PROPICONAZOLE (160)

The first draft was prepared by Professor Eloisa Dutra Caldas, University of Brasilia, Brazil

EXPLANATION

The triazole fungicide propiconazole was last evaluated by the JMPR in 2013 for residue aspects. Residue trial data on bean (dry), bean (lima), and bean (snap), mint, pineapple following post-harvest application, barley, oat and wheat were submitted to current Meeting.

Residue definition for plant and animal commodities is *propiconazole* for compliance with the MRL and *propiconazole plus all metabolites convertible to 2,4-dichlorobenzoic acid, expressed as propiconazole* for the estimation of the dietary intakes.

METHODS OF ANALYSIS

Methods where only propiconazole is analysed involves mostly LC-MS/MS detection, with LOQ of 0.01 mg/kg. The common moiety method measure all residues convertible to 2,4-dichlorobenzoic (2,4-DCBA) and are performed using mostly GC-MSD or GC-ECD (after derivatisation of 2,4-DCBA to its methyl ester) with an LOQ of 0.05 mg/kg. These methods have been previously submitted to th JMPR for evaluation, and recovery data was also included in the study reports submitted to the present Meeting.

Samples were analysed within a storage period that was shown not to impact the residue levels, according to storage stability studies evaluated previously by the JMPR, or according to stability studies included in the reports. One exception was

USE PATTERNS

All the supervised trials submitted were conducted in the United States or in Canada. Table 1 shows the registered uses of propiconazole in USA for the crops relevant to this submission.

Table 1 Use patterns of propiconazole in USA

Crop	Formula-tion	Application				
		Method	Maximum rate (per application)	Number	Interval (days)	DAT (days)
Barley	SE	Foliar	0.125 kg ai/ha	2	14*	7**
Beans, dry and succulent, including lima bean and bean	SE	Foliar	0.126 kg ai/ha	3/year	7-14	7
Mint	SE	Foliar	0.126 kg ai/ha	3	14	7
Oats	SE	Foliar	0.125 kg ai/ha	2	14*	7**
Pineapple	EC	Post harvest dip	0.015 kg ai/100 L water	1	-	Na
Wheat	SE	Foliar	0.125 kg ai/ha	2	14*	7**

* second application following early application can be applied up to full head emergence (BBCH 59).
** Minimum PHI for forage and hay

RESIDUES RESULTING FROM SUPERVISED TRIALS ON CROPS

Supervised residue trials conducted with propiconazole in Canada and USA were submitted to the Meeting. Studies were conducted according to GLP, and concurrent determination of residues in untreated crops gave residues < LOQ, unless specified otherwise. Residues of propiconazole arising from use patterns where rate or PHI are ± 25% of GAP are underlined and considered for estimation of maximum residue levels and STMRs. In each trial, two samples were analysed and the mean value used for the estimation.

Samples were analyzed for total propiconazole, as 2,4-dichlorobenzoic methyl ester, or for propiconazole only.

Pineapple

Three supervised residue trials were conducted in Hawaii in 1997 (Report: IR-4 PR No. 06585). Samples were analyzed for residues of propiconazole and its 2,4-DCBA-containing metabolites using a GC/ECD method, and expressed as total propiconazole. The results from analysis of treated samples are summarized in Table 2.

Table 2 Residues resulting from propiconazole application to pineapple in Hawaii, USA

Crop (Var)	Application			Total propiconazole, mg/kg	Trial
	No.	kg ai/100 L Water	DAT		
Pineapple (Cayenne)	1	0.015	-	3.6 (4.1, 3.0)	HI06
	1	0.015 +Fruit Wax	-	0.50, 0.45	
	1	0.015 +Fruit Oil	-	0.56, 0.37	
Pineapple (Cayenne)	1	0.015	-	1.1 (1.3, 0.88)	HI07
	1	0.015 +Fruit Wax	-	0.39, 0.34	
	1	0.015 +Fruit Oil	-	0.52, 0.50	
Pineapple (Cayenne)	1	0.015	-	1.8 (1.8, 1.7)	HI08
	1	0.015 +Fruit Wax	-	0.42, 0.34	
	1	0.015 +Fruit Oil	-	0.82, 0.50	

Lima Bean (seeds)

Six supervised residue trials were conducted in USA in 2005 (Report: IR-4 PR No. 09437). Samples were analyzed for residues of propiconazole and its 2,4-DCBA-containing metabolites using a GC/ECD method, and expressed as total propiconazole. The results from analysis of treated samples are summarized in Table 3.

Table 3 Residues resulting from propiconazole application to lima bean seed in USA using Tilt 3.6 E formulation

Region	Lima vean variety	Application			Total propiconazole, mg/kg	Trial
		No.	kg ai/ha	DAT		
California	Green Baby 12-98	5	0.11	8	< 0.05 (2)	09437.05-CA163
Idaho	M15	3	0.11	8	0.07 (0.057, 0.088)	09437.05-ID19
Maryland[a]	Burpee Improved	3	0.11	7	< 0.05 (2)	09437.05-MD22
Maryland[a]	Burpee Improved	3	0.11	6	< 0.05 (2)	09437.05-MD23
New Jersey	Baby Lima	3	0.11	7	< 0.05 (2)	09437.05-NJ38
Wisconsin	909 Cyrus	3	0.11	6	< 0.05 (2)	09437.05-WI28

[a] same location, same period

Snap bean

Seven supervised residue trials were conducted in USA in 2005 and 2006 (Report: IR-4 PR No. 09295). Samples were analyzed for residues of propiconazole and its 2,4-DCBA-containing metabolites using a GC/ECD method, and expressed as total propiconazole. The results from analysis of treated samples are summarized in Table 4.

Table 4 Residues resulting from propiconazole application to snap beans (pods with seeds) in USA

Region	Snap bean variety	Application			Total propiconazole, mg/kg	Trial
		No.	kg ai/ha	DAT		
California	Jade	3	0.10-0.11	7	0.38 (0.390, 0.36)	09295.05-CA88
Florida	Leon	3	0.10-0.11	7	0.23 (0.254, 0.206)	09295.05-FL34
Michigan	Hercules	3	0.10-0.11	7	0.13 (0.145, 0.124)	09295.05-MI19
N. Carolina	Bronco	3	0.10-0.11	8	0.35 (0.366, 0.329)	09295.05-NC16
Ohio	Jade	3	0.10-0.11	6	0.09 (0.090, 0.087)	09295.05-OH*10
Washington	Jade	3	0.10-0.11	6	0.11 (0.126, 0.093)	09295.05-WA*11
New York	Carson	3	0.10-0.11	7	0.27 (0.290, 0.247)	09295.06-NY28

Dry bean

Twelve supervised residue trials were conducted in USA in 2008 (Report: IR-4 PR No. 02008). Samples were analyzed for residues of propiconazole and its 2,4-DCBA-containing metabolites using a GC/ECD method, and expressed as total propiconazole. The results from analysis of treated samples are summarized in Table 5.

