CHLORANTRANILIPROLE (230)

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BACKGROUND

Chlorantraniliprole is a selective ryanodine receptor agonist insecticide which was evaluated by the JMPR in 2008 (T, R) and 2010 (R). The ADI for chlorantraniliprole is 0–0.03 mg/kg bw and ARfD was considered to be unnecessary. The compound was listed by the Forty-fourth Session of the CCPR (2012) for the evaluation by the 2013 JMPR. This submission presents additional proposed/registered uses of chlorantraniliprole and residue data for strawberries, blueberries, cranberries, legumes, soya bean, radish, carrots, globe artichokes, rice, barley, sorghum, wheat, canola seed, sunflower seed, coffee, avocadoes, pomegranates, hops and citrus.

USE PATTERNS

Chlorantraniliprole is registered around the world to be used as foliar or seed application, in the field or protected, terrestrial or aereal application. Table 1 shows the uses of chlorantraniliprole in crops and regions that are revelant for this submission.

		Applica	tion			Rate per trea	atment		Max. per
				Max.	Interval	water		PHI	season, kg
Crop	Country	F, G	Form	number	(days)	L/ha ^b	kg ai/ha	(days)	ai/ha
Avocado	New Zealand	F	WG	2	21	Max 3000	0.09	14	
Constant	Canada	F	WG	3	14	280-2337	0.07-0.11	3	0.225
Caneberry	USA	F	WG	3	14	280-2337	0.07-0.11	3	0.225
Carrot	Italy	F	WG	2	10	800-1000	0.03-0.04	21	
Coffee	Brazil	F	WG	2	45	400	0.03	21	
Globe artichoke	Italy	F	ZC	2	14	200-1000	0.03	3	
Globe artichoke	USA	F	SC	4	14	467-2337	0.05 - 0.11	3	0.22
Grape	USA	F	WG	3	7	280-2337	0.07-0.11	14	0.225
Green bean	Italy	G	WG	2	7-14	500-1000	0.05	3	
		F	WG	2	7-14	500-1000	0.04	3	
Hops	USA	F	SC	4	7	467-2337	0.05-0.07	0	0.22
Legume	Australia ^a	F	SC	3	7	200-1000	0.020	1	
vegetables	USA	F	SC	4	3	93-935	0.05-0.07	1	0.225
Non-grass animal feed	Canada	F	SC	1	-		0.1	0	-
Bushberry	Canada	F	WG	3	7	280-2337	0.07-0.11	1	0.225
(berry and small fruit)	USA	F	WG	3	7	280-2337	0.07-0.11	1	0.225
Oilseeds	USA	F	SC	4	5	47-187	0.05-0.07	21	0.2
	Canada	F	SC	3	5	100	0.025-0.07	1	0.2
Pomegranate	USA	F	WG	3	7	280-1870	0.11	1	0.2
Root and tuber vegetables	USA	F	SC	4	Foliar: 3 drip:10	93-935	0.03-0.07	1	0.225
Rice	Brazil	F	WG	1		100-200	0.030	15	
Rice	USA	F	FS	1		0.06 mg ai/seed ^b	0.09		
Soya bean, dry,	Brazil	F	SC	2	14	150-250	0.01	21	
Strawberry	USA	F	SC	1-4	7	93-2337	0.05-0.07	1	0.225

Table 1 Registered ground uses of chlorantraniliprole on crops included in this evaluation

F= field; G= glasshouse application or indoor application; ^{a.} Do not graze or cut for stock food for 1 day after application. ^b assuming 20000 seeds/lb

RESIDUES RESULTING FROM SUPERVISED TRIALS

Supervised residue trials conducted with chlorantraniliprole on a variety of crops in Europe, Brazil, Canada and USA were submitted to the Meeting. Studies were conducted according to GLP, and specified concurrent determination of residues in untreated crops gave residues < LOQ. Residues of chlorantraniliprole arising from use patterns where rate or PHI or $\pm 25\%$ of GAP are underlined and considered for estimation of maximum residue levels and STMRs. When residues in samples harvested at a later stage were higher than those found at the critical PHI, they were used for the estimations. In the tables, DAT means days after treatment. In Canada and USA trials, two samples were analysed and the mean residues reported.

Berries and other small fruit

Seventeen trials were conducted in blueberry and cranberry in Canada and USA in 2007 (Table 2) and 16 trials were conducted in strawberry in Europe and USA from 2008–2011 (Table 3).

