), with the inclusion of the additional information on residues of prothioconazole sulfonic acid and desthio-prothioconazole [BCS 2008-09-12].

Table 10 Residues in peanut meat from trials conducted with four foliar applications of prothioconazole (JAU 6474 - 480 SC) on peanuts in USA

PEANUT (Var) Country Location Year	Application			Residues (mg/kg) in peanut meat			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Groundnut (USA)	4 x 0.2		14	Max 0.8 kg ai/ha/year			SC 480
Groundnut (USA)	4 x 0.112		14	With tebuconazole (287)			SC 143

PEANUT (Var) Country Location Year	Application			Residues (mg/kg) in peanut meat			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Peanut (Georgia Greens) USA Tifton, Georgia 2000	0.202	0.137- 0.148	7 14 21 28	< 0.02, < 0.02 < 0.02, < 0.02 < 0.02, < 0.02 < 0.02, < 0.02	< 0.02, < 0.02 <u>&lt; 0.02</u> , < 0.02 < 0.02, < 0.02 < 0.02, < 0.02	< 0.02, < 0.02 < 0.02, < 0.02, < 0.02, < 0.02, < 0.02	200508 J6029-00D M-001548-01-1
Peanut (VA 98R_ USA Suffolk, Virginia 2000	0.203- 0.208	0.096- 0.107	14	< 0.02, < 0.02	<u>&lt; 0.02</u> , < 0.02	< 0.02, < 0.02	200508 J6030-00H M-001548-01-1
Peanut (NC 12C, Lot G- 2204) USA Jamesville, N Carolina 2000	0.202- 0.203	0.07- 0.078	13	< 0.02, < 0.02	<u>&lt; 0.02</u> , < 0.02	< 0.02, < 0.02	200508 J6031-00H M-001548-01-1
Peanut (VAC92RCV92R54399) USA Roper, North Carolina 2000	0.197- 0.199	0.071- 0.078	13	< 0.02, < 0.02	<u>&lt; 0.02</u> , < 0.02	< 0.02, < 0.02	200508 J6032-00H M-001548-01-1
Peanut (Georgia Green) USA Inaha, Georgia 2000	0.197- 0.203	0.148- 0.161	15	< 0.02, < 0.02	<u>&lt; 0.02</u> , < 0.02	< 0.02, < 0.02	200508 J6033-00H M-001548-01-1
Peanut (AgraTech 201) USA Herod, Georgia, 2000	0.201- 0.204	0.158- 0.165	14	< 0.02, < 0.02	<u>&lt; 0.02</u> , < 0.02	< 0.02, < 0.02	200508 J6034-00H M-001548-01-1
Peanut (Georgia Green) USA Columbia, Alabama 2000	0.201- 0.203	0.154- 0.171	15	< 0.02, < 0.02	<u>&lt; 0.02</u> , < 0.02	< 0.02, < 0.02	200508 J6035-00H M-001548-01-1
Peanut (VA 98R) USA Knightdale, N Carolina 2000	0.201- 0.207	0.06 - 0.067	15	< 0.02, < 0.02	<u>&lt; 0.02</u> , < 0.02	< 0.02, < 0.02	200508 J6036-00H M-001548-01-1
Peanut (Georgia Green) USA Vero Beach, Florida 2000	0.202- 0.204	0.133- 0.141	14	< 0.02, < 0.02	<u>&lt; 0.02</u> , < 0.02	< 0.02, < 0.02	200508 J6037-00H M-001548-01-1
Peanut (TAMRun) USA Vernon, Texas, 2000	0.201- 0.206	0.058 - 0.065	14	< 0.02, < 0.02	<u>&lt; 0.02</u> , < 0.02	< 0.02, < 0.02	200508 J6038-00H M-001548-01-1
Peanut (TAMRun) USA Vernon, Texas, 2000	0.201- 0.203	0.058 - 0.064	14	< 0.02, < 0.02	<u>&lt; 0.02</u> , < 0.02	< 0.02, < 0.02	200508 J6039-00H M-001548-01-1
Peanut (Spanco) USA Eakly, Oklahoma, 2000	0.202- 0.211	0.154- 0.161	15	< 0.02, < 0.02	<u>&lt; 0.02</u> , < 0.02	< 0.02, < 0.02	200508 J6040-00H M-001548-01-1

### *Primary feed commodities*

The 2008 JMPR evaluated prothioconazole residue information from North America on a number of primary feed commodities and concluded that the data from these trials could not be used for estimation of residue levels because only the total residue was reported.

The present meeting received further information on the the individual residue components measured in the trials from Canada and USA on the following primary feed commodities and these new data are included in the following tables (initially summarised in the 2008 JMPR Evaluation of prothioconazole).

### *Sugar beet tops*

Table 11 summarises the results in sugar beet tops from sugar beet trials in USA and Canada, initially reported in the 2008 JMPR Evaluation (Prothioconazole – Table 67), with the inclusion of the additional information on residues of prothioconazole sulfonic acid and desthio-prothioconazole [BCS 2009-05-05].

Table 11 Residues in sugar beet tops from trials conducted with three foliar applications of prothioconazole (JAU 6474 - 480 SC) on sugar beet in USA

SUGAR BEET (Var) Country Location Year	Application			Residues (mg/kg) in sugar beet tops			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Sugar beet (USA)	0.15-0.2		7	Maximum 0.6 kg ai/ha/year			
Sugar beet (unknown) USA Springfield, Nebraska 2004	0.201- 0.204	0.147- 0.149	0 7 13 20 27	1.1, 1.1 0.23, 0.19 0.19, 0.14 0.2, 0.14 0.15, 0.13	4.0, 3.8 <u>1.1</u> , 0.94 0.78, 0.67 0.82, 0.61 0.66, 0.54	5.1, 4.9 1.4, 1.1 0.97, 0.81 1.0, 0.75 0.81, 0.67	RAJAY024 JA001-04D M-278843-01-1
Sugar beet (Tonic) USA Sabin, Minnesota 2004	0.203- 0.208	0.197- 0.204	6 14	0.96, 1.3 0.24, 0.37	2.0, <u>2.4</u> 0.68, 1.1	3.0, 3.7 0.92, 1.4	RAJAY024 JA002-04H M-278843-01-1
Sugar beet (Talbot) USA Rockwood, Ontario 2004	0.200- 0.214	0.210- 0.235	6 14	0.37, 0.33 0.15, 0.18	3.2, <u>3.9</u> 1.7, 1.5	3.56, 4.2 1.8, 1.7	RAJAY024 JA003-04H M-278843-01-1
Sugar beet (Hilleshog 2433RZ) USA Britton, South Dakota 2004	0.199	0.212	7 14	1.3, 1.2 0.59, 0.45	<u>2.2</u> , 1.8 1.3, 1.0	3.5, 3.0 1.8, 1.5	RAJAY024 JA004-04H M-278843-01-1
Sugar beet (66283 Medium) USA Theilman, Minnesota 2004	0.201	0.177	6 14	0.11, 0.1 < 0.05, 0.05	<u>1.8</u> , 1.5 1.5, 1.6	1.9, 1.6 1.5, 1.6	RAJAY024 JA005-04H M-278843-01-1
Sugar beet (Crystal 955) USA Velva, North Dakota 2004	0.196- 0.201	0.138- 0.143	7 14	0.52, 0.34 0.14, 0.12	<u>2.1</u> , 1.7 1.3, 0.95	2.6, 2.1 1.4, 1.1	RAJAY024 JA006-04H M-278843-01-1
Sugar beet (Wrangler) USA Levelland, Texas, 2004	0.202- 0.208	0.136- 0.140	7 14	< 0.05, < 0.05 < 0.05, < 0.05	<u>0.48</u> , 0.36 0.26, 0.18	0.52, 0.39 0.29, 0.2	RAJAY024 JA007-04H M-278843-01-1
Sugar beet (Beta 8757 LL) USA Jerome, Idaho, 2004	0.199- 0.203	0.108- 0.110	7 14	0.06, 0.09 0.08, < 0.05	0.38, 0.43 <u>0.45</u> , 0.21	0.44, 0.52 0.53, 0.25	RAJAY024 JA008-04H M-278843-01-1
Sugar beet (Beta 4430R) USA Porterville, California 2004	0.200- 0.202	0.112- 0.143	7 14	0.55, 0.47 0.55, 0.41	<u>1.5</u> , 1.3 1.4, 1.1	2.1, 1.8 2.0, 1.5	RAJAY024 JA009-04H M-278843-01-1

SUGAR BEET (Var) Country Location Year	Application			Residues (mg/kg) in sugar beet tops			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Sugar beet (Alpine) USA, Fresno, California 2004	0.194- 0.208	0.114- 0.118	7 14	0.15, 0.14 0.13, 0.08	<u>1.5</u> , 1.3 1.1, 1.0	1.7, 1.5 1.2, 1.1	RAJAY024 JA010-04H M-278843-01-1
Sugar beet (Beta 4490R) USA Rupert, Idaho, 2004	0.199- 0.202	0.192- 0.201	7 14	0.2, 0.19 < 0.05, 0.06	<u>0.61</u> , 0.5 0.18, 0.29	0.81, 0.69 0.23, 0.35	RAJAY024 JA011-04H M-278843-01-1
Sugar beet (Beta 4490R) USA Twin Falls, Idaho, 2004	0.198- 0.202	0.108- 0.115	7 14	0.11, 0.12 < 0.05, < 0.05	0.54, <u>0.58</u> 0.34, 0.28	0.65, 0.69 0.38, 0.31	RAJAY024 JA012-04H M-278843-01-1

### Wheat forage

Table 12 summarises the results in wheat forage from wheat trials in USA and Canada, initially reported in the 2008 JMPR Evaluation (Prothioconazole – Tables 71 and 72), with the inclusion of the additional information on residues of prothioconazole sulfonic acid and desthio-prothioconazole [BCS 2009-05-05].