Table 5 Residues resulting from propiconazole application to dry beans in USA using Tilt 3.6 E formulation

Region	Dry bean variety	Application			Total propiconazole, mg/kg [a]	Trial
		No.	kg ai/ha	DAT		
California	Montcalm Dark Red Kidney	3	0.10-0.11	7	0.25 (0.253, 0.243)	02008.08-CA46
Colorado, Fruita	Croissant	3	0.10-0.11	8	0.05 (0.056, < 0.05)	02008.08-CO02
Colorado, Fort Collins	Vision	3	0.10-0.11	5	0.14 (0.153, 0.123)	02008.08-CO03
				7	0.18 (0.134, 0.122)	
				16	0.10 (0.104, 0.098)	
				20	0.10 (0.103, 0.098)	
Idaho	Shoshone Pinto	3	0.10-0.11	5	0.07 (0.068, 0.067)	02008.08-ID16
N. Dakota, Fargo	Ensign	3	0.10-0.11	8	0.10 (0.103, 0.10)	02008.08-ND01
N. Dakota, Fargo	Eclipse	3	0.10-0.11	8	< 0.05 (2)	02008.08-ND02
N. Dakota, Rush River Township	Maverick	3	0.10-0.11	7	0.06 (0.072, < 0.05)	02008.08-ND03
N. Dakota, Minot[b]	Maverick	3	0.10-0.11	7	< 0.05 (2)	02008.08-ND04
N. Dakota, Minot[b]	Maverick	3	0.10-0.11	7	< 0.05 (2)	02008.08-ND05
New York	Cabernet	3	0.10-0.11	8	0.13 (0.147, 0.109)	02008.08-NY04
S. Dakota, Aurora	Eclipse Black	3	0.10-0.11	8	0.09 (0.103, 0.08)	02008.08-SD03
S. Dakota, Aurora	Maverick Pinto	3	0.10-0.11	7	0.170 (2)	02008.08-SD04

[a]Total propiconazole - (TA+TAA+1,2,4 T); values <LOQ were considered at ½ LOQ; 1,2,4 T were all <LOQ.
[b] same location, period and variety, only one selected;

Barley

A total of nine trials were conducted with barley in USA using 2 applications of propiconazole (Report: T004408-08;). Residues of propiconazole and total propiconazole are shown in Table 6.

Table 6 Residues from trials conducted with propiconazole in barely grain in USA in 2009/2010 using 2 application of SE formulation

Region	Barely variety	Application		DAT	Residues (mg/kg)		
		kg a.i./ha	BBCH growth state		Propiconazole	Total propiconazole	Trial
Minnesota	Spring Rawson	0.15	41 and 71	44	0.011, < 0.01	0.188, 0.57	C09-9063
N. Dakota, Northwood	Pinnacle	0.15	39 and 71	33	< 0.01	< 0.05	C13-9062
				40	< 0.01	0.0555	
				47	< 0.01 (2)	0.053, 0.066	
				54	< 0.01	0.0585	
N. Dakota, Carrington	Pinnacle	0.15	37 and 69	48	< 0.01 (2)	0.060, 0.072	C13-9065
S. Dakota,	Lacey	0.15	43-49 and 71-73	33	< 0.01 (2)	0.13 (2)	C16-9064
Nebraska	Spring, Baronesse	0.15	43 and 59	29	< 0.01 (2)	< 0.05 (2)	C33-9066
Colorado	Moravian 37	0.15	55 and 71	25	0.175, 0.21	0.425, 0.516	W12-9067
Virginia	Nomini	0.15	55 and 71	30	0.144, 0.137	0.589, 0.765	E07-9061
Idaho	Ida-Gold II	0.15	55-59 and 85	16	0.020, 0.019	0.273, 0.237	W15-9070
California	UC937	0.15	69 and 71	49	1.3, 0.933	2.22, 2.02	W32-9068

Oats

A total of twelve trials were conducted with oats in USA using 2 applications of propiconazole (Report: T005494-08;). Residues of propiconazole and total propiconazole are shown in Table 7.

Table 7 Residues from trials conducted with propiconazole in oat grain in USA in 2009-2010 using 2 application of SE formulation

	Oat variety	Application			Residues (mg/kg)		
		kg a.i./ha	BBCH growth stage	DAT (days)	Propiconazole	Total propiconazole	Trial
Minnesota	Morton	0.15	41 and 71	48	0.035, 0.044	0.117, 0.31	C09-9084
N. Dakota, Ayr	Morton	0.15	52 and 70	44	0.054, 0.067	0.269, 0.173	C12-9086
N. Dakota, Gardner	Morton	0.15	72 and 70	11	0.117	0.337	C12-9087
				18	0.252	0.688	
				25	0.311, 0.355	0.862, 0.968	
				32	0.225	0.642	
N. Dakota, Northwood	Jerry	0.15	39 and 71	33	0.017, 0.022	0.086, 0.089	C13-9083 2009
N. Dakota, Northwood	Jerry	0.15	43 and 71	28	0.014, 0.017	0.063, 0.067	C13-9088 2010
N. Dakota, Carrrington	Jerry	0.15	37 and 69	39	0.033 (2)	0.163, 0.143	C13-9091
S. Dakota	Stallion	0.15	43 and 71	36	0.024, 0.023	0.155, 0.208	C16-9090
Iowa	Reeves	0.15	71	32	0.086, 0.078	00.774, 0.91	C30-9085
Pensilvania	Armor	0.15	59 and 71-75	28	0.35, 0.386	1.32, 1.61	E04-9081
Colorado	Jerry	0.15	73 and 71	28	0.048, 0.05	0.184, 0.206	W12-9092
S. Caroline	Horizon 270	0.15	43 and 55	44	< 0.01 (2)	0.26 (0.257, 0.265)	E11-9082
Texas	BOB	0.15	60/71	35	0.252, 0.269	1.59, 1.52	W07-9089

Wheat

A total of twelve trials were conducted with wheat in USA using 2 applications of propiconazole (Report: T004407-08;). Residues of propiconazole and total propiconazole are shown in Table 8.