		Application				Residue	s ^a	
Location/year	Crop/variety	FL	No	kg ai/ha	kg ai/hL	DAT,	mg/kg	Study trial no.
Canada/2007 Kentville, NS	Blueberry/ Lowbush wild clones	WG	2	0.11	0.04	1 3 8 14	0.46 0.43 0.38 0.40	IR-4 PR No. 09810, Test NS01
Canada/2007 Rawdon, NS	Blueberry/ Lowbush wild clones	WG	2	0.11	0.04	1	<u>0.75</u>	IR-4 PR No. 09810, Test NS02
Canada/2007 Debert, NS	Blueberry/ Lowbush wild clones	WG	2	0.11	0.04	1	<u>0.84</u>	IR-4 PR No. 09810, Test NS03
Canada/2007 Bothwell, ON	Blueberry/ Bluecrop	WG	2	0.11	0.03	1	<u>0.18</u>	IR-4 PR No. 09810, Test ON22
USA/2007 Jonesboro, ME	Blueberry/ Lowbush	WG	2	0.11	0.03	1	<u>0.18</u>	IR-4 PR No. 09810, Test ME01
USA/2007 Fennville, MI	Blueberry/ Rubel	WG	2	0.11	0.02	1	<u>0.12</u>	IR-4 PR No. 09810, Test MI32
USA/2007 Fennville, MI	Blueberry/ Rubel	WG	2	0.11	0.02	1	<u>0.16</u>	IR-4 PR No. 09810, Test MI33
USA/2007 Castle Hayne, NC	Blueberry/ Pender	WG	2	0.11	0.04	1	<u>0.11</u>	IR-4 PR No. 09810, Test NC13
Castle Hayne, NC USA/2007	Blueberry/ Duke	WG	2	0.11	0.04	1	<u>0.21</u>	IR-4 PR No. 09810, Test NC14
USA/2007 Bridgeton, NJ	Blueberry/ Duke	WG	2	0.11	0.045	1 3 6 13	0.23 0.23 0.22 0.12	IR-4 PR No. 09810, Test NJ10
USA/2007 Aurora, OR	Blueberry/ Bluecrop	WG	2	0.11	0.02	1	<u>0.13</u>	IR-4 PR No. 09810, Test OR06
Canada/2007 Agassiz, BC	Cranberry/ Ben Lear	WG	2	0.11	0.03	1 2 6 11	0.21 0.15 0.13 0.08	AAFC07-050R, Test No. 350
Canada/2007 Manseau, QC	Cranberry/ Stevens	WG	2	0.11	0.02	1	<u>0.29</u>	AAFC07-050R, Test No. 352
USA/2007 Plymouth, MA	Cranberry/ Stevens	WG	2	0.11	0.025	1	<u>0.13</u>	AAFC07-050R, Test No. 346
USA/2007 Langlois, OR	Cranberry/ Stevens	WG	2	0.11	0.03	1	<u>0.12</u>	AAFC07-050R, Test No. 349
USA/2007 Warrens, WI	Cranberry/ Stevens	WG	2	0.11	0.02	1	<u>0.32</u>	AAFC07-050R, Test No. 358

Table 2 Residues of chlorantraniliprole in blueberry and cranberry in North America

		Appli	cation			Residue	s ^a	
Location/year	Crop/variety	FL	No	kg ai/ha	kg ai/hL	DAT, days	mg/kg	Study trial no.
USA/2007 Wareham, MA	Cranberry/ Early Blacks	WG	2	0.11	0.025	1	<u>0.24</u>	AAFC07-050R, Test No. 471