Table 12 Residues in wheat forage from trials conducted with two foliar applications of prothioconazole (JAU 6474 - 480 SC) on wheat in North America

WHEAT (Variety) Country Location Year	Application			Residues (mg/kg) in wheat forage			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Wheat (Canada)	2 × 0.2		30				SC 480
Wheat (USA)	1+1 <sup>a</sup> × 0.2		30 <sup>b</sup>	Maximum 0.33 kg ai/ha/year			SC 480
Wheat (Russ Wheat) USA New Rockford, N Dakota 2000	0.124- 0.198	0.045- 0.073	0 1 7 14	1.5, 1.4 0.44, 0.4 < 0.05, < 0.05 < 0.05, < 0.05	6.0, 5.8 2.9, 2.6 0.2, <u>0.23</u> 0.082, 0.082	7.5, 7.2 3.6, 3.0 0.23, 0.26 0.1, 0.1	200524 J6046-00D M-001538-01-1
Wheat (Arapahoe) USA Louisville, Nebraska 2001	0.127- 0.202	0.077- 0.123	0 1 7 14	2.2, 1.7 2.0, 1.9 0.23, 0.18 < 0.05, 0.05	10.06, 5.987 6.2, 6.2 <u>1.6</u> , 1.2 0.23, 0.27	12.3, 7.65 8.2, 8.0 1.8, 1.4 0.27, 0.33	200524 J6045-00D M-001538-01-1
Wheat, winter (Pioneer 2684) USA Tifton, Georgia 2003	0.127- 0.202	0.121- 0.149	7	0.09, 0.063	<u>0.46</u> , 0.32	0.55, 0.38	200524 J6169-00H M-001538-01-1
Wheat, winter (Pioneer 2684) USA Leland, Mississippi 2003	0.128- 0.207	0.08- 0.122	7	0.65, 0.77	1.9, <u>2.1</u>	2.5, 2.9	200524 J6170-00H M-001538-01-1
Wheat, winter (Jagger) USA Stilwell, Kansas 2003	0.124- 0.198	0.087- 0.164	7	< 0.05, 0.057	0.26, <u>0.31</u>	0.31, 0.37	200524 J6171-00H M-001538-01-1
Wheat, winter (Wahoo 14 W3-43) USA Louisville, Nebraska 2003	0.127- 0.202	0.075- 0.137	7	0.26, 0.27	0.85, <u>0.89</u>	1.1, 1.2	200524 J6172-00H M-001538-01-1

WHEAT (Variety) Country Location Year	Application			Residues (mg/kg) in wheat forage			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Wheat. winter (Ogallala) USA Uvalde, Texas, 2002	0.124- 0.204	0.077- 0.094	7	1.6, 1.0	<u>5.4</u> , 3.7	7.0, 4.7	200524 J6173-00H M-001538-01-1
Wheat. spring (Alsen) USA New Rockford, N Dakota 2002	0.128- 0.201	0.045- 0.072	7	0.059, < 0.05	<u>0.37</u> , 0.32	0.43, 0.37	200524 J6174-00H M-001538-01-1
Wheat. spring (Alsen) USA Eldridge, N Dakota 2002	0.126- 0.21	0.045- 0.072	7	< 0.05, < 0.05	0.08, <u>0.09</u>	0.11, 0.12	200524 J6175-00H M-001538-01-1
Wheat. spring (Ingot) USA Leola, South Dakota 2002	0.128- 0.203	0.091- 0.145	7	< 0.05, < 0.05	<u>0.05</u> , < 0.05	0.068, 0.062	200524 J6176-00H M-001538-01-1
Wheat. spring (CDC Teal) Canada Dundum, Saskatchewan 2002	0.124- 0.198	0.115- 0.183	7	0.41, 0.5	1.9, <u>2.4</u>	2.3, 2.9	200524 J6177-00H M-001538-01-1
Wheat. spring (A.C. Barrie) Canada Taber, Alberta, 2002	0.126- 0.208	0.127- 0.201	7	0.14, 0.17	1.3, <u>1.6</u>	1.4, 1.8	200524 J6178-00H M-001538-01-1
Wheat. winter (Tam 105) USA Levelland, Texas, 2003	0.127- 0.199	0.067- 0.108	7	0.42, 0.5	1.0, <u>1.2</u>	1.5, 1.7	200524 J6179-00H M-001538-01-1
Wheat. winter (Jagger) USA Hart, Texas, 2003	0.127- 0.203	0.072- 0.112	7	0.3, 0.22	<u>1.6</u> , 1.1	1.9, 1.3	200524 J6180-00H M-001538-01-1
Wheat. winter (Tam 105) USA Wolforth, Texas, 2003	0.126- 0.204	0.066- 0.109	7	0.46, 0.48	1.8, <u>1.8</u>	2.3, 2.3	200524 J6181-00H M-001538-01-1
Wheat. winter (Coker 9663) USA Colony, Oklahoma, 2003	0.129- 0.197	0.01- 0.16	7	0.21, 0.24	1.1, <u>1.2</u>	1.3, 1.4	200524 J6182-00H M-001538-01-1
Wheat. spring (Pennewawa) USA Hood River, Oregon, 2002	0.123- 0.204	0.063- 0.099	7	0.21, 0.17	<u>0.74</u> , 0.62	0.95, 0.79	200524 J6183-00H M-001538-01-1
Wheat. spring (AC Barrie) USA Minto, Manitoba, 2002	0.124- 0.201	0.083- 0.132	7	< 0.05, < 0.05	0.1, <u>0.11</u>	0.14, 0.14	200524 J6184-00H M-001538-01-1
Wheat. spring (Prodigy) Canada Rosthern, Saskatchewan 2002	0.126- 0.198	0.116- 0.181	7	0.13, 0.14	0.6, <u>0.66</u>	0.73, 0.8	200524 J6185-00H M-001538-01-1
Wheat. spring (AC Splender) Canada Edmonton, Alberta, 2002	0.126- 0.201	0.12- 0.185	7	0.29, 0.21	<u>1.2</u> , 1.0	1.5, 1.2	200524 J6186-00H M-001538-01-1
Wheat. spring (AC Splender) Canada Spruce Grove, Alberta 2002	0.122- 0.199	0.112- 0.19	7	0.11, 0.14	<u>1.3</u> , 1.2	1.4, 1.4	200524 J6187-00H M-001538-01-1

WHEAT (Variety) Country Location Year	Application			Residues (mg/kg) in wheat forage			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Wheat. spring (AC Cora) Canada Brookdale, Manitoba 2002	0.123- 0.199	0.113- 0.119	7	0.15, 0.27	1.4, <u>1.8</u>	1.5, 2.1	200524 J6188-00H M-001538-01-1
Wheat. spring (AC Cora) Canada Bethany, Manitoba 2002	0.127- 0.194	0.113- 0.118	7	0.29, 0.24	<u>1.6</u> , 1.5	1.9, 1.7	200524 J6189-00H M-001538-01-1

<sup>a</sup> Maximum rate/ha/year requires at least 1 application at less than the maximum rate/ha

<sup>b</sup> PHI of 5 days for wheat forage used by US EPA for establishing an MRL for wheat forage.

### Wheat fodder (hay and straw)

Table 13 summarises the results in wheat hay and straw from the trials in USA and Canada, initially reported in the 2008 JMPR Evaluation (Prothioconazole – Tables 71 and 72), with the inclusion of the additional information on residues of prothioconazole sulfonic acid and desthio-prothioconazole [BCS 2009-05-05].

Table 13 Residues in wheat hay and straw from trials conducted with two foliar applications of prothioconazole (JAU 6474 - 480 SC) on wheat in North America

WHEAT (Variety) Country Location Year	Application			Residues (mg/kg) in wheat fodder			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Wheat (Canada)	1 × 0.2		30				SC 480
Wheat (USA)	2 × 0.2		30 <sup>a</sup>	Max 0.33 kg ai/ha/yr			SC 480
Wheat (Russ Wheat) USA New Rockford. N Dakota 2000	0.123- 0.203	0.044- 0.072	6 hay 14 hay 20 hay 28 hay 36 strw 40 strw 46 strw 50 strw	0.4, 0.41 0.13, 0.11 0.046, 0.086 0.086, 0.052 0.095, 0.057 0.057, 0.056 0.076, < 0.05 0.074, < 0.05	2.6, 2.6 <u>0.77</u> , 0.57 0.26, 0.48 0.52, 0.27 <u>0.57</u> , 0.33 0.3, 0.27 0.42, 0.26 0.41, < 0.05	3.1, 3.1 0.9, 0.68 0.31, 0.57 0.6, 0.33 0.66, 0.39 0.35, 0.33 0.49, n.a. 0.31, 0.48	200524 J6046-00D M-001538-01-1
Wheat (Arapahoe) USA Louisville Nebraska 2001	0.127- 0.202	0.078- 0.126	7 hay 14 hay 21 hay 28 hay 35 strw 39 strw 44 strw 49 strw	0.084, 0.066 0.06, 0.06 < 0.05, < 0.05 < 0.05, < 0.05 < 0.05, < 0.05 < 0.05, < 0.05 0.06, < 0.05 < 0.05, < 0.05	0.69, 0.57 0.36, <u>0.42</u> 0.18, 0.15 0.082, 0.06 <u>0.21</u> , 0.17 0.15, 0.17 0.19, 0.15 0.18, < 0.05	0.77, 0.64 0.42, 0.48 0.22, 0.19 0.1, < 0.1 0.25, 0.21 0.18, 0.21 0.25, 0.2 0.21, 0.23	200524 J6045-00D M-001538-01-1
Wheat (Tahoe) Canada St. George. Ontario 2000	0.135- 0.211	0.061- 0.101	17 hay 42 strw	0.067, < 0.05 < 0.05, < 0.05	0.26, 0.25 0.18, 0.13	0.32, 0.29 0.23, 0.17	200524 J6044-00H M-001538-01-1
Wheat (Penawawa) USA Hermiston. Oregon 2000	0.129- 0.206	0.045- 0.071	13 hay 42 strw	0.05, < 0.05 < 0.05, < 0.05	<u>0.32</u> , 0.3 0.1, 0.085	0.37, 0.34 0.14, 0.11	200524 J6047-00H M-001538-01-1