Table 8. Residues from trials conducted with propiconazole in wheat grain in USA in 2009-2010 using 2 applic8ation of SE formulation

	Wheat variety	Application		DAT (days)	Residues, mg/kg		Trial
Region		kg a.i./ha	Growth Stage		Propiconazole	"Total propiconazole	
N. Dakota, Gardner 2009	Durum Wheat (Maier)	0.15	52 and 55	35	< 0.01 (2)	0.054 (0.052, 0.060)	C12-9035
N. Dakota, Carrington	Spring Glenn	0.15	37 and 69	55	< 0.01 (2)	< 0.05 (2)	C13-9038
S. Dakota, Lake Andes	Spring Oxen	0.15	55 – 59 and 71	34	< 0.01 (2)	0.076, 0.075	C16-9037
Iowa	Hard wheat (Briggs)	0.15	71	25	< 0.01	0.055	C30-9034
				32	< 0.01	< 0.05	
				39	< 0.01 (2)	0.058, 0.053	
				46	< 0.01	0.0684	
Texas, Raymondville	Caudillo	0.15	43 and 71	38	< 0.01 (2)	< 0.05, 0.06	W08-9036
Colorado	Winter Jagalene	0.15	53 and 71	29	< 0.01 (2)	0.054, 0.057	W12-9044
N. Dakota, Northwood	Winter wheat (Jerry)	0.15	45 and 71	43	< 0.01 (2)	< 0.05 (2)	C13-9033
N. Dakota, Carrington	Winter wheat (Jerry)	0.15	45 and 71	50	< 0.01 (2)	< 0.05 (2)	C13-9040
S. Dakota, Lake Andes	Winter wheat (Wendy)	0.15	43 and 67 - 69	64	< 0.01 (2)	< 0.05, 0.054	C16-9039
Virginia	Pioneer 26R15	0.15	65 and 75	24	< 0.01 (2)	< 0.05, 0.078	E07-9031

Region	Wheat variety	Application		DAT (days)	Residues, mg/kg		Trial
		kg a.i./ha	Growth Stage		Propiconazole	"Total propiconazole	
Texas, Groom	Winter Cutter	0.15	61 and 71	10	0.13	0.152	E13-9041
				17	0.0762	0.125	
				24	0.084, 0.072	0.165, 0.125	
				30	0.054	0.155	
Lousiania	Winter Terral LA841	0.15	57-59 and 73	30	< 0.01 (2)	0.063, 0.169	
Idaho	Hard wheat (Klassic)	0.15	55 – 59 and 71	35	< 0.01 (2)	< 0.05 (2)	W15-9046
Texas, Levelland	TAM 112	0.15	51 and 73	35	0.011, < 0.01	0.125, < 0.05	W39-9042
Texas, Littlefield	Weathermaster	0.15	51 and 73	35	0.020, 0.023	0.091, 0.099	W39-9043

Mint

Five supervised residue trials with mint were conducted in USA in 2005 (Report: IR-4 PR No. 09419). Samples were analyzed for total propiconazole as 2,4-dichlorobenzoic methyl ester, using GC/ECD. The results are summarized in Table 9.

Table 9 Residues resulting from propiconazole application to mint in USA

Region	Peppermint variety	Application			Total propiconazole, mg/kg	Trial
		No.	kg ai/ha	DAT		
Idaho	Black Mitchem	3	0.11	7	2.12, 1.98	09419.05-ID16
Wisconsin, Portage[a]	Black Mitchem	3	0.10	6	4.55, 3.43	09419.05-WI02
Wisconsin, Portage[a]	Black Mitchem	3	0.10	6	5.45, 5.44	09419.05-WI03
Washington, Prosser	Black Mitchem	3	0.11	6	4.45, 3.68	09419.05-WA03
Washington, Moxee	Black Mitchem	3	0.11	7	0.151, 0.14	09419.05-WA*04

[a] same location and period, only one was considered

Lima bean foliage

Six supervised residue trials were conducted in USA in 2005 (Report: IR-4 PR No. 09437). The results from analysis of foliage samples are summarized in Table 10.

Table 10 Residues in foliage resulting from propiconazole application to lima beans in USA

Region	Lima Bean variety	Application			Total propiconazole, mg/kg	Trial
		No.	kg ai/ha	DAT, days		
California	Green Baby 12-98	5	0.643	8	4.89, 1.83	09437.05-CA163
Idaho	M15	3	0.382	8	6.67, 5.91	09437.05-ID19
Maryland*	Burpee Improved	3	0.373	7	3.69, 3.65	09437.05-MD22
Maryland*	Burpee Improved	3	0.377	6	3.90, 2.62	09437.05-MD23
New Jersey	Baby Lima	3	0.387	7	8.3, 7.4	09437.05-NJ38
Wisconsin	909 Cyrus	3	0.384	6	12.8, 12.0	09437.05-WI28

* same location, same period, only one was choosen

Animal feeds

Cereals

Table 11 Residues from trials conducted with propiconazole in barley feed in USA in 2009/2010 using 2 application at 0.15 (Report: T004408-08;)

Region	Barley variety	Application		DAT (days)	Portion	Residues (mg/kg)		
		kg a.i./ha	Growth Stage BBCH			Propiconazole	Total propiconazole	Trial
Minnesota	Spring Rawson	0.15	30-31 + 32	7	Hay	0.81 (0.904, 0.724)	2.6 (2.28, 2.83)	C09-9063
				14	Hay	0.157, 0.193	2.21, 2.95	
		0.15	41 + 71	44	Straw	0.18 (0.194, 0.168)	2.0 (1.99, 1.93)	
N. Dakota, Northwood	Pinnacle	0.15	22 + 52	0	Hay	5.98	7.75	C13-9062
				3	Hay	2.02	3.77	
				7	Hay	0.44	2.1	
				14	Hay	0.375, 0.299	2.54, 2.83	
				21	Hay	0.127	1.66	
		0.15	39 + 71	33	Straw	0.12	1.3	
				40	Straw	0.0796	0.992	
				47	Straw	0.124, 0.116	0.944, 0.891	
				54	Straw	0.14	1.4	
N. Dakota, Carrington	Pinnacle	0.15	16 + 59	7	Hay	0.73 (0.848, 0.616)	2.7 (2.85, 2.64)	C13-9065
				14	Hay	0.476, 0.49	2.84, 2.85	
		0.15	37 + 69	48	Straw	0.24 (0.25, 0.24)	1.6 (1.8, 1.41)	
S. Dakota	Lacey	0.15	21-31 + 43-49	7	Hay	0.19 (2.12, 1.74)	9.9 (9.81, 10.2)	C16-9064
				15	Hay	0.546, 0.588	5.92, 5.29	
		0.15	43-49 + 71-73	33	Straw	0.72 (0.716, 0.722)	2.9 (3.05, 2.74)	
Nebraska	Spring Baronesse	0.15	30 + 26	8	Hay	4.2 (4.46, 3.92)	11.4 (11, 11.7)	C33-9066
				15	Hay	1.09, 1.05	2.94, 2.59	
		0.15	43 + 59	29	Straw	0.82 (0.087, 0.077)	1.5 (1.62, 1.31)	
Colorado	Moravian 37	0.15	30 + 43	7	Hay	2.2 (2.42, 2.11)	4.0 (4.35, 3.59)	W12-9067
				14	Hay	0, 1.01	0, 3.18	
		0.15	55 + 71	25	Straw	5.0 (5.2, 4.8)	10 (10.2, 8.91)	
Virginia	Nomini	0.15	30 + 31	7	Hay	1.7 (1.9, 1.49)	4.3 (5.02, 3.52)	E07-9061
				14	Hay	0.419, 0.516	1.73, 1.82	
		0.15	55 + 71	30	Straw	3.0 (2.97, 3.06)	9.9 (9.8, 10.3)	
Idaho	Ida-Gold II	0.15	30 + 55	7	Hay	0.78 (0.691, 0.879)	6.2 (5.63, 6.77)	W15-9070
				14	Hay	0.183, 0.189	4.32, 4.26	
		0.15	55-59 + 85	16	Straw	0.29 (0.289, 0.285)	3.6 (3.76, 3.42)	
California	UC937	0.15	30 + 32	7	Hay	3.0 (2.88, 3.19)	12 (10.7, 13.1)	W32-9068
				14	Hay	1.34, 2.1	5.13, 6.61	
		0.15	69+ 71	49	Straw	3.8 (3.89, 3.77)	5.8 (5.79, 5.7)	