Table 3 Residues	of chlorantrani	liprole in st	rawberry in	Europe a	nd USA

		Application				Residue	s ^a		
Location/year	Crop/variety	FL	No	kg ai/ha	kg ai/hL	DAT, days	mg/kg	Study trial no.	
France/2008 Midi P.	Strawberry/ Gariguette	SC	3	0.05	0.0005	0* 0 1 3 7	0.12 0.14 0.08 0.12 0.06	CEMR-3915- REG, Test 1 (indoor)	
France/2009 Midi Pyrénées,	Strawberry/ Gariguette	SC	3	0.05	0.0004	0* 0 1 3 7	0.11 0.08 0.08 0.05 0.05	CEMR-4334- REG, Test 1 (indoor)	
Italy/2008 Emilia Romagna,	Strawberry/ Dora	SC	3	0.05	0.0005	0* 0 1 3 7	0.07 0.12 0.07 0.10 0.07	CEMR-3915- REG, Test 2 (indoor)	
Spain/2008 Valencia	Strawberry/ Camarrosa	SC	3	0.05	0.0005	0* 0 3 7 14	0.10 0.34 0.15 0.12 0.15	CEMR-3915- REG, Test 3 (indoor)	
Spain/2008 Valencia,	Strawberry/ Camarrosa	SC	3	0.05	0.0005	0* 0 1 3 7	0.13 0.08 0.14 0.16 0.19	CEMR-3915- REG, Test 4 (indoor)	
Spain/2009 Cádiz	Strawberry/ Camarrosa	SC	3	0.05	0.0005	0* 0 1 3 7	0.33 0.68 0.48 0.35 0.42	CEMR-4334- REG, Test 3 (indoor)	
Spain/2009 Andalucia	Strawberry/ Camarrosa	SC	3	0.05	0.0005	0* 0 1 3 7	0.10 0.13 0.13 0.11 0.11	CEMR-4334- REG, Test 4 (indoor)	
Spain/2009 Andalucia	Strawberry/ Matisse	SC	3	0.05	0.0005	0* 0 1 3 7	0.14 0.14 0.07 0.10 0.07	CEMR-4334- REG, Test 5 (indoor)	
USA/2011 Penn Yan, NY	Strawberry/ Honeoye	SC	2	0.11	0.04	1	<u>0.21</u>	DuPont-30024, Test No. 1	
USA/2011 Enigma, GA	Strawberry/ Festival	SC	2	0.11	0.09	1	0.40	DuPont-30024, Test No. 2	
USA/2011 Citra, FL 32113	Strawberry/ Festival	SC	2	0.11	0.06	1	0.22	DuPont-30024, Test No. 3	
USA/2011 Richland, IA	Strawberry/ Extra Sweet	SC	2	0.11	0.07	1	0.68	DuPont-30024, Test No. 4	
USA/2011 Geneva, MN	Strawberry/ Albion	SC	2	0.11	0.06	1	<u>0.24</u>	DuPont-30024, Test No. 5	
USA/2011 Porterville, CA	Strawberry/ Albion	SC	2	0.11	0.02	1	0.23	DuPont-30024, Test No. 6	
USA/2011 Porterville, CA	Strawberry/ Albion	SC	2	0.11	0.02	1	0.24	DuPont-30024, Test No. 7	

		Appli	cation			Residue	s ^a		
Location/year	Crop/variety	FL	No	kg ai/ha	kg ai/hL	DAT, days	mg/kg	Study trial no.	
USA/2011 Porterville, CA	Strawberry/ Pugent Reliance	SC	2	0.11	0.05	1	<u>0.18</u>	DuPont-30024, Test No. 8	

* days before application

Avocado

Eleven trials were conducted in avocado in New Zealand from 2009 to 2012. The results are shown in Table 4.

Table 4 Results of residue trials conducted with chlorantraniliprole in avocado in New Zealand (DuPont-36033 NZ). Residues in fruit with stone removed

		Applie	cation			Residues		
Location/year	Crop variety	FL	No	kg ai/ha	kg ai/hL	DAT, days	mg/kg	Study trial no.
Katikati/2009-10	Avocado/Hass	WG	3	0.09	0.003	14	0.15	DP 0910
Katikati/2009-10	Avocado/Hass	WG	3	0.19	0.006	14	0.31	DP 0910
Katikati/2009–10	Avocado/Hass	WG	3	0.09	0.003	1 7 14 21 28	0.14 0.16 0.14 0.08 0.06	DP 0914
Katikati/2009–10	Avocado/Hass	WG	3	0.19	0.006	1 7 14 21 28	0.30 ^a 0.25 ^a 0.20 0.21 ^a 0.21 ^a	DP 0914
Katikati/2012	Avocado/Hass	WG	2	0.08	0.003	14	<u>0.03</u>	DP 1183a
Katikati/2012	Avocado/Hass	WG	2	0.08	0.003	14	<u>0.08</u> ^a	DP 1183b
Athenree/2012	Avocado/Hass	WG	1	0.085	0.003	15	0.07	Goldwood
Tauranga/2012	Avocado/Hass	WG	1	0.078	0.003	14	0.09	Beetjamen
Pukenui/2012	Avocado/Hass	WG	1	0.019	0.003	14	0.03	Freeman
Glenbrook/2012	Avocado/Hass	WG	1	0.09	0.003	14	0.12	French
Pukenui/2012	Avocado/Hass	WG	1	0.028	0.003	14	0.13	Payton

^a. Average of two or three analyses

Pomegranate

Five trials were conducted in pogranate in USA from 2010 to 2011. The results are shown in Table 5.