## Prothioconazole

WHEAT (Variety) Country Location Year	Application			Residues (mg/kg) in wheat fodder			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Wheat (Ogallala) USA Uvalde. Texas, 2001	0.13- 0.196	0.069- 0.116	14 hay 42 strw	0.53, 0.56 0.17, 0.14	2.4, <u>2.6</u> 0.68, 0.59	3.0, 3.2 0.85, 0.73	200524 J6048-00H M-001538-01-1
Wheat (Jagger) USA Claude. Texas, 2001	0.128- 0.207	0.065- 0.103	14 hay 41 strw	0.06, 0.06 < 0.05, < 0.05	0.56, <u>0.61</u> 0.27, 0.29	0.61, 0.67 0.31, 0.33	200524 J6049-00H M-001538-01-1
Wheat (Custer) USA Cordell. Oklahoma 2001	0.123- 0.203	0.099- 0.158	14 hay 38 strw	0.2, 0.15 0.09, 0.1	<u>1.5</u> , 1.1 0.53, <u>0.67</u>	1.7, 1.3 0.62, 0.77	200524 J6050-00H M-001538-01-1
Wheat (Custer) USA Frederick. Oklahoma 2001	0.12- 0.198	0.064- 0.102	14 hay 40 strw	0.075, 0.084 0.096	0.36, <u>0.41</u> 0.55	0.43, 0.49 0.65	200524 J6051-00H M-001538-01-1
Wheat (Tam 200) USA Hart. Texas, 2001	0.127- 0.201	0.084- 0.135	13 hay 35 strw	0.28, 0.27 0.24, 0.19	<u>1.6</u> , 1.6 <u>1.4</u> , 1.2	1.9, 1.9 1.6, 1.4	200524 J6052-00H M-001538-01-1
Wheat (2375) USA Velva. North Dakota 2000	0.128- 0.201	0.045- 0.072	13 hay 33 strw	0.05, 0.076 < 0.05, < 0.05	0.27, <u>0.33</u> 0.08, <u>0.12</u>	0.32, 0.4 0.11, 0.15	200524 J6053-00H M-001538-01-1
Wheat (Tam 202. Lot Star 10) USA Levelland. Texas, 2001	0.127- 0.202	0.067- 0.107	13 hay 43 strw	0.27, 0.23 0.19, 0.05	<u>2.3</u> , 1.8 1.7, 0.25	2.6, 2.1 1.9, 0.31	200524 J6054-00H M-001538-01-1
Wheat (Alsen) USA Ellendale. N Dakota 2000	0.126- 0.202	0.068- 0.108	12 hay 39 strw	0.13, 0.16 0.066, 0.06	<u>0.45</u> , 0.39 <u>0.15</u> , 0.13	0.58, 0.55 0.22, 0.18	200524 J6055-00H M-001538-01-1
Wheat (Forge spring wheat) USA Lake Andes. S Dakota 2000	0.126- 0.201	0.071- 0.112	13 hay 46 strw	0.25, 0.17 n.a., 0.14	<u>3.3</u> , 2.2 n.a., 1.2	3.6, 2.4 n.a., 1.4	200524 J6056-00H M-001538-01-1
Wheat (Tahoe) Canada Paris. Ontario, 2000	0.144- 0.2	0.061- 0.101	17 hay 42 strw	0.05, 0.065 < 0.05, < 0.05	0.41, 0.38 0.22, 0.22	0.46, 0.45 0.26, 0.26	200524 J6057-00H M-001538-01-1
Wheat (Mit) USA East Bernard. Texas 2001	0.126- 0.196	0.09- 0.138	12 hay 32 strw	0.14, 0.19 0.14, 0.17	0.57, <u>0.87</u> 0.79, <u>0.89</u>	0.71, 1.1 0.93, 1.1	200524 J6058-00H M-001538-01-1
Wheat (Karl 92) USA Stilwell. Kansas, 2001	0.129- 0.202	0.068- 0.106	16 hay 42 strw	0.093, 0.066 0.05, < 0.05	0.52, 0.28 0.24, 0.21	0.61, 0.34 0.29, 0.25	200524 J6059-00H M-001538-01-1
Wheat (Becks 107) USA Oxford. Indiana, 2001	0.130- 0.203	0.093- 0.147	14 hay 43 strw	0.086, 0.091 < 0.05, < 0.05	0.48, <u>0.55</u> 0.17, 0.17	0.57, 0.64 0.21, 0.22	200524 J6060-00H M-001538-01-1
Wheat (Barrie) Canada Red Deer. Alberta, 2000	0.126- 0.211	0.043- 0.07	14 hay 57 strw	0.06, 0.055 < 0.05, < 0.05	<u>0.29</u> , 0.29 0.15, 0.14	0.35, 0.34 0.18, 0.17	200524 J6061-00H M-001538-01-1
Wheat (HRS wheat prodigy) Canada Monarch. Alberta, 2000	0.127- 0.202	0.032- 0.051	14 hay 30 strw	0.59, 0.47 0.13, 0.11	<u>1.9</u> , 1.4 <u>0.36</u> , 0.28	2.5, 1.8 0.49, 0.39	200524 J6062-00H M-001538-01-1 2000



WHEAT (Variety) Country Location Year	Application			Residues (mg/kg) in wheat fodder			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Wheat (Pioneer 2684) USA Benoit. Mississippi 2001	0.123- 0.205	0.079- 0.12	13 hay 42 strw	0.21, 0.21 0.089, 0.078	<u>1.6</u> , 1.3 0.54, 0.43	1.8, 1.5 0.63, 0.5	00524 J6063-00H M-001538-01-1
Wheat (Cooker 107) USA Knightdale. N Carolina 2001	0.126- 0.199	0.04- 0.062	14 hay 37 strw	0.3, 0.54 0.14, 0.15	1.63, <u>2.0</u> 1.1, <u>1.4</u>	1.9, 2.5 1.3, 1.5	200524 J6064-00H M-001538-01-1
Wheat (AC Cora) Canada Minto. Manitoba, 2000	0.133- 0.21	0.032- 0.051	14 hay 47 strw	0.35, 0.35 0.082, 0.088	1.1, <u>1.1</u> 0.23, 0.24	1.5, 1.5 0.31, 0.33	200524 J6066-00H M-001538-01-1
Wheat (AC Cora) Canada Minto. Manitoba, 2000	0.132- 0.207	0.032- 0.05	14 hay 49 strw	1.4, 1.3 0.28, 0.26	<u>2.2</u> , 2.2 0.58, 0.54	3.6, 3.5 0.86, 0.8	200524 J6067-00H M-001538-01-1
Wheat (AC Barrie) Canada Wakaw. Saskatchewan 2000	0.129- 0.197	0.118- 0.183	12 hay 55 strw	0.34, 0.26 0.08, 0.074	<u>3.0</u> , 2.6 0.71, 0.59	3.3, 2.9 0.79, 0.66	200524 J6068-00H M-001538-01-1
Wheat (McKenzie) Canada Leask. Saskatchewan 2000	0.125- 0.201	0.032- 0.051	12 hay 48 strw	0.16, 0.18 0.064, 0.063	1.3, <u>1.5</u> 0.43, 0.42	1.4, 1.6 0.5, 0.48	200524 J6069-00H M-001538-01-1
Wheat (AC Cadillac) Canada Rostern. Saskatchewan 2000	0.126- 0.195	0.032- 0.05	14 hay 53 strw	0.15, 0.14 < 0.05, < 0.05	<u>0.83</u> , 0.67 0.2, 0.19	0.98, 0.81 0.24, 0.23	200524 J6070-00H M-001538-01-1
Wheat (Barrie (certified)) Canada Brookdale. Manitoba 2000	0.128- 0.204	0.114- 0.184	14 hay 43 strw	0.75, 0.66 < 0.05, 0.05	<u>2.4</u> , 1.9 0.18, 0.23	3.1, 2.6 0.23, 0.28	200524 J6071-00H M-001538-01-1
Wheat (Barrie ) Canada Lacombe. Alberta, 2000	0.126- 0.201	0.042- 0.067	14 hay 57 strw	0.17, 0.19 0.068, 0.06	<u>0.97</u> , 0.89 0.28, 0.26	1.1, 1.1 0.35, 0.32	200524 J6072-00H M-001538-01-1
Wheat (AC Barrie ) Canada Delisle. Saskatchewan 2000	0.127- 0.2	0.032- 0.05	15 hay 38 strw	0.13, 0.11 0.06, 0.06	<u>0.87</u> , 0.72 <u>0.26</u> , 0.25	1.0, 0.82 0.31, 0.31	200524 J6073-00H M-001538-01-1
Wheat (Prodigy) Canada Delisle. Saskatchewan 2000	0.126- 0.2	0.032- 0.051	15 hay 43 strw	0.22, 0.25 0.09, < 0.05	1.2, <u>1.4</u> 0.54, < 0.05	1.4, 1.7 0.58, 0.63	200524 J6074-00H M-001538-01-1
Wheat (HRS wheat prodigy) Canada Warner. Alberta, 2000	0.124- 0.205	0.032- 0.05	14 hay 31 strw	0.43, 0.23 0.28, 0.3	<u>1.9</u> , 1.1 1.6, <u>1.7</u>	2.3, 1.3 1.8, 2.0	200524 J6075-00H M-001538-01-1
Wheat (Prodigy) Canada Coaldale. Alberta, 2000	0.125- 0.198	0.032- 0.05	14 hay 35 strw	0.25, 0.18 0.16, 0.17	<u>1.6</u> , 1.1 <u>0.89</u> , 0.89	1.9, 1.3 1.1, 1.1	200524 J6076-00H M-001538-01-1
Wheat (Prodigy) Canada Kipp. Alberta, 2000	0.126- 0.2	0.032- 0.051	14 hay 30 strw	0.33, 0.45 0.095, 0.11	1.3, <u>2.0</u> 0.35, <u>0.41</u>	1.6, 2.5 0.44, 0.52	200524 J6077-00H M-001538-01-1

<sup>a</sup> Maximum rate/ha/year requires at least 1 application at less than the maximum rate/ha

*Barley fodder (hay and straw)*

Table 14 summarises the results in barley hay and straw from the barley trials in USA and Canada, initially reported in the 2008 JMPR Evaluation (Prothioconazole – Table 75), with the inclusion of the additional information on residues of prothioconazole sulfonic acid and desthio-prothioconazole [BCS 2009-05-05].

Table 14 Residues in barley hay and straw from trials conducted with two foliar applications of prothioconazole (JAU 6474 - 480 SC) on barley in North America

BARLEY (Variety) Country Location Year	Application			Residues (mg/kg) in barley fodder			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Barley (Canada)	1 × 0.2		30				SC 480
Barley (USA)	2 × 0.2		32 <sup>a</sup>	Max 0.33 kg ai/ha/year			SC 480
Barley (Robust) USA Northwood N Dakota 2000	0.131- 0.198	0.047- 0.07	8 hay 13 hay 22 hay 28 hay 32 strw 37 strw 44 strw 47 strw	0.066, 0.079 0.085, 0.099 0.096, 0.083 0.11, 0.084 < 0.05, < 0.05 < 0.05, < 0.05 < 0.05, < 0.05 < 0.05, < 0.05	0.67, 0.75 0.56, 0.63 0.51, 0.44 0.67, 0.48 0.16, 0.15 0.19, 0.16 0.06, 0.079 0.084, 0.094	0.74, 0.83 0.65, 0.73 0.61, 0.53 0.78, 0.56 0.19, 0.18 0.23, 0.19 0.075, 0.096 0.1, 0.11	200806 J6001-00D M-000715-01-1
Barley (Steptoe) USA Hermiston Oregon 2000	0.124- 0.206	0.046- 0.07	13 hay 42 strw	0.06, 0.05 < 0.05, < 0.05	0.3, 0.27 0.04, 0.91	0.36, 0.32 0.05, 1.01	200806 J6002-00H M-000715-01-1 2000
Barley (Baretta) USA Maricopa. Arizona, 2001	0.131- 0.206	0.046- 0.073	14 hay 48 strw	0.38, 0.34 0.17, 0.18	1.4, 1.4 1.2, 1.1	1.8, 1.7 1.3, 1.3	200806 J6003-00H M-000715-01-1
Barley (Baretta) USA Wilcox. Arizona, 2001	0.126- 0.195	0.045- 0.072	15 hay 71 strw	0.54, 0.36 0.26, 0.26	2.0, 1.3 1.1, 1.0	2.67, 1.7 1.32, 1.3	200806 J6004-00H M-000715-01-1
Barley (Robust) USA Velva. N Dakota, 2000	0.128- 0.203	0.046- 0.072	13 hay 33 strw	0.073, 0.062 < 0.05, < 0.05	0.69, 0.61 ≤ 0.05, < 0.05	0.76, 0.67 0.083, 0.1	200806 J6005-00H M-000715-01-1
Barley (Robust) USA New Rockford. N Dakota, 2000	0.126- 0.212	0.044- 0.075	14 hay 36 strw	0.12, 0.11 < 0.05, < 0.05	0.71, 0.55 0.18, 0.27	0.83, 0.66 0.21, 0.31	200806 J6006-00H M-000715-01-1
Barley (Robust) USA Ellendale. N Dakota 2000	0.128- 0.202	0.068- 0.107	14 hay 43 strw	< 0.05, < 0.05 < 0.05, < 0.05	0.53, 0.51 < 0.05, < 0.05	0.58, 0.55 < 0.05, 0.05	200806 J6007-00H M-000715-01-1
Barley (Chapais) Canada Branchton. Ontario 2000	0.128- 0.202	0.062- 0.097	9 hay 14 hay 21 hay 29 hay 36 strw 39 strw 45 strw 49 strw	0.11, 0.08 0.1, 0.05 < 0.05, < 0.05 < 0.05, < 0.05 < 0.05, < 0.05 < 0.05, < 0.05 < 0.05, < 0.05 < 0.05, < 0.05	0.85, 0.55 0.64, 0.27 0.17, 0.12 0.11, 0.16 0.1, 0.17 0.17, 0.14 0.11, 0.12 0.12, 0.11	0.1, 0.63 0.73, 0.32 0.21, 0.17 0.15, 0.2 0.13, 0.21 0.22, 0.18 0.15, 0.16 0.16, 0.15	200806 J6008-00D M-000715-01-1
Barley (Morex) USA Jerome. Idaho, 2000	0.126- 0.204	0.045- 0.073	12 hay 43 strw	0.074, 0.073 < 0.05, < 0.05	0.39, 0.36 < 0.05, 0.05	0.46, 0.44 0.05, 0.065	200806 J6009-00H M-000715-01-1
Barley (Robust) USA Northwood. N Dakota 2000	0.126- 0.201	0.045- 0.072	14 hay 44 strw	0.061, 0.079 < 0.05, < 0.05	0.5, 0.69 0.069, 0.081	0.56, 0.77 0.085, 0.11	200806 J6010-00H M-000715-01-1