Table 12 Residues from trials conducted with propiconazole in oat feed in USA in 2009-2010 using 2 application of SE formulation (Report: T005494-08;)

Region	Oat variety	Application		DAT (days)	Crop Part	Residues (mg/kg)		Trial
		kg a.i./ha	BBCH			Propiconazole	Total propiconazole	
Minnesota	Morton	0.15	30 + 32	7	Forage	0.85 (0.828, 0.858)	1.5 (1.47, 1.55)	C09-9084
				14	Forage	0.145, 0.151	0.899, 0.855	
				7	Hay	1.1 (1.1, 1.05)	3.2 (3.14, 3.42)	
				14	Hay	0.436, 0.458	1.79, 1.99	
	Morton	0.15	41 + 71	48	Straw	0.05 (0.047, 0.061)	1.2 (1.13, 1.32)	
N. Dakota, Ayr	Morton	0.15	31 + 49	7	Forage	1.1 (0.976, 1.23)	1.9 (1.77, 2.12)	C12-9086
				14	Forage	0.424, 0.464	1.38, 1.18	
				7	Hay	4.2 (3.91, 4.4)	7.7 (7.14, 8.33)	
				14	Hay	1.7 (2)	4.88, 3.0	
	Morton	0.15	52 + 70	44	Straw	0.25 (0.357, 0.159)	2.3 (3.2, 1.56)	
N. Dakota, Gardner	Morton	0.15	31 + 49	0	Forage	2.76	2.95	C12-9087
				3	Forage	2.42	2.82	
				7	Forage	1.3	2.0	
				14	Forage	0.428, 0.48	1.25, 1.41	
				21	Forage	0.7	1.82	
				5	Hay	7.38,	12.2	
				7	Hay	4.5	8.5	
				14	Hay	1.81, 2.69	4.07, 5.69	
				21	Hay	1.56	4.52	
	Morton	0.15	72 + 70	11	Straw	0.948	1.79	
				18	Straw	1.32	3.43	
				25	Straw	2.2 (2.4, 1.91)	6.0 (6.07, 5.86)	
				32	Straw	1.16	3.78	
N. Dakota, Northwood	Jerry	0.15	22 + 55	7	Forage	0.20 (0.203, 0.196)	0.78 (0.811, 0.746)	C13-9083
				14	Forage	0.0699, 0.0802	0.551, 0.538	
				7	Hay	0.35 (0.376, 0.332)	1.1 (0.957, 1.19)	
				14	Hay	0.171, 0.194	1.41, 1.19	
	Jerry	0.15	39 + 71	33	Straw	0.05 (0.051, 0.053)	1.2 (1.16, 1.09)	
N. Dakota, Northwood	Jerry	0.15	30 + 71	7	Forage	0.60 (0.626, 0.566)	1.4 (1.46, 1.34)	C13-9088
				14	Forage	0.359, 0.291	1.49, 1.12	
				7	Hay	1.4 (1.58, 1.19)	2.4 (2.52, 2.17)	
				14	Hay	0.499, 0.314	1.84, 1.35	
	Jerry	0.15	43 and 71	28	Straw	0.05 (0.049, 0.047)	0.30 (0.291, 0.312)	
N. Dakota, Carrrington	Jerry	0.15	16 + 55	7	Forage	0.65 (0.592, 0.716)	1.5 (1.36, 1.6)	C13-9091
				14	Forage	0.237, 0.286	0.905, 1.05	
				7	Hay	1.4 (1.43, 1.33)	2.7 (2.46, 2.88)	
				14	Hay	0.864, 1.11	2.64, 3.47	
	Jerry	0.15	37 + 69	39	Straw	0.21 (0.039, 0.374)	2.9 (3.16, 2.66)	
S. Dakota	Stallion	0.15	23 + 43	6	Forage	0.82 (0.712, 0.924)	1.4 (1.31, 1.55)	C16-9090
				16	Forage	0.182, 0.171	0.588, 0.666	
				6	Hay	3.6 (3.49, 3.81)	6.2 (5.56, 6.92)	
				16	Hay	0.439, 0.64	2.59, 2.78	

Region	Oat variety	Application		DAT (days)	Crop Part	Residues (mg/kg)		Trial
		kg a.i./ha	BBCH			Propiconazole	Total propiconazole	
	Stallion	0.15	43 + 71	36	Straw	0.04 (2)	1.4 (1.43, 1.33)	
Iowa	Reeves	0.15	30	7	Forage	0.16 (0.135, 0.176)	0.50 (0.568, 0.431)	C30-9085
				14	Forage	0.0491, 0.0316	0.541, 0.303	
				7	Hay	0.18 (0.258, 0.11)	0.80 (0.967, 0.629)	
				14	Hay	0.0932, 0.069	0.96, 0.787	
	Reeves	0.15	71	32	Straw	0.02 (0.017, 0.021)	0.94 (0.663, 1.21)	
Pensilvania	Armor	0.15	30 + 32	7	Forage	1.2 (1.24, 1.09)	1.8 (1.75, 1.82)	E04-9081
				14	Forage	0.42 (2)	1.2, 1.37	
				7	Hay	2.0 (2.02, 2.07)	4.8 (4.47, 5.17)	
				14	Hay	1.3, 1.14	3.85, 4.57	
	Armor	0.15	59 + 71-75	29	Straw	0.80 (0.872, 0.728)	5.1 (4.12, 6.07)	
Colorado	Jerry	0.15	30 + 43	7	Forage	0.15 (0.161, 0.146)	0.50 (0.522, 0.476)	W12-9092
				14	Forage	0.0496, 0.0449	0.381, 0.397	
				7	Hay	0.24 (0.243, 0.241)	0.90 (0.859, 0.95)	
				14	Hay	0.062, 0.074	0.559, 0.624	
	Jerry	0.15	73 and 71	28	Straw	0.37 (0.33, 0.411)	2.0 (1.86, 2.23)	
S. Caroline	Horizon 270	0.15	30 and 32	7	Forage	0.82 (0.86, 0.78)	2.3 (2.46, 2.16)	E11-9082
				14	Forage	0.308, 0.335	1.26, 1.51	
				7	Hay	1.2 (1.34, 1.2)	2.2 (3.3, 3.16)	
				14	Hay	0.645, 0.595	2.31, 1.66	
	Horizon 270	0.15	43 and 55	44	Straw	0.08 (0.082, 0.096)	2.8 (2.55, 2.89)	
Texas	BOB	0.15	30/33	7	Forage	1.0 (0.87, 1.15)	1.6 (1.42, 1.94)	W07-9089
				14	Forage	0.341, 0.408	1.0, 0.949	
				7	Hay	2.4 (2.05, 2.83)	4.8 (3.81, 5.7)	
				14	Hay	1.06, 0.775	2.97, 2.32	
	BOB	0.15	30/33	35	Straw	0.27	1.9	