BARLEY (Variety) Country Location Year	Application			Residues (mg/kg) in barley fodder			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Barley (AC Stephen) USA Germansville, Pennsylvania, 2000	0.131- 0.197	0.038- 0.065	13 hay 57 strw	0.096, 0.1 < 0.05, 0.05	1.1, <u>1.13</u> 0.14, 0.15	1.19, 1.24 0.19, 0.2	200806 J6013-00H M-000715-01-1
Barley (Robust) Canada Minto. Manitoba, 2000	0.126- 0.206	0.032- 0.051	13 hay 36 strw	3.38, 2.8 0.26, 0.32	<u>2.8</u> , 2.2 0.45, <u>0.61</u>	6.6, 5.3 0.71, 0.93	200806 J6078-00H M-000715-01-1
Barley (Robust) Canada Minto. Manitoba, 2000	0.128- 0.194	0.032- 0.051	16 hay 32 strw	0.76, 1.8 0.57, 0.41	0.87, 2.3 <u>1.3</u> , 0.87	1.8, 3.9 1.8, 1.3	200806 J6079-00H M-000715-01-1
Barley (AC Rosser) Canada Brookdale. Manitoba 2000	0.131- 0.202	0.115- 0.183	14 hay 43 strw	0.76, 0.54 0.11, 0.11	<u>3.3</u> , 2.3 0.49, 0.5	3.4, 2.9 0.6, 0.61	200806 J6080-00H M-000715-01-1
Barley (Bedford) Canada Clanwilliam Manitoba 2000	0.127- 0.204	0.116- 0.183	14 hay 65 strw	0.32 < 0.05, 0.086	<u>2.4</u> 0.29, 0.4	2.7 0.3, 0.4	200806 J6081-00H M-000715-01-1
Barley (AC Metcalf) Canada Marcelin. Saskatchewan 2000	0.124- 0.201	0.032- 0.051	12 hay 48 strw	0.14, 0.13 < 0.05, < 0.05	<u>1.1</u> , 1.0 0.3, 0.3	1.2, 1.1 0.35, 0.35	200806 J6082-00H M-000715-01-1
Barley (Harrington) Canada Rosthem. Saskatchewan 2000	0.127- 0.201	0.032- 0.05	12 hay 43 strw	0.23, 0.22 0.072, 0.066	<u>2.3</u> , 2.0 0.7, 0.69	2.5, 2.25 0.77, 0.75	200806 J6083-00H M-000715-01-1
Barley (Harrington) Canada Wakaw. Saskatchewan 2000	0.127- 0.2	0.116- 0.184	15 hay 34 strw	0.46, 0.53 0.15, 0.16	2.4, <u>3.0</u> 0.77, <u>0.85</u>	3.4, 3.7 0.91, 1.1	200806 J6084-00H M-000715-01-1
Barley Canada Lacombe. Alberta, 2001	0.139- 0.211	0.138- 0.211	13 hay 71 strw	0.061, 0.05 < 0.05, < 0.05	<u>1.3</u> , 1.1 0.13, 0.11	1.38, 1.2 0.16, 0.14	200806 J6085-00H M-000715-01-1
Barley Canada Penhold. Alberta, 2001	0.133- 0.212	0.133- 0.211	13 hay 71 strw	0.066, 0.11 < 0.05, < 0.05	1.1, <u>1.4</u> 0.21, 0.15	1.2, 1.5 0.26, 0.18	200806 J6086-00H M-000715-01-1
Barley (Stein) Canada Rosthem. Saskatchewan 2000	0.124- 0.205	0.115- 0.183	13 hay 52 strw	0.13, 0.14 0.11, 0.11	1.7, <u>1.9</u> 0.64, 0.66	1.9, 2.0 0.75, 0.77	200806 J6087-00H M-000715-01-1
Barley (AC Harper) Canada Kipp. Alberta, 2000	0.127- 0.209	0.063- 0.102	14 hay 47 strw	0.087, 0.062 < 0.05, < 0.05	<u>0.61</u> , 0.45 0.05, 0.05	0.7, 0.5 0.076, 0.063	200806 J6088-00H M-000715-01-1
Barley (Lacombe) Canada Leduc. Alberta, 2000	0.129- 0.209	0.113- 0.183	15 hay 33 strw	0.12, 0.13 < 0.05, 0.06	0.77, <u>0.81</u> 0.2, <u>0.22</u>	0.89, 0.94 0.25, 0.28	200806 J6089-00H M-000715-01-1
Barley (Excel) Canada Delisle. Saskatchewan 2000	0.127- 0.201	0.032- 0.051	15 hay 30 strw	0.23, 0.23 0.13, 0.13	1.5, <u>1.6</u> <u>0.92</u> , 0.88	1.7, 1.8 1.1, 1.0	200806 J6090-00H M-000715-01-1
Barley (Chapais) Canada St-Paul-d'Abbotsford. Quebec, 2000	0.139- 0.209	0.281- 0.465	15 hay 36 strw	0.71, 0.5 0.24, 0.18	<u>4.2</u> , 3.9 <u>1.6</u> , 1.3	4.2, 3.9 1.9, 1.4	200806 J6091-00H M-000715-01-1

<sup>a</sup> Maximum rate/ha/year requires at least 1 application at less than the maximum rate/ha

*Soya bean forage*

Table 15 summarises the results in soya bean forage from the soya bean trials in USA, initially reported in the 2008 JMPR Evaluation (Prothioconazole – Table 78), with the inclusion of the additional information on residues of prothioconazole sulfonic acid and desthio-prothioconazole [BCS 2008-09-12].

Table 15 Residues in soya bean forage from residue trials conducted with three foliar applications of prothioconazole (JAU 6476 - 480 SC) on soya beans in USA

SOYA BEAN (Variety) Country Location Year	Application			Residues (mg/kg) in soya bean forage			Report No Trial No. Doc No	
	kg ai/ha	kg ai/hL	PHI (days) GS	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total		
Soya bean (USA)	3 × 0.1			21	Min 140 L/ha (ground), 47 L/ha (air)			480 SC
Soya (Pioneer 96M20) USA Molino, Florida 2004	0.151- 0.188	0.097- 0.105	71	0 3 7 10 14	0.64, 0.91 <sup>a</sup> 0.26, 0.35 0.15, 0.18 0.17, 0.15 0.11, 0.12	1.6, 2.5 <sup>a</sup> 0.94, 1.2 0.47, 0.57 0.38, 0.35 0.22, 0.25	2.3, 3.4 <sup>a</sup> 1.2, 1.5 0.63, 0.75 0.54, 0.5 0.33, 0.37	RAJAY026 JA014-04D-P1 M-270206-01-1
Soya (Stine 2788) USA Seymour, Illinois 2004	0.147- 0.152	0.118- 0.121	67	0 3 7 10 14	1.0 <sup>a</sup> , 1.0 <sup>a</sup> 0.82 <sup>a</sup> , 0.7 0.31, 0.35 0.32, 0.32 0.09, 0.09	2.7 <sup>a</sup> , 2.6 <sup>a</sup> 1.7 <sup>a</sup> , 1.3 0.88, 1.1 0.8, 0.8 0.39, 0.34	3.7 <sup>a</sup> , 3.6 <sup>a</sup> 2.6 <sup>a</sup> , 2.0 1.2, 1.4 1.1, 1.1 0.48, 0.43	RAJAY026 JA019-04D-P1 M-270206-01-1
Soya (Pioneer RR 97B52) USA Tifton, Georgia, 2004	0.149- 0.15	0.101- 0.105	67	7	0.27, 0.18	1.1, 0.91	1.4, 1.1	RAJAY026 JA015-04H-P1 M-270206-01-1
Soya (Pioneer 9492RR) USA Leland, Mississippi, 2004	0.146- 0.153	0.095- 0.105	69	7	0.4, 0.32	1.6, 1.3	2.0, 1.6	RAJAY026 JA016-04H-P1 M-270206-01-1 2004
Soya (DP 5915 RR) USA Washington, Louisiana 2004	0.149- 0.151	0.096- 0.098	69	7	0.45, 0.44	1.3, 1.3	1.8, 1.8	RAJAY026 JA017-04H-P1 M-270206-01-1
Soya (NKS28W2) USA Springfield Nebraska 2004	0.15- 0.152	0.112- 0.115	67	5	0.24, 0.21	1.1, 1.3	1.3, 1.5	RAJAY026 JA021-04H-P1 M-270206-01-1
Soya (Jim) USA Sabin, Minnesota 2004	0.148- 0.152	0.135- 0.149	73	7	0.08, 0.09	0.62, 0.65	0.7, 0.74	RAJAY026 JA022-04H M-270206-01-1 2004
Soya (Croplan RT0907) USA Britton, South Dakota 2004	0.149	0.158- 0.159	62	7	0.23, 0.19	1.9, 1.5	2.2, 1.7	RAJAY026 JA024-04H-P1 M-270206-01-1
Soya (Croplan RT1447) USA Dumfries, Minnesota 2004	0.15- 0.153	0.085- 0.086	63	7	0.19, 0.18	1.6, 1.4	1.8, 1.6	RAJAY026 JA025-04H-P1 M-270206-01-1
Soya (SC9374) USA New Holland, Ohio 2004	0.148- 0.154	0.104- 0.105	69	6	0.08, 0.11	0.94, 1.1	1.0, 1.2	RAJAY026 JA026-04HA M-270206-01-1 2004

SOYA BEAN (Variety) Country Location Year	Application			Residues (mg/kg) in soya bean forage			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days) GS	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Soya (92M70) USA Bagley, Iowa, 2004	0.145- 0.156	0.09- 0.096	67   7	0.33, 0.29	1.3, 1.2	1.6, 1.5	RAJAY026 JA027-04H-P1 M-270206-01-1 2004
Soya (DynaGro DG 32M32RR) USA York, Nebraska, 2004	0.149- 0.154	0.08- 0.083	18   7	0.15, 0.11	0.81, 0.55	0.97, 0.67	RAJAY026 JA028-04H-P1 M-270206-01-1 2004
Soya (Pioneer 93M80) USA Richland, Iowa 2004	0.149- 0.154	0.093- 0.113	75   7	0.06, < 0.05	0.43, 0.08	0.48, 0.09	RAJAY026 JA030-04H-P1 M-270206-01-1
Soya (Pioneer 91M50) USA Geneva, Minnesota 2004	0.148- 0.152	0.1- 0.103	64   7	0.27, 0.32	2.0, 2.4	2.3, 2.8	RAJAY026 JA031-04H-P1 M-270206-01-1
Soya (Pioneer 93B85) USA Hudson, Kansas 2004	0.145- 0.157	0.088- 0.09	77   6	0.16, 0.2	1.0, 1.1	1.2, 1.3	RAJAY026 JA032-04H-P1 M-270206-01-1
Soya (AG4403RR) USA Proctor, Arkansas 2005	0.148- 0.151	0.106- 0.108	65   7	0.83, 0.78	2.7, 2.6	4.5, 4.0	RAJAY026 JA018-04HA M-270206-01-1
Soya (Taylor427RR) USA Stilwell, Kansas, 2005	0.147- 0.151	0.108- 0.112	75   7	0.22, 0.21	1.4, 1.4	1.6, 1.6	RAJAY026 JA020-04HA M-270206-01-1
Soya (Dairyland 3410 RR) USA Sheridan, Indiana 2005	0.148- 0.149	0.076- 0.086	69   7	< 0.05, < 0.05	< 0.05, < 0.05	< 0.05, < 0.05	RAJAY026 JA029-04HA M-270206-01-1
Soya (NK43-B1) USA Carlyle, Illinois, 2005	0.149- 0.152	0.086- 0.11	66   7	0.08, 0.08	< 0.05, < 0.05	0.091, 0.088	RAJAY026 JA033-04HA M-270206-01-1

<sup>a</sup> mean value from duplicate analyses

### Soya bean hay

Table 16 summarises the results in soya bean hay from the soya bean trials in USA, initially reported in the 2008 JMPR Evaluation (Prothioconazole – Table 78), with the inclusion of the additional information on residues of prothioconazole sulfonic acid and desthio-prothioconazole [BCS 2008-09-12].

Table 16 Residues in soya bean hay from residue trials conducted with three foliar applications of prothioconazole (JAU 6476 - 480 SC) on soya beans in USA

SOYA BEAN (Variety) Country Location Year	Application			Residues (mg/kg) in soya bean hay			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days) GS	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Soya bean (USA)	3 × 0.1		21	Min 140 L/ha (ground), 47 L/ha (air)			SC 480

SOYA BEAN (Variety) Country Location Year	Application			Residues (mg/kg) in soya bean hay			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days) GS	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Soya (Pioneer 96M20) USA Molino, Florida 2004	0.151- 0.188	0.097- 0.105	71 0 3 7 10 14	4.6, 3.2 1.5, 1.1 0.7, 0.68 0.44, 0.43 0.42, 0.53	14, 10 5.3, 5.3 2.0, 1.9 1.1, 1.2 0.85, 1.0	19, 13 6.8, 6.4 2.7, 2.6 1.6, 1.6 1.3, 1.5	RAJAY026 JA014-04D-P1 M-270206-01-1
Soya (Stine 2788) USA Seymour, Illinois 2004	0.147- 0.152	0.118- 0.121	67 0 3 7 10 14	5.5, 4.7 3.0, 3.3 1.4, 1.3 1.1, 1.4 0.31, 0.34	14, 13 5.9, 6.9 4.8, 3.9 3.0, 3.7 1.4, 1.6	19, 18 8.9, 10 6.2, 5.1 4.1, 5.0 1.7, 1.9	RAJAY026 JA019-04D-P1 M-270206-01-1
Soya (Pioneer RR 97B52) USA Tifton, Georgia, 2004	0.149- 0.15	0.101- 0.105	67 7	0.86, 0.43	4.7, 1.9	5.6, 2.4	RAJAY026 JA015-04H-P1 M-270206-01-1
Soya (Pioneer 9492RR) USA Leland, Mississippi 2004	0.146- 0.153	0.095- 0.105	69 7	0.8, 1.6	5.1, 5.3	5.9, 6.9	RAJAY026 JA016-04H-P1 M-270206-01-1 2004
Soya (DP 5915 RR) USA Washington, Louisiana 2004	0.149- 0.151	0.096- 0.098	69 7	1.5, 1.3	5.2, 4.7	6.7, 6.0	RAJAY026 JA017-04H-P1 M-270206-01-1
Soya (NKS28W2) USA Springfield Nebraska 2004	0.15- 0.152	0.112- 0.115	67 5	0.76, 0.82	4.0, 4.2	4.8, 5.0	RAJAY026 JA021-04H-P1 M-270206-01-1
Soya (Jim) USA Sabin, Minnesota 2004	0.148- 0.152	0.135- 0.149	73 7	0.45, 0.49	3.7, 3.8	4.1, 4.3	RAJAY026 JA022-04H M-270206-01-1 2004
Soya (Croplan RT0907) USA Britton, South Dakota 2004	0.149	0.158- 0.159	62 7	0.79, 0.61	6.4, 4.9	7.2, 5.5	RAJAY026 JA024-04H-P1 M-270206-01-1
Soya (Croplan RT1447) USA Dumfries, Minnesota 2004	0.15- 0.153	0.085- 0.086	63 7	0.72, 0.89	5.9, 7.3	6.7, 8.2	RAJAY026 JA025-04H-P1 M-270206-01-1
Soya (SC9374) USA New Holland, Ohio 2004	0.148- 0.154	0.104- 0.105	69 6	0.17, 0.18	1.5, 1.3	1.6, 1.5	RAJAY026 JA026-04HA M-270206-01-1 2004
Soya (92M70) USA Bagley, Iowa 2004	0.145- 0.156	0.09- 0.096	67 7	1.3, 0.98	5.6, 4.7	6.9, 5.7	RAJAY026 JA027-04H-P1 M-270206-01-1 2004
Soya (DynaGro DG 32M32RR) USA York, Nebraska 2004	0.149- 0.154	0.08- 0.083	18 7	0.37, 0.39	3.9, 3.9	4.3, 4.3	RAJAY026 JA028-04H-P1 M-270206-01-1 2004
Soya (Pioneer 93M80) USA Richland, Iowa, 2004	0.149- 0.154	0.093- 0.113	75 7	0.84, 0.58	6.2, 3.7	7.0, 4.3	RAJAY026 JA030-04H-P1 M-270206-01-1

SOYA BEAN (Variety) Country Location Year	Application			Residues (mg/kg) in soya bean hay			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days) GS	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Soya (Pioneer 91M50) USA Geneva, Minnesota 2004	0.148- 0.152	0.1- 0.103	64 7	0.87, 0.81	7.6, 7.3	8.4, 8.1	RAJAY026 JA031-04H-P1 M-270206-01-1
Soya (Pioneer 93B85) USA Hudson, Kansas 2004	0.145- 0.157	0.088- 0.09	77 6	0.66, 0.75	4.6, 4.5	5.3, 5.3	RAJAY026 JA032-04H-P1 M-270206-01-1
Soya (AG4403RR) USA Proctor, Arkansas 2005	0.148- 0.151	0.106- 0.108	65 7	4.1, 4.5	13, 14	18, 19	RAJAY026 JA018-04HA M-270206-01-1
Soya (Taylor427RR) USA Stilwell, Kansas 2005	0.147- 0.151	0.108- 0.112	75 7	0.87, 0.62	6.3, 4.6	7.2, 5.2	RAJAY026 JA020-04HA M-270206-01-1
Soya (Dairyland 3410 RR) USA Sheridan, Indiana 2005	0.148- 0.149	0.076- 0.086	69 7	0.82, 0.52	6.1, 3.7	6.9, 4.3	RAJAY026 JA029-04HA M-270206-01-1
Soya (NK43-B1) USA Carlyle, Illinois, 2005	0.149- 0.152	0.086- 0.11	66 7	0.16, 0.14	2.2, 1.8	2.4, 1.9	RAJAY026 JA033-04HA M-270206-01-1

### *Peanut hay*

Table 17 summarises the results in peanut hay from the peanut trials in USA, initially reported in the 2008 JMPR Evaluation (Prothioconazole – Table 77), with the inclusion of the additional information on residues of prothioconazole sulfonic acid and desthio-prothioconazole [BCS 2008-09-12].

Table 17 Residues in peanut hay from trials conducted with four foliar applications of prothioconazole (JAU 6474 - 480 SC) on peanuts in USA

PEANUT (Variety) Country Location Year	Application			Residues (mg/kg) in peanut hay			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Groundnut (USA)	4 × 0.2		14	No feeding to livestock			SC 480
Groundnut (USA)	4 × 0.112		14	No feeding to livestock			SC 143 (with tebuconazole)
Peanut (Georgia Greens) USA Tifton, Georgia, 2000	0.202	0.137- 0.148	7 14 21 28	0.1, 0.11 0.12, 0.088 0.094, 0.11 0.062, 0.1	2.3, 2.3 4.2, 2.8 3.3, 3.8 2.0, 3.7	2.4, 2.4 4.4, 2.9 3.4, 4.0 2.1, 3.8	200508 J6029-00D M-001548-01-1
Peanut (VA 98R_ USA Suffolk, Virginia 2000	0.203- 0.208	0.096- 0.107	14	0.084, 0.11	2.7, 3.6	2.8, 3.7	200508 J6030-00H M-001548-01-1
Peanut (NC 12C, Lot G- 2204) USA Jamesville, N Carolina 2000	0.202- 0.203	0.07- 0.078	13	0.05, 0.072	1.6, 2.8	1.6, 2.9	200508 J6031-00H M-001548-01-1