Table 13 Residues from trials conducted with propiconazole in wheat feed in USA in 2009-2010 using 2 applic8ation of SE formulation (Report: T004407-08;)

Region	Wheat variety	Application		DAT (days)	Crop Part	Residues, mg/kg		Trial
		kg a.i./ha	Growth Stage			Propiconazole	"Total propiconazole	
N. Dakota, Gardner 2009	Durum Wheat (Maier)	0.15	52 and 55	35	Straw	0.52 (0.632, 0.419)	2.7 (3.55, 1.92)	C12-9035
N. Dakota, Carrington	Spring Glenn	0.15	16 and 55	7	Forage	1.3 (1.36, 1.2)	2.8 (2.83, 2.68)	C13-9038
				14	Forage	0.778, 0.552	2.54, 2.05	
				7	Hay	2.2 (2.26, 2.21)	12 (6.76, 16.9)	
				14	Hay	1.5, 1.51	5.67, 14.8	
	Spring , Glenn	0.15	37 and 69	55	Straw	0.83 (0.748, 0.912)	5.0 (5.32, 4.83)	
S. Dakota, Lake Andes	Spring , Oxen	0.15	23 and 55 - 59	7	Forage	0.92 (0.855, 0.975)	3.0 (2.89, 3.13)	C16-9037
				17	Forage	0.208, 0.245	1.63, 1.61	

Region	Wheat variety	Application		DAT (days)	Crop Part	Residues, mg/kg		Trial
		kg a.i./ha	Growth Stage			Propiconazole	"Total propiconazole	
				7	Hay	3.0 (2.96, 2.96)	10 (12.7, 7.29)	
				17	Hay	0.728, 0.546	4.9, 5.02	
	Spring , Oxen	0.15	55 – 59 and 71	34	Straw	0.37 (0.426, 0.319)	0.19 (2.33, 1.56)	
Iowa	Hard wheat (Briggs)	0.15	30 and 14 days after	0	Forage	2.56	3.6	C30-9034
				3	Forage	0.66	1.71	
				7	Forage	0.27	1.2	
				14	Forage	0.102, 0.061	1.42, 1.04	
				21	Forage	0.0524	1.3	
				0	Hay	4.9	8.92	
				3	Hay	1.15	4.1	
				7	Hay	0.44	3.2	
				14	Hay	0.149, 0.163	2.78, 2.58	
				21	Hay	0.0908	2.4	
	Hard wheat (Briggs)	0.15	71	25	Straw	0.0523	0.927	
				32	Straw	0.088	1.26	
				39	Straw	0.06 (2)	0.992, 1.83	
				46	Straw	0.05	2.0	
Texas, Raymondville	Caudillo	0.15	29 – 30 and 31	6	Forage	4.8 (4.68, 4.9)	8.4 (7.93, 9)	W08-9036
				14	Forage	2.09, 2.16	5.07, 5.85	
				6	Hay	9.6 (9.82, 9.32)	22 (22.5, 20.6)	
				14	Hay	5.34, 5.48	16.1, 18.7	
	Caudillo	0.15	43 and 71	38	Straw	0.46 (0.412, 0.498)	3.6 (3.61, 3.5)	
Colorado	Winter, Jagalene	0.15	41 and 53	7	Forage	1.0 (1.14, 0.992)	2.2 (2.5, 1.82)	W12-9044
				14	Forage	0.772, 0.872	1.88, 2.29	
				7	Hay	1.9 (1.89, 1.93)	4.4 (4.67, 4.08)	
				14	Hay	1.08, 1.32	3.71, 3.59	
	Winter, Jagalene	0.15	53 and 71	29	Straw	0.28 (0.329, 0.232)	1.0 (1.16, 0.847)	
N. Dakota, Gardner	Durum Wheat (Maier)	0.15	33 and 41	7	Forage	1.4 (1.36, 1.34)	1.8 (1.74, 2.01)	C12-9047
				13	Forage	0.452, 0.624	1.28, 1.52	
				7	Hay	3.3 (3.08, 3.47)	9.0 (8.12, 10.4)	
				13	Hay	1.7, 1.26	4.71, 4.29	
N. Dakota, Northwood	Winter, Jerry	0.15	30 and 37	8	Forage	0.46 (0.486, 0.432)	1.4 (1.59, 1.31)	C13-9033
				15	Forage	0.154, 0.144	0.839, 0.717	
				8	Hay	1.1 (1.08, 1.13)	3.4 (3.39, 3.36)	
				15	Hay	0.364, 0.324	1.82, 1.64	
	Winter, Jerry	0.15	45 and 71	43	Straw	0.04 (0.043, 0.049)	0.60 (0.624, 0.57)	
N. Dakota, Carrington	Winter, Jerry	0.15	30 and 37	6	Forage	1.7 (1.76, 1.71)	4.8 (4.76, 4.77)	C13-9040
				15	Forage	0.308, 0.438	1.01, 1.12	
				6	Hay	2.0 (2.04, 1.9)	5.3 (6.12, 4.5)	
				15	Hay	0.716, 0.662	2.6 (2)	
	Winter, Jerry	0.15	45 and 71	50	Straw	0.15 (0.167, 0.142)	1.6 (1.62, 1.57)	
S. Dakota, Lake Andes	Winter, Wendy	0.15	23 and 43	8	Forage	1.6 (1.54, 1.58)	3.4 (3.35, 3.39)	C16-9039
				14	Forage	0.89, 0.94	2.19, 1.88	
				8	Hay	4.2 (4.4, 4.06)	10 (11.5, 9.58)	