PEANUT (Variety) Country Location Year	Application			Residues (mg/kg) in peanut hay			Report No Trial No. Doc No
	kg ai/ha	kg ai/hL	PHI (days)	JAU 6476 -sulfonic acid	JAU 6476 -desthio	JAU 6476 - total	
Peanut (VAC92RCV92R54399) USA Roper, North Carolina 2000	0.197- 0.199	0.071- 0.078	13	0.16, 0.1	3.7, 2.2	3.8, 2.3	200508 J6032-00H M-001548-01-1
Peanut (Georgia Green) USA Inaha, Georgia, 2000	0.197- 0.203	0.148- 0.161	15	0.049, 0.06	0.94, 1.2	1.0, 1.2	200508 J6033-00H M-001548-01-1
Peanut (AgraTech 201) USA Herod, Georgia, 2000	0.201- 0.204	0.158- 0.165	14	0.12, 0.1	2.6, 1.9	2.7, 2.0	200508 J6034-00H M-001548-01-1
Peanut (Georgia Green) USA Columbia, Alabama 2000	0.201- 0.203	0.154- 0.171	15	0.11, 0.09	2.9, 2.5	3.0, 2.6	200508 J6035-00H M-001548-01-1
Peanut (VA 98R) USA Knightdale, N Carolina 2000	0.201- 0.207	0.06 - 0.067	15	0.094, 0.12	1.8, 2.3	1.9, 2.3	200508 J6036-00H M-001548-01-1
Peanut (Georgia Green) USA Vero Beach, Florida 2000	0.202- 0.204	0.133- 0.141	14	0.12, 0.1	2.1, 1.6	2.2, 1.7	200508 J6037-00H M-001548-01-1
Peanut (TAMRun) USA Vernon, Texas, 2000	0.201- 0.206	0.058 - 0.065	14	1.2, 0.71	3.2, 1.8	4.5, 2.8	200508 J6038-00H M-001548-01-1
Peanut (TAMRun) USA Vernon, Texas, 2000	0.201- 0.203	0.058 - 0.064	14	0.69, 0.8	1.9, 2.2	2.6, 3.0	200508 J6039-00H M-001548-01-1
Peanut (Spanco) USA Eakly, Oklahoma 2000	0.202- 0.211	0.154 - 0.161	15	0.25, 0.37	1.5, 2.4	1.8, 2.8	200508 J6040-00H M-001548-01-1

## APPRAISAL

Prothioconazole was evaluated for the first time by the 2008 JMPR which recommended maximum residue limits for barley, oats, rye, triticale and wheat grain and straw, peanut, rape seed and for meat, mammalian fats, edible offal and milks based on a residue definition of 'prothioconazole-desthio'.

At the 41<sup>st</sup> Session of the CCPR, the Delegation of the USA expressed a concern that because JMPR had adopted the above residue definition, all US field trial data which reported only 'total residue' (i.e., the sum of prothioconazole and desthio-prothioconazole) had been discarded, even though residues of the parent compound, prothioconazole were a very small part of the total residue.

The CCPR noted this concern and requested JMPR to review the existing US data (together with any additional residue information) on pulses, sugar beet, cereal grains (wheat and barley), canola (rape seed), soya bean, and cereal forages/straws.

The current Meeting was provided with information on residues of the sulfonic acid and desthio metabolites of prothioconazole that were analysed separately in the above US/Canadian field trials (but initially summed and reported as 'total prothioconazole' residues).



### *Results of supervised trials on crops*

The NAFTA statistical calculator was used as a tool in the estimation of the maximum residue level from the selected residue data set obtained from trials conducted according to GAP. As a first step, the Meeting reviewed all relevant factors related to each data set in arriving at a best estimate of the maximum residue level using expert judgement. Then, the NAFTA calculator was employed. If the statistical calculation spreadsheet suggested a different value from that recommended by the JMPR, a brief explanation of the deviation was supplied. Some common factors that may lead to rejection of the statistical estimate include when the number of data points in a data set is < 15 or when there are a large number of values < LOQ.

#### *Pulses (beans (dry), peas (dry) and soya bean)*

The 2008 JMPR reported that a total of 22 trials on peas (dry) and beans (dry) were carried out with 3 foliar application of a SC480 formulation at a target rate of 200 g/ha in Canada (9) and USA (13), but that the results of these trials could not be used to estimate residue levels as only total prothioconazole residues had been reported. The 2008 JMPR also reported that although 19 trials in USA on soya beans had been provided, these did not comply with the US GAP and also only reported total prothioconazole residues.

Additional information on residues of desthio-prothioconazole and prothioconazole sulfonic acid in these trials were provided to the meeting.

In trials on beans conducted in the USA and Canada, matching the USA GAP (3 × 0.2 kg ai/ha, PHI 7 days), residues of desthio-prothioconazole in beans (dry) were < 0.05 (7), 0.08, 0.12 and 0.22 mg/kg (n = 10).

In trials conducted on field peas in USA and Canada, matching the North American GAP (3 × 0.2 kg ai/ha, PHI 7 days), residues of desthio-prothioconazole in peas (dry) were < 0.05 (7), 0.06, 0.1, 0.11, 0.36, 0.49 and 0.57 mg/kg (n = 13)

The Meeting considered that these results for peas (dry) and beans (dry) were from similar populations and based on the combined residue data set (< 0.05 (13), < 0.05, 0.06, 0.08, 0.1, 0.11, 0.12, 0.22, 0.36, 0.49 and 0.57 mg/kg (n = 23), estimated a maximum residue level of 1 mg/kg for prothioconazole in pulses (except soya beans, dry) and estimated an STMR of 0.05 mg/kg.

The value derived from use of the NAFTA calculator was 0.83 mg/kg, which differed from the estimate of 1 mg/kg made by the Meeting. With 60% of the values < LOQ, a higher level is required to accommodate the range of commodities in this commodity group.

While information on residues of desthio-proconazole in soya beans (dry) were provided from trials conducted on soya beans in USA, the Meeting confirmed that these trials, involving three foliar applications of about 0.15 kg ai/ha, were not supported by any matching GAP.

#### *Sugar beet*

The 2008 JMPR received reports of 12 residue trials on sugar beet from USA, complying with US GAP, but where only total residues were reported.

Information on residues of desthio-prothioconazole and prothioconazole sulfonic acid in sugar beet roots from these trials were provided to the meeting.

In trials on sugar beet conducted in the USA and Canada, matching the North American GAP (3 × 0.2 kg ai/ha, PHI 7 days), residues of desthio-prothioconazole in sugar beet roots were < 0.05 (8), < 0.05, 0.11, 0.17 and 0.19 mg/kg (n = 12).

The Meeting estimated a maximum residue level of 0.3 mg/kg for prothioconazole in sugar beet and estimated an STMR of 0.05 mg/kg.

The value derived from use of the NAFTA calculator was 0.18 mg/kg, which differed from the estimate of 0.3 mg/kg made by the Meeting. With 75% of the values < LOQ, the Meeting

considered the calculator derived value may not be a reliable estimate of maximum expected residues in sugar beet.

### *Cereal grains*

The 2008 JMPR reported that a total of 123 trials had been carried out on cereals (wheat, triticale and barley) with SC 480, EC250 and FS200 formulations in Canada, Europe and USA but that only 'total residues' had been reported from US and Canadian trials.

Based on the European data and GAP, the 2008 JMPR recommended a maximum residue of 0.05 mg/kg for barley, oat, rye, triticale and wheat, based on the combined data for barley and wheat following a seed treatment and 2–3 applications of 0.2 kg ai/ha, PHI 35–64 days. Results from these European trials were < 0.01 (10), 0.01, 0.01, 0.02 (4) mg/kg for barley grain and < 0.01 (16) for wheat grain.

Information on residues of desethio-prothioconazole and prothioconazole sulfonic acid in wheat and barley from the North American trials were provided to the present meeting.

### *Wheat*

In trials on wheat conducted in the USA and Canada, matching the USA GAP (up to 2 × 0.2 kg ai/ha, maximum 0.33 kg ai/ha/year, PHI 30 days), residues of desethio-prothioconazole in wheat grain were < 0.02 (8), < 0.02, 0.02, 0.03, 0.04 and 0.05 mg/kg (n = 13).

The Meeting estimated a maximum residue level of 0.1 mg/kg for prothioconazole in wheat (to replace the previous recommendation of 0.05 mg/kg) and estimated an STMR value of 0.02 mg/kg (to replace the previous estimate of 0.01 mg/kg).

The value derived from use of the NAFTA calculator was 0.07 mg/kg, which differed from the estimate of 0.1 mg/kg made by the Meeting. With 70% of the values < LOQ, the Meeting considered the calculator derived value may not be a reliable estimate of maximum expected residues in wheat grain.

### *Barley*

In trials on barley conducted in USA and Canada, matching the USA GAP (up to 2 × 0.2 kg ai/ha, maximum 0.33 kg ai/ha/year, PHI 32 days), residues of desethio-prothioconazole in barley grain were < 0.02, < 0.02, < 0.02, 0.03, 0.03, 0.04, 0.05, 0.07, 0.07 and 0.09 mg/kg (n = 10).

The Meeting estimated a maximum residue level of 0.2 mg/kg for prothioconazole for barley (to replace the previous recommendation of 0.05 mg/kg) and estimated an STMR value of 0.035 mg/kg (to replace the previous estimate of 0.01 mg/kg).

The value derived from use of the NAFTA calculator of 0.2 mg/kg was in agreement with the estimate of 0.2 mg/kg made by the Meeting.

The Meeting also confirmed the 2008 JMPR recommendations for oat, rye and triticale, where maximum residue levels of 0.05 mg/kg and STMRs of 0.01 mg/kg were estimated, based on extrapolation from the European data on wheat and barley matching the European GAP for these cereal crops.

### *Oil seeds*

The 2008 JMPR received a total of 34 trials on oil seed rape/canola carried out with either EC250 or SC 480 formulations. The trials were performed in Canada (16), France (7), Germany (2), the UK (2), Sweden (1) and the USA (6). In the 22 Canadian and USA trials only the total residue was reported.

Based on data from the European trials matching the UK GAP ( $2 \times 0.175$  kg ai/ha, PHI 56 days), with reported prothioconazole-desthio residues of  $< 0.01$  (7), 0.01 (3) and 0.02 mg/kg, the 2008 JMPR recommended a maximum residue level of 0.05 mg/kg for rape seed.

Information on residues of desthio-prothioconazole and prothioconazole sulfonic acid in the North American trials were provided to the meeting. GAP in USA is for two applications during early-mid flowering, prior to significant petal fall and at least 36 days before harvest.

In trials on oil seed rape (canola) conducted in USA and Canada, matching the USA GAP ( $2 \times 0.2$  kg ai/ha, 14 days apart, early-mid flowering, minimum 30 day PHI) residues of desthio-prothioconazole in rape seed sampled at earliest maturity, i.e., 36 to 71 days after a mid-late flowering treatment, and consistent with the US GAP) were  $< 0.02$  (8),  $< 0.02$ , 0.03, 0.04 and 0.08 mg/kg (n = 12)

The Meeting estimated a maximum residue level of 0.1 mg/kg for prothioconazole in rape seed based on the US GAP and data (to replace the previous recommendation of 0.05 mg/kg) and estimated an STMR of 0.02 mg/kg (to replace the previous value of 0.01 mg/kg).