Region	Wheat variety	Application		DAT (days)	Crop Part	Residues, mg/kg		Trial
		kg a.i./ha	Growth Stage			Propiconazole	"Total propiconazole	
				14	Hay	1.98, 2.06	6.55, 6.74	
	Winter, Wendy	0.15	43 and 67 - 69	64	Straw	0.14 (0.145, 0.132)	1.6 (1.66, 1.47)	
Virginia	Pioneer 26R15	0.15	30	7	Forage	1.4 (1.39, 1.44)	2.1 (2.01, 2.21)	E07-9031
				14	Forage	0.62, 0.57	1.36, 1.33	
				7	Hay	2.0 (1.91, 2.11)	4.0 (3.89, 4.04)	
				14	Hay	0.672, 0.612	1.71, 1.57	
	Pioneer 26R15	0.15	65 and 75	24	Straw	3.5 (3.41, 3.61)	12 (11.6, 13.2)	
Texas, Groom	Winter, Cutter	0.15	30 and 31	0	Forage	9.14	12.4	E13-9041
				3	Forage	5.3	7.23	
				7	Forage	0.77	1.6	
				16	Forage	0.286, 0.345	1.08, 1.22	
				21	Forage	0.205	1.05	
				0	Hay	23	26.3	
				3	Hay	5.66	7.18	
				7	Hay	0.57	2.0	
				16	Hay	0.75 (0.846, 0.662)	2.7 (2.95, 2.39)	
				21	Hay	0.422	1.77	
	Winter, Cutter	0.15	61 and 71	10	Straw	4.9	6.6	
				17	Straw	2.44	3.81	
				24	Straw	3.78, 2.64	6.09, 4.52	
				30	Straw	0.79	2.16	
Lousiania	Winter, Terral LA841	0.15	30 and 41	7	Forage	0.66 (0.642, 0.686)	1.3 (1.18, 1.43)	E17-9032
				13	Forage	0.074, 0.124	0.828, 1.04	
				7	Hay	1.6 (1.28, 1.82)	4.3 (4.35, 4.19)	
				13	Hay	0.216, 0.22	1.67, 1.57	
	Winter Terral LA841	0.15	57-59 and 73	14	Forage	0.696, 0.868	3.28, 2.85	
				14	Hay	1.27, 1.42	3.59, 4.6	
				30	Straw	1.3 (1.28, 1.34)	8.6 (9.22, 8.09)	
Idaho	Hard wheat, Klassic	0.15	30 and 33	7	Forage	0.55 (0.526, 0.574)	1.2 (1.31, 1.23)	W15-9046
				13	Forage	0.262, 0.275	0.759, 1.38	
				7	Hay	1.3 (1.39, 1.24)	4.0 (4.03, 4.14)	
				13	Hay	0.788, 0.78	3.49, 3.64	
	Hard wheat, Klassic	0.15	55 – 59 and 71	35	Straw	0.05 (0.045, 0.051)	1.5 (1.26, 1.67)	
Texas, Levelland	TAM 112	0.15	30 and 31	7	Forage	2.2 (2.1, 2.43)	3.8 (3.73, 3.8)	W39-9042
				14	Forage	0.975, 0.98	2.63, 2.16	
				7	Hay	2.8 (3.03, 2.5)	6.7 (7.06, 6.31)	
				14	Hay	1.1, 1.03	4.24, 3.65	
	TAM 112	0.15	51 and 73	35	Straw	2.4 (2.73, 2.01)	7.6 (8.24, 6.91)	
Texas, Littlefield	Weathermaster	0.15	30 and 31	7	Forage	2.5 (2.69, 2.34)	4.0 (3.96, 3.91)	W39-9043
				16	Forage	1.15, 0.87	1.69, 0.97	
				7	Hay	5.4 (5.82, 4.93)	7.9 (8.62, 7.26)	
				16	Hay	1.85, 1.44	3.82, 4.03	
	Weathermaster	0.15	51 and 73	35	Straw	4.0 (4.36, 3.72)	13 (13.3, 11.9)	

Processing studies

Pineapple sample from trial HI06 (Table 2), containing 0.67 mg/kg total propiconazole was pealed, with residues in the pulp at < 0.05 mg/kg and in the skin at 0.35 mg/kg. Residues in pineapple juice made from the pulp were also < 0.05 mg/kg.

APPRAISAL

The triazole fungicide propiconazole was evaluated in the periodic review program by th 2007 JMPR, when an ADI of 0–0.07 mg/kg bw and a ARfD of 0.3 mg/kg bw were stablished, and by the 2013 JMPR for residue aspects. Propiconazole was listed by the Forty-fifth Session of the CCPR (2013) for the review of additional uses. Residue trial data on bean (dry), bean (lima), and bean (snap), mint, pineapple following post-harvest application, barley, oat and wheat were submitted to current Meeting.

Residue definition for plant and animal commodities is *propiconazole* for compliance with the MRL and *propiconazole plus all metabolites convertible to 2,4-dichlorobenzoic acid, expressed as propiconazole* for the estimation of the dietary intakes.

Methods of analysis

Methods of analysis used in the trials submitted to this Meeting were evaluated by the 2007 JMPR and were considered fit for purpose for the estimations. Methods that used LC-MS/MS analyses propiconazole, and the results are used for the estimation of maximum residue level. The common moiety method measure all residues convertible to 2,4-dichlorobenzoic (2,4-DCBA), reported as total propiconazole, and the results were used for the estimation of STMR and HR. In the residue trials, samples were stored within the period that guarantee the integrity of the residues as shown in the storage stability studies.

Results of supervised residue trials in crops

No estimations were made for lima bean, snap bean, dry beans and mint, as only the total propiconazole residue was reported in pre-harvest treatment trials. Data for these crops will not be discussed further.

Pineapple

The GAP of the USA for propiconazole in pineapple is for one post-harvest dipping treatment in a 0.015 kg ai/hL solution. Three trials were conducted using this rate, giving total residue of 1.1, 1.8 and 3.6 mg/kg of total propiconazole (highest of 4.1 mg/kg in an individual sample). As it is unlikely that propiconazole metabolites are formed between treatment and sample preparation for analysis, the results comply with both the residue definition for MRL and dietary risk assessment.

The Meeting agreed that the number of trials was not sufficient to estimate a maximum residue level for propiconazole in pineapple followingf post-harvest treatment, and did not change its previous recommendation of 0.02* mg/kg.

Cereals

In the USA, GAP for propiconazole in barley, oats and wheat, is for up to 2 applications at 0.125 kg ai/ha, the second one being at least 14 days following an early season application and should not be performed after full head emergence, which corresponds to BBCH 59.

In one trial conducted in USA in barley, matching GAP, residues of propiconazole were < 0.01 mg/kg and of total propiconazole < 0.05 mg/kg. In eight other trials the second application was made after full head emergence (BBCH 71 to 85).

In one trial conducted in USA in oats according to GAP, residues of propiconazole were < 0.01 mg/kg and of total propiconazole were 0.26 mg/kg. In eleven other trials the second application was made after full head emergence (BBCH 69 to 71).

In one trial conducted in USA in wheat according to GAP residues of propiconazole were < 0.01 mg/kg and of total propiconazole 0.06 mg/kg. In fourteen other trials, the second application was made after full head emergence (BBCH 69 to 75).

The Meeting agreed that there were not enough trials matching US GAP to estimate a maximum residue level for propiconazole in barley, oats and wheat.

The Meeting did not change its previous recommendation of 0.02 mg/kg for propiconazole in wheat, rye and triticale and of 0.2 mg/kg for propiconazole in barley.

Animal feeds

Cereals

In the USA, the GAP for propiconazole in barley, oats and wheat, is for up to 2 applications at 0.125 kg ai/ha, the second at least 14 days following an early season application and should not be performed after full head emergence, corresponding to BBCH 59. No PHI is specified for straw, and the PHI is 7 days for forage and hay.

Forage

Eleven trials were conducted in oat forage in the USA matching US GAP, with total propiconazole residues of 0.50 (2), 0.78, 1.4, 1.5 (2), 1.7, 1.8, 1.9, 2.0 and 2.4 mg/kg (2.5 mg/kg highest of individual samples).

The Meeting estimated a medium and highest residue of 1.5 and 2.5 mg/kg, respectively, for propiconazole in oat forage.

Fifteen trials were conducted in wheat forage, gave total propiconazole residues of 1.2 (2), 1.3, 1.4, 1.6, 1.9, 2.1, 2.2, 2.8, 3.0, 3.4, 3.8, 3.9, 4.8 and 9 mg/kg.

The Meeting estimates a medium and highest residue of 2.2 and 9 mg/kg, respectively, for propiconazole in wheat forage.

Hay

Nine trials were conducted in barley hay with propiconazole residues of 0.19, 0.44, 0.73, 0.78, 0.81, 1.7, 2.2, 3.0 and 4.2 mg/kg. Total propiconazole residues were: 2.1, 2.6, 2.7, 4.0, 4.3, 6.2, 10, 11 and 12 mg/kg (highest 13 mg/kg).

The Meeting estimated a maximum residue level of 8 mg/kg for propiconazole in barley straw and fodder, dry. The Meeting also estimated medium and highest residue of 4.3 and 13 mg/kg, respectively, for propiconazole in barley hay.

In the 11 trials conducted with oat hay, according to US GAP, propiconazole residues were: 0.18, 0.24, 0.35, 1.1, 1.2, 1.4, 2.0, 2.4, 3.6, 4.2 and 4.5 mg/kg. Total propiconazole were: 0.80, 0.90, 1.1, 2.7, 3.2, 3.3, 4.8 (2), 6.2, 7.7 and 8.5 mg/kg.

The Meeting estimated a maximum residue level of 8 mg/kg for propiconazole in oat straw and fodder, dry. The Meeting also estimated a medium and highest residue of 3.3 and 8.5 mg/kg, respectively, for propiconazole in oat hay.

In 15 trials conducted in wheat hay, propiconazole residues were: 0.44, 0.75, 1.1, 1.3, 1.6, 1.9, 2.0 (2), 2.2, 2.8. 3.0, 3.3, 4.2, 5.4 and 9.6 mg/kg. Total propiconazole were: 2.0, 3.2, 3.4, 4.0, 4.1, 4.3, 4.4, 5.3, 6.7, 7.9, 9.3, 10 (2),12 and 21 mg/kg (highest of 22 mg/kg).

Taking into account the trial conditions, the Meeting concluded that the residues measured in hay are applicable for straw and fodder, and recommended a maximum residue level of 15 mg/kg for

propiconazole in wheat straw and fodder, dry, and extend this estimation for rye and straw and fodder, dry. The Meeting also estimates a medium and highest residue of 5.3 and 22 mg/kg, respectively, for propiconazole in wheat hay.

The Meeting withdrew its previous maximum residue level recommendation for barley, rye, triticale and wheat straw of 2 mg/kg.

Residues in animal commodities

One cow and one poultry study were evaluated by the 2007 JMPR, and only the relevant information from these studies are summarized in this appraisal.

Lactating dairy cows

Dairy cows were dosed once daily either in the feed with propiconazole at 15 ppm, 75 ppm and 150 ppm for 14–28 consecutive days. No parent propiconazole was detected in any milk (< 0.01 mg/kg), muscle and kidney samples (< 0.05 mg/kg) at all feeding levels. The maximum level in liver was 0.14 mg/kg at the 15 ppm feeding level and 0.34 mg/kg in the 75 ppm feeding level; in fat it was < 0.05 mg/kg at the 15 ppm and 75 ppm feeding levels.

No total propiconazole (< 0.01 mg eq./kg) was found in milk at 15 ppm; at 75 ppm, the average was 0.044 mg eq./kg (maximum of 0.08 mg eq./kg). In muscle, no total propiconazole (< 0.05 mg/kg) was detected at 15 ppm and the maximum level was 0.11 mg/kg at the 75 ppm (average 0.08 mg/kg). In liver, residues were 0.81 mg/kg at the 15 ppm (average 0.63 mg/kg) and 4.3 mg/kg in the 75 ppm (average 3.7 mg/kg). In kidney, it was 0.63 mg/kg at the 15 ppm (average 0.60 mg/kg) and 4.7 mg/kg in the 75 ppm (average 3.8 mg/kg). In fat it was < 0.05 mg/kg at the 15 ppm and 0.23 mg/kg at the 75 ppm feeding level (average 0.15 mg/kg).

Laying hens

Hens were fed propiconazole at 7.5, 37.5 and 75 ppm in the feed. No propiconazole residues (< 0.05 mg/kg) were found in the eggs or the tissue sample analysed, regardless of feeding level.

At 7.5 ppm, no total propiconazole was detected in eggs, muscle, fat (< 0.05 mg/kg) and liver (< 0.1 mg/kg). At 37.5 ppm, residues can reach 0.18 mg/kg in eggs, 0.16 mg/kg in liver and 0.07 mg/kg in fat, but no residues were detected in muscle.

Farm animal dietary burden

The Meeting estimated the dietary burden of propiconazole (as total propiconazole) in farm animals on the basis of the OECD Animal Feed data published in the 2009 FAO Manual, the STMR, STMR-Ps or highest residue levels estimated at the present and by the 2007 JMPR. Dietary burden calculations are provided in Annex 6.

	US-Canada		EU		Australia		Japan	
Commodity	**Max**	Mean	**Max**	Mean	**Max**	Mean	**Max**	Mean
Beef cattle	3.9	2.1	15.9	4.3	36 [a]	12 [c]	10.1	1.62
Dairy cattle	15.8	7.2	13.5	4.0	29 [b]	12 [d]	10.5	5.56
Poultry – broiler	0.5	0.51	0.1	0.11	0.005	0.005		
Poultry – layer	0.51	0.51	5.1 [e]	1.88 [f]	0.005	0.005		

[a] Highest maximum beef or dairy cattle dietary burden suitable for MRL estimates for mammalian tissues
[b] Highest maximum dairy cattle dietary burden suitable for MRL estimates for mammalian milk
[c] Highest mean beef or dairy cattle dietary burden suitable for STMR estimates for mammalian tissues.
[d] Highest mean dairy cattle dietary burden suitable for STMR estimates for milk.
[e] Highest maximum poultry dietary burden suitable for maximum residue level estimated for poultry tissues and eggs.
[f] Highest mean poultry dietary burden suitable for STMR estimated for poultry tissues and eggs

Animal commodity estimations

Propiconazole residues, for the estimation of *maximum residue level*

	Feed level for milk or egg, ppm	Residues, mg/kg	Feed level for tissues, ppm	Residues, mg/kg			
				Muscle	Liver	Kidney	Fat
Maximum residue level for cattle							
Feeding study	15 75	< 0.01 < 0.01	15 75	< 0.01 < 0.01	0.14 0.34	< 0.01 < 0.01	< 0.05 < 0.05
Dietary burden and highest residue	29	< 0.01	36	< 0.01	0.25	< 0.01	< 0.05
Maximum residue level for poultry							
Feeding study	7.5	< 0.05	7.5	< 0.05	< 0.05		< 0.05
Dietary burden and highest residue	5.1	< 0.05	4.6	< 0.05	< 0.05		< 0.05