The value derived from use of the NAFTA calculator of 0.08 mg/kg differed from the estimate of 0.1 mg/kg made by the Meeting. With 75% of the values  $< \text{LOQ}$ , the calculator value may not be a reliable estimate of maximum expected residues in wheat grain.

#### *Peanut*

Information on the residues of desthio-prothioconazole in peanut meat from the trials on peanuts conducted in the USA (and initially summarised by the 2008 JMPR) was provided to the meeting.

The present meeting agreed that the information, reporting desthio-prothioconazole residues of  $< 0.02$  mg/kg in 12 trials matching the US GAP, confirmed the 2008 JMPR conclusion (based on the lack of measurable 'total residues' in these trials) that only low residues of desthio-prothioconazole would be expected in peanut meat.

The Meeting confirmed the previous recommendations for a maximum residue level of 0.02(\*) mg/kg for prothioconazole in peanut and an STMR of 0.01 mg/kg.

#### *Primary feed commodities*

The 2008 JMPR evaluated prothioconazole residue information from North America on a number of primary feed commodities and concluded that the data from these trials could not be used for estimation of residue levels because only the total residue was reported.

The present meeting received information on the the individual residue components measured in these trials from Canada and USA.

#### *Sugar beet leaves and tops*

The 2008 JMPR received reports of 12 residue trials on sugar beet from USA, complying with US GAP, but where only total residues were reported. These studies were not evaluated by the 2008 Meeting.

Information on residues of desthio-prothioconazole and prothioconazole sulfonic acid in sugar beet tops from these trials were provided to the present meeting.

In trials on sugar beet conducted in USA and Canada, matching the North American GAP ( $3 \times 0.2$  kg ai/ha, PHI 7 days), residues of desthio-prothioconazole in sugar beet tops were 0.45, 0.48, 0.58, 0.61, 1.1, 1.5, 1.5, 1.8, 2.1, 2.2, 2.4 and 3.9 mg/kg (n = 12)

The Meeting estimated an STMR of 1.5 mg/kg and a highest residue of 3.9 mg/kg for desthio-prothioconazole in sugar beet tops.

*Soya bean forage and hay*

While the present meeting received data on residues of desethio-prothioconazole in soya bean forage and hay from trials initially evaluated by the 2008 JMPR, none of these trials matched the US GAP and the meeting was unable to use these data to estimate residue levels.

*Peanut hay*

The present meeting received data on residues of desethio-prothioconazole in peanut hay from trials in USA, initially evaluated by the 2008 JMPR, but as noted by the 2008 JMPR, peanut hay from prothioconazole-treated peanuts cannot be used as an animal feed in USA, and the Meeting was unable to use these data to estimate residue levels.

*Cereal forage, hay and straw**Cereal forage*

The 2008 JMPR noted that forage samples in most of the North American trials and many European trials were taken 7 days after last application and since several countries labels do not contain any restriction on grazing, this 7-day sampling interval was considered the shortest under practical conditions, and residues measured in 7 day samples were used for estimation of animal burden. In the North European trials considered by the 2008 JMPR, the prothioconazole-desethio residues (fresh weight) 7 days after their last application were: 0.11, 0.32, 0.57, 0.65, 0.78, 0.89, 0.92, 1.0, 1.1 and 1.8 mg/kg in wheat forage and 0.6, 0.85, 1.0, 1.2, 1.7, 2.0 and 2.6 mg/kg in barley forage.

Information on residues of desethio-prothioconazole and prothioconazole sulfonic acid in wheat forage from the North American trials were provided to the present meeting.

In trials conducted in the USA and Canada, matching the USA GAP (up to  $2 \times 0.2$  kg ai/ha, maximum 0.33 kg ai/ha/year), residues of desethio-prothioconazole in wheat forage sampled 7 days after the last application were 0.05, 0.09, 0.11, 0.23, 0.31, 0.37, 0.46, 0.66, 0.74, 0.89, 1.2, 1.2, 1.2, 1.3, 1.6, 1.6, 1.6, 1.8, 1.8, 2.1, 2.4 and 5.4 mg/kg (n = 23, fresh weight basis).

The meeting agreed that for purposes of calculating animal dietary burdens, the results of the North American trials on wheat could be used to calculate animal dietary burdens from both wheat and barley forage, and estimated STMRs of 1.2 mg/kg and highest residues of 5.4 mg/kg for wheat and barley forages (to replace the previous STMR estimates of 0.96 mg/kg and highest residue estimates of 2.6 mg/kg).

For other cereal forage commodities, the Meeting confirmed the STMRs of 0.96 mg/kg and highest residues of 2.6 mg/kg for oat, rye, and triticale forage, estimated by the 2008 JMPR based on the combined European data for wheat and barley.

*Cereal fodders*

Information on residues of desethio-prothioconazole and prothioconazole sulfonic acid in wheat and barley hay from the North American trials were provided to the present meeting.

In trials conducted in USA and Canada, matching the GAP of the USA (up to  $2 \times 0.2$  kg ai/ha, maximum 0.33 kg ai/ha/year), residues of desethio-prothioconazole in wheat hay sampled 12–14 days after the last application were 0.21, 0.29, 0.32, 0.33, 0.41, 0.42, 0.45, 0.55, 0.61, 0.77, 0.83, 0.87, 0.87, 0.97, 1.1, 1.4, 1.4, 1.5, 1.6, 1.6, 1.6, 1.9, 1.9, 2.0, 2.0, 2.2, 2.3, 2.4, 2.6, 3.0 and 3.3 mg/kg (n = 31, fresh weight basis).

In trials conducted in USA and Canada, matching the USA GAP (up to  $2 \times 0.2$  kg ai/ha, maximum 0.33 kg ai/ha/year) residues of desethio-prothioconazole in barley hay sampled 12–14 days after the last application were 0.3, 0.39, 0.53, 0.61, 0.63, 0.64, 0.69, 0.69, 0.71, 0.81, 1.1, 1.1, 1.3, 1.4, 1.4, 1.6, 1.9, 2.0, 2.3, 2.4, 2.8, 3.0, 3.3 and 4.2 mg/kg (n = 24, fresh weight basis).

The Meeting agreed that because of the similarity of the data sets for wheat and barley hay the data sets for wheat and barley hays could be combined to recommend a maximum residue level for cereal hays.

Based on the combined data set of: 0.21, 0.29, 0.3, 0.32, 0.33, 0.39, 0.41, 0.42, 0.45, 0.53, 0.55, 0.61, 0.61, 0.63, 0.64, 0.69, 0.69, 0.71, 0.77, 0.81, 0.83, 0.87, 0.87, 0.97, 1.1, 1.1, 1.1, 1.3, 1.4, 1.4, 1.4, 1.4, 1.5, 1.6, 1.6, 1.6, 1.6, 1.9, 1.9, 1.9, 2.0, 2.0, 2.0, 2.2, 2.3, 2.3, 2.4, 2.4, 2.6, 2.8, 3.0, 3.0, 3.3, 3.3 and 4.2 mg/kg (n = 55) and allowing for the common 88% dry matter content for most cereal hays, the meeting estimated a maximum residue level of 5 mg/kg, an STMR of 1.5 mg/kg and a highest residue of 4.8 mg/kg for desthio-prothioconazole for fodder (dry) of cereal grains

The value derived from use of the NAFTA calculator of 6 mg/kg, after adjusting for dry matter content and rounding, differed from the estimate of 5 mg/kg made by the Meeting. The Meeting considered the value derived from the NAFTA calculator to have been shaped by the lowest values in the dataset.

The 2008 JMPR evaluated data from European cereal trials and estimated an STMR of 0.3 mg/kg, a highest residue of 1.36 mg/kg and a maximum residue level of 2 mg/kg, for barley, oat, rye, triticale and wheat straw (dry weight), based on a combined data set for wheat and barley straw (fresh weight) of: 0.08, 0.08, 0.09, 0.1, 0.1, 0.11, 0.13, 0.13, 0.14, 0.14, 0.14, 0.15, 0.16, 0.19, 0.19, 0.2, 0.24, 0.25, 0.27, 0.3, 0.31, 0.38, 0.42, 0.47, 0.52, 0.53, 0.53, 0.72, 0.72, 0.72, 0.75, 0.77, 1.0, 1.1, 1.1, and 1.2 mg/kg.

In trials on wheat conducted in USA and Canada, matching the USA GAP (up to 2 × 0.2 kg ai/ha, maximum 0.33 kg ai/ha/year, PHI 30 days) residues of desthio-prothioconazole in wheat straw from 13 of these trials, sampled at grain harvest, close to 30 days after the last treatment, residues (fresh weight basis) were 0.12, 0.15, 0.21, 0.23, 0.36, 0.41, 0.57, 0.67, 0.89, 0.89, 1.4, 1.4 and 1.7 mg/kg (n = 13).

In trials on barley conducted in USA and Canada, matching the USA GAP (up to 2 × 0.2 kg ai/ha, maximum 0.33 kg ai/ha/year, PHI 32 days) residues of desthio-prothioconazole in barley straw from 10 of these trials, sampled at grain harvest, close to 32 days after the last treatment, residues (fresh weight basis) were: < 0.05, 0.17, 0.19, 0.22, 0.27, 0.61, 0.85, 0.92, 1.3 and 1.6 mg/kg (n = 10).

The Meeting agreed that because of the similarity of the data sets for wheat and barley straw, the data sets for wheat and barley straws could be combined to recommend a maximum residue level for cereal straws.

Based on the combined data set of: < 0.05, 0.12, 0.15, 0.17, 0.19, 0.21, 0.22, 0.23, 0.27, 0.36, 0.41, 0.57, 0.61, 0.67, 0.85, 0.89, 0.89, 0.92, 1.3, 1.4, 1.4, 1.6 and 1.7 mg/kg (n = 23) and allowing for the common 88% dry matter content for most cereal straws, the meeting estimated a maximum residue level of 4 mg/kg, an STMR of 0.65 mg/kg and a highest residue of 1.9 mg/kg for desthio-prothioconazole (dry weight basis) in straw and fodder (dry) of cereal grains and to withdraw the previous recommendations for maximum residue levels, STMRs and highest residues for barley straw, oat straw, rye straw, triticale straw and wheat straw.

The value derived from use of the NAFTA calculator of 5 mg/kg, after adjusting for dry matter content and rounding, differed from the estimate of 4 mg/kg made by the Meeting. The NAFTA calculator derived value appeared to be influenced by the lowest values in the dataset.

### ***Fate of residues during processing***

The 2008 JMPR evaluated a number of studies on the effects of processing on the fate of prothioconazole residues in wheat, rape seed, peanut and soya bean. Processing factors derived from these studies included:

raw agricultural commodity (RAC)	Processed commodity	Calculated processing factors.
peanut	meal	1.8
peanut	peanut butter	0.6
peanut	peanut, roasted	0.5
peanut	refined oil	< 0.1
rape seed	meal	< 0.7
rape seed	refined oil	< 0.7
wheat	aspirated grain fraction	250
wheat	bran	2.4
wheat	flour	< 0.4
wheat	middling	0.6
wheat	shorts	1
wheat	wheat germ	2

The processing factor for peanut meal (1.8) was applied to the estimated STMR for peanut (0.01 mg/kg) to produce a STMR-P value of 0.018 mg/kg for peanut meal (for the purposes of livestock dietary burden estimation).

The processing factor for refined rape seed oil (< 0.7) was applied to the estimated STMR for rape seed (0.02 mg/kg) to produce a STMR-P value of 0.014 mg/kg for refined rape seed oil. This concentration falls below the estimated maximum residue level for rape seed, and the Meeting agreed that a maximum residue level for rape seed oils need not be recommended.

The processing factor for rape seed meal (< 0.7) was applied to the estimated STMR for rape seed (0.02 mg/kg) to produce a STMR-P value of 0.014 mg/kg for rape seed meal (for the purposes of livestock dietary burden estimation).

The processing factors for wheat bran (2.4), flour (< 0.4) and wheat germ (2) were applied to the estimated STMR for wheat (0.02 mg/kg) to produce STMR-P values for wheat bran (0.048 mg/kg), flour (0.008 mg/kg) and wheat germ (0.04 mg/kg). For the purposes of estimating livestock dietary burdens, the processing factor of 250 for aspirated grain fraction from wheat was applied to the wheat grain STMR (0.02 mg/kg) to produce a STMR-P of 5 mg/kg.

The Meeting agreed that it was not necessary to recommend a maximum residue level for wheat flour as residues did not concentrate during processing of wheat and also agreed to withdraw its previous maximum residue level recommendation of 0.05 mg/kg for wheat flour.

### ***Residues in animal commodities***

#### *Farm animal dietary burden*

The Meeting confirmed the conclusion of the 2008 JMPR that the feeding study conducted with parent prothioconazole does not represent the practical residue situations where the feed items contain the parent compound only up to 5% of the TRR and the major part of the residue was the prothioconazole-desthio and that the dietary burden should be calculated from the prothioconazole-desthio residues measured in feed commodities and compared to the residues found in animal commodities after the administration of prothioconazole-desthio.

Some processed and forage commodities do not appear in the Annex 1 Table as no maximum residue level estimate was required, but were used in estimating livestock dietary burdens. Those commodities are listed below.

Commodity	STMR or STMR-P (mg/kg)	High residue (mg/kg)
Barley forage (fresh)	1.2	5.4
Peanut meal	0.018	
Rape seed meal	0.014	
Sugar beet leaves or tops	1.5	3.9

Commodity	STMR or STMR-P (mg/kg)	High residue (mg/kg)
Wheat aspirated fraction	5	
Wheat forage (fresh)	1.2	5.4

The 2008 JMPR reported the results of a 28 day prothioconazole-desthio feeding study in cattle where milk and tissue samples were analysed for residues of total prothioconazole-desthio (prothioconazole-3-hydroxy-desthio, prothioconazole-4-hydroxy-desthio and prothioconazole-desthio). Residues were observed in liver and kidney at all feeding levels, increasing in a linear fashion.

Total prothioconazole-desthio residues (mg/kg) in the edible tissues of dairy cattle after 28 days of dosing with prothioconazole-desthio.

Tissue	4 ppm dose		25 ppm dose		100 ppm dose	
	range	mean	range	mean	range	Mean
Liver	0.02–0.05	0.04	0.18–0.26	0.22	0.61–1.6	0.95
Kidney	0.01–0.04	0.02	0.11–0.17	0.14	0.41–1.1	0.65
Muscle	< 0.01	< 0.01	< 0.01	< 0.01	0.01–0.03	0.02
Fat	< 0.01	< 0.01	0.01–0.02	0.01	0.03–0.14	0.07

For poultry, the Meeting noted that the 2008 JMPR had concluded that the poultry feeding study designs did not reflect the residue composition in feed and that the results could not be used for estimating maximum residue limits or STMR values, and therefore the present Meeting did not estimate a dietary burden for poultry.

The Meeting revised the 2008 JMPR estimation of the dietary burden in farm animals on the basis of the above residue estimates in animal feeds and the animal diets listed in Annex 6 of the 2006 JMPR Report (OECD Feedstuffs Derived from Field Crops). Calculation from highest residue, STMR for some bulk commodities and STMR-P values provides the levels in feed suitable for estimating MRLs, while calculation from STMR and STMR-P values for feed is suitable for estimating STMR values for animal commodities.

#### *Estimated maximum and mean dietary burdens of farm animals*

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

	Livestock dietary burden, prothioconazole-desthio, ppm of dry matter diet					
	US-Canada		EU		Australia	
	max	mean	max	mean	max	mean
Beef cattle	7.81	1.72	6.21	2.68	21.6 <sup>a</sup>	4.8 <sup>b</sup>
Dairy cattle	10.57	2.16	7.1	3.33	12.97 <sup>c</sup>	3.84 <sup>d</sup>

<sup>a</sup> Highest maximum beef or dairy cattle dietary burden suitable for MRL estimates for mammalian meat.

<sup>b</sup> Highest mean beef or dairy cattle dietary burden suitable for STMR estimates for mammalian meat

<sup>c</sup> Highest maximum dairy cattle dietary burden suitable for MRL estimates for milk.

<sup>d</sup> Highest mean dairy cattle dietary burden suitable for STMR estimates for milk.

#### *Estimation of maximum residue and STMR values in animal commodities*

For MRL estimation, the high residues in the tissues were calculated by interpolating the maximum dietary burden (21.6 ppm) between the relevant feeding levels (4 and 25 ppm) from the prothioconazole-desthio dairy cow feeding study and using the highest tissue concentrations from individual animals within those feeding groups and the STMR values were calculated by interpolating

the STMR dietary burden (4.8 ppm) between the relevant feeding levels (4 and 25 ppm) and using the mean tissue concentrations from those feeding groups.

Dietary burden (ppm) Feeding level [ppm]	Muscle	Liver	Kidney	Fat
MRL	highest	highest	highest	Highest
MRL cattle (21.6) [4, 25]	< 0.01 [< 0.01, < 0.01]	0.23 [0.05, 0.26]	0.15 [0.04, 0.17]	0.02 [< 0.01, 0.02]
STMR	mean	mean	mean	Mean
STMR cattle (4.8) [4, 25]	< 0.01 [< 0.01, < 0.01]	0.05 [0.04, 0.22]	0.025 [0.02, 0.14]	0.01 [< 0.01, 0.01]

The data from the cattle feeding studies were used to support the estimation of maximum residue levels for mammalian meat and milk.

In milk the highest feeding dose (100 ppm) resulted in a maximum of 0.02 mg/kg residue, and no residue (< 0.004 mg/kg) could be detected at lower dose levels. Consequently no residue is expected in milk where the feed contains residues up to 13 ppm.

The Meeting estimated a maximum residue level of 0.5 mg/kg for edible offal (Mammalian) to replace the previous recommendations of 0.02 mg/kg and confirmed the previous recommended maximum residue levels for meat (0.01 mg/kg) and milk (0.004 (\*) mg/kg).

The Meeting also agreed to recommend withdrawal of the 2008 JMPR recommendation for a maximum residue level of 0.02 mg/kg in mammalian fat.

The STMR values of 0.01 mg/kg for meat and fat, and the STMR value of 0.004 mg/kg for milk estimated by the 2008 JMPR were confirmed and the Meeting established STMRs of 0.05 mg/kg for liver, 0.025 mg/kg for kidney and established HRs of 0.23 mg/kg for liver, 0.15 mg/kg for kidney and 0.02 mg/kg in fat.

## RECOMMENDATIONS

On the basis of the new information on residues of prothioconazole-desthio in supervised trials from North America on pulses, sugar beet, cereal grains (wheat, barley), canola (rapeseed) and cereal forages/straws, and revised animal dietary burden estimates, the Meeting concluded that the residue levels listed below are suitable for establishing maximum residue levels and for IEDI assessment.

Definition of the residue (for compliance with MRL and estimation of dietary intake) for plant commodities: *prothioconazole-desthio*.

Definition of the residue (for compliance with MRL) for animal commodities: *prothioconazole-desthio*.

Definition of the residue (for the estimation of dietary intake) for animal commodities: *the sum of prothioconazole-desthio, prothioconazole-desthio-3-hydroxy, prothioconazole-desthio-4-hydroxy and their conjugates expressed as prothioconazole-desthio*.

CCN	Commodity Name	MRL (mg/kg) New	MRL (mg/kg) Previous	STMR or STMR-P (mg/kg)	HR or HR-P (mg/kg)
GC 0640	Barley	0.2	0.05	0.035	
AS 0640	Barley straw and fodder (dry)	W <sup>a</sup>	2		



CCN	Commodity Name	MRL (mg/kg) New	MRL (mg/kg) Previous	STMR or STMR-P (mg/kg)	HR or HR-P (mg/kg)
MO 0032	Edible offal (mammalian)	0.5	0.02	0.05 (liver) 0.025 (kidney)	0.23 (liver) 0.15 (kidney)
AS 1064	Fodder (dry) of cereal grains	5		1.5	4.8
MF 0100	Mammalian fat	W	0.01	0.01	0.02
AS 0647	Oat straw, dry weight	W <sup>a</sup>	2		
VD 0700	Pulses (except soy bean, dry)	1		0.05	
SO 4703	Rape seed	0.1	0.05	0.02	
AS 0650	Rye straw	W <sup>a</sup>	2		
VR 0596	Sugar beet	0.3		0.05	
AS 0081	Straw and fodder (dry) of cereal grains	4		0.65	1.9
AS 0653	Triticale straw	W <sup>a</sup>	2		
GC 0654	Wheat	0.1	0.05	0.02	
CF 1211	Wheat flour	W	0.05	0.008	
AS 0654	Wheat straw	W <sup>a</sup>	2	0.65	1.9
	Rape seed oil (refined)			0.014	
CM 0081	Wheat bran			0.048	
CF 1210	Wheat germ			0.04	

W Recommended for withdrawal

<sup>a</sup> To be replaced with group MRLs

## DIETARY RISK ASSESSMENT

### *Long-term intake*

This evaluation of prothioconazole has resulted in revised recommendations for MRLs and STMRs for raw and processed commodities. Consumption data were available for 18 food commodities and were used in the dietary intake calculation. The results are shown in Annex 3.

The International Estimated Daily Intakes in the 13 GEMS/Food cluster diets, based on the estimated STMRs were in the range 0–2% of the maximum ADI of 0.01 mg/kg bw for prothioconazole-desthio (see Annex 3 of the 2009 JMPR Report). The Meeting concluded that the long-term intake of residues of prothioconazole 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 intake (IESTI) for prothioconazole was calculated for the food commodities (and their processing fractions) for which maximum residue levels and HRs were estimated and for which consumption data were available. The results are shown in Annex 4 of the 2009 JMPR Report.

The IESTI for women of child bearing age varied from 0–20% of the ARfD (0.01 mg/kg bw) using the consumption data for the general population. The IESTI for children varied from 0–0.21% of the ARfD of 1 mg/kg bw and the IESTI for the general population varied from 0–0.18% of the ARfD of 1 mg/kg bw.

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