Total propiconazole residues, for the estimation of HR and STMR

	Feed level for milk or egg, ppm	Residues, mg/kg	Feed level for tissues, ppm	Residues, mg/kg			
				Muscle	Liver	Kidney	Fat
HR for cattle							
Feeding study			15 75	< 0.05 0.11	0.81 4.3	0.63 4.7	< 0.05 0.23
Dietary burden and highest residue			36	0.085	1.97	1.9	0.115
STMR for cattle							
Feeding study	15	0.044	15	0.08	0.63	0.60	< 0.05
Dietary burden	12	0.035	12	0.064	0.504	0.50	< 0.05
HR for poultry							
Feeding study	7.5	< 0.05	7.5	< 0.05	< 0.05		< 0.05
Dietary burden and highest residue	5.1	< 0.05	4.6	< 0.05	< 0.05		< 0.05
STMR for poultry							
Feeding study	7.5	< 0.05	7.5	< 0.05	< 0.05		< 0.05
Dietary burden	1.88	< 0.05	4.6	< 0.05	< 0.05		< 0.05

The maximum dietary burden for the estimation of maximum residue levels in cattle tissue and milk were 36 and 29 ppm, respectively. The Meeting confirms its previous recommendation of 0.01* mg/kg for propiconazole milks and meat (from mammals other than marine mammals) and estimates a maximum residue level of 0.5 mg/kg for edible offal (mammalian) and of 0.01* mg/kg in mammalian fat (except milk fats).

The Meeting withdraw ist previous recommendation of 0.01* mg/kg for propiconazole in edible offal (mammalian).

The maximum dietary burden for the estimation of HR in cattle tissues was 36 ppm. Based on the feeding levels at 15 and 75 ppm, the Meeting estimated a HR of 0.085 mg/kg in meat (from mammals other than marine mammals), of 1.97 mg/kg in edible offal (mammalian) and of 0.115 mg/kg in mammalian fat (except milk fats).

The mean dietary burden for the estimation of STMR levels in cattle tissues and milk was 12 ppm, respectively. Based on the feeding study conducted at 15 ppm, the Meeging estimates a STMR of 0.035 mg/kg in milks, 0.064 mg/kg im meat (from mammals other than marine mammals), 0.504 mg/kg in edible offal and 0.05 mg/kg in mammalian fat.

The highest calculated dietary burden for poultry is 35.1 ppm. In eggs, muscle and fat no propiconazole or total propiconazole residues were detected at the 7.5 ppm feeding level. The Meeting confirms its previous recommendation of a maximum residue level of 0.01* mg/kg for propiconazole in poultry meat and eggs, and a STMRs and HRs of 0.05 mg/kg in eggs, muscle and fat.

DIETARY RISK ASSESSMENT

Long-term intake

The IEDI of propiconazole based on the STMRs estimated by this and previous Meetings for the 17 GEMS/Food regional diets were 1–10% of the maximum ADI of 0.07 mg/kg bw (see Annex 3 of the 2014 Report). The Meeting concluded that the long-term dietary intake of residues of propiconazole is unlikely to present a public health concern.

Short-term intake

An ARfD for propiconazole is 0.3 mg/kg bw. The International Estimated Short-Term Intake (IESTI) of propiconazole for the commodities for which STMR, HR and maximum residue levels were estimated by the current Meeting. The results are shown in Annex 4 of the 2014 Report. The IESTI represented a maximum of 8% of the ARfD. The Meeting concluded that the short-term intake of propiconazole residues from uses considered by the current Meeting was unlikely to present a public health concern.

RECOMMENDATION

Residues: For plant and animal commodities is *propiconazole* for compliance with the MRL and *propiconazole plus all metabolites convertible to 2,4-dichlorobenzoic acid, expressed as propiconazole* for the estimation of the dietary intakes.

The residue if fat soluble

CCN	Commodity name	Recommended maximum residue level (mg/kg)		STMR (P) mg/kg	HR (P) mg/kg
		New	Previous		
AS 0640	Barley straw and fodder, dry	8	2		
MO 0105	Edible offal (mammalian)	0.5	0.01*	0.504	1.97
MF 0100	Mammalian fats (except milk fat)	0.01*		0.05	0.115
MM 0095	Meat (from mammals other than marine mammals)	0.01* (fat)	0.01* (fat)	0.064	0.085
MI 0106	Milks	0.01*	0.01*	0.035	
AS 0647	Oat straw and fodder, dry	8	2		
AS 0650	Rye straw and fodder, dry	15	2		
AS 0653	Triticale straw and fodder, dry	15	2		
AS 0654	Wheat straw and fodder, dry	15	2		

Feed commodities

*Table entries in **bold** are new recommendations*

Commodity	Median residues	Highest residue, mg/kg
Oat forage	**1.5**	**2.5**
Wheat forage	**2.2**	**9**
Barley hay	**4.3**	**13**
Oat hay	**3.3**	**8.5**
Wheat hay	**5.3**	**22**
Soya bean forage	1.87	3.45
Soya bean fodder	2.02	9.6
Sorghum forage	4.65	8.1
Sorghum stover	7.1	13.5
Rice sraw	2.6	16.5
Corn forage	0.85	5
Corn stover/fodder	3.7	17
Almond hulls	1.4	
Peanut hay	7.6	14

Commodity	Median residues	Highest residue, mg/kg
Sugar beet leaves	0.3	0.96

REFERENCES

Author	Year	Study
Corley, J.	2011	Propiconazole: Magnitude of the Residue on Bean (Dry); Author: Johannes Corley, IR-4 Project HQ, Rutgers, The State University of New Jersey, Princeton, NJ 08540; dated: 7 March 2011. GLP, not published
Corley, J.	2011	Propiconazole: Magnitude of the Residue on Lima Bean; Author: Johannes Corley, IR-4 Project HQ, Rutgers, The State University of New Jersey, Princeton, NJ 08540; dated: 15 March 2011. GLP, not published
Corley, J.	2011	Propiconazole: Magnitude of the Residue on Snap Beans; Author: Johannes Corley, IR-4 Project HQ, Rutgers, The State University of New Jersey, Princeton, NJ 08540; dated: 7 March 2011. GLP, not published
Thompson, D.	2009	Propiconazole: Magnitude of the Residue on Mint; Author: Dave Thompson, IR-4 Project HQ, Rutgers, The State University of New Jersey, Princeton, NJ 08540; dated: 23 July 2009. GLP, not published
Thompson, D.	2007	Propiconazole: Magnitude of the Residue on Pineapple; Author: Dave Thompson, IR-4 Project HQ, Rutgers, The State University of New Jersey, Princeton, NJ 08540; dated: 28 November 2007. GLP, not published