Table 5 Results of residue trials conducted with chlorantraniliprole in pomegranate fruit (IR-4 PR No. 10362)

		Applicat	ion		Residue	s	Study trial	
Location/year	Crop variety	FL	No	kg ai/ha	kg ai/hL	DAT, days	mg/kg	no.
Gridley, CA /2011	Wonderfuls	SC	2	0.11	0.01	1	0.10	CA01
Reedley, CA/2010	Wonderfuls	SC	2	0.11	0.008	1	0.10	CA71
Reedley, CA /2010	Wonderfuls	SC	2	0.11	0.012	1	<u>0.09</u>	CA72
Gridley, CA /2010	Wonderfuls	SC	2	0.11	0.09	1	0.12	CA73
Gridley, CA /2010	Wonderfuls	SC	2	0.11	0.09	1	<u>0.12</u>	CA74

Legume vegetables

A total of 16 trials were conducted in beans in Europe and USA and 24 trials in peas in Autralia, Canada and USA in the period of 2008 to 2011. Fresh pods with seeds and seeds only were analyzed. The results are showing in Table 6.

		Applica	tion			Residues			
Location/year	Crop variety	FL	No	kg	kg	Portion	DAT,	mg/kg	Study trial no.
D				aı/ha	aı/hL	analysed	days	00	
Beans	1	1	-	1	1	1	0	0.00	1
Queensland Australia/2009	Green beans/ Labrador	SC	3	0.02	0.006	Pods w/seed	0 1 3 7 14	0.09 0.05 0.04 0.04 0.08	HAL0802, S6/T2
Queensland, Australia/2009	Green beans/ Labrador	SC	2	0.1	0.034	Pods w/seed	0 1 7	0.31 0.11 0.09	HAL0802, S6/T3
Tasmania Australia/2010	Beans/ Flavour sweet	SC	3	0.02	0.005- 0.007	Pods w/seed	0 1 3 7	0.11 <u>0.08</u> 0.02 0.03	HAL0802, S7/T2
Tasmania Australia/2010	Beans/ Flavour sweet	SC	2	0.11	0.03	Pods w/seed	0 1 7	0.24 0.14 0.04	HAL0802, S7/T3
France, South/2008	Beans/ Booster	SC	2	0.05	0.0005	Whole beans with pods	0* 0 1 3 7	0.72 0.49 0.47 0.24 0.41	T000565-08- REG (CEMS- 3913), Test 1
France, South	Field green beans/ Angers	WG	2	0.04	0.004	Mature green beans in pods	1	0.26	DuPont- 33033, Test No. 2
Greece	Field green beans/ Magirus	WG	2	0.04	0.004	Mature green beans in pods	1	0.07	DuPont- 33033, Test No. 1
Italy /2008	Beans/ Oriente	SC	2	0.05	0.0005	Whole beans with pods	0* 0 1 3 7	0.06 0.18 0.29 <u>0.16</u> 0.13	T000565-08- REG (CEMS- 3913), Test 2
Spain/2009	Beans/ Emerite	SC	2	0.05	0.0005	Whole beans with pods	0* 0 1 3 7	0.13 0.41 0.36 <u>0.40</u> 0.38	T000565-08- REG (CEMS- 3913), Test 3
Spain/2008	Beans/ Killy	SC	2	0.05	0.0005	Whole beans with pods	0* 0 1 3 7	0.12 0.23 0.32 0.27 <u>0.40</u>	T000565-08- REG (CEMS- 3913), Test 4
Spain 25195/2011	Field green beans/ Alquife	WG	2	0.04	0.004	Mature green beans in pods	-0 +0 1 3	0.04 0.16 0.21 <u>0.15</u>	DuPont- 33033, Test No. 3
Salisbury, MD USA/2008	Snap bean/ Provider	SC	2	0.11	0.25	Pods w/seed	1	<u>0.14</u>	IR-4 PR No. 10046, Test MD15
Freeville, NY USA/2008	Snap bean/ Hystyle	SC	2	0.11	0.32	Pods w/seed	1	0.12	IR-4 PR No. 10046, Test NY29
Arlington, WI USA/2008	Snap bean/ Hystyle	SC	2	0.11	0.4	Pods w/seed	1	<u>0.10</u>	IR-4 PR No. 10046, Test WI21
Freemont, OH USA/2008	Snap bean/ Eureka	SC	2	0.11	0.37	Pods w/seed	1	<u>< 0.01</u>	IR-4 PR No. 10046, Test OH*12
Citra, FL 3 USA/2008	Snap bean/ Dusky	SC	2	0.11	0.38	Pods w/seed	1	<u>0.12</u>	IR-4 PR No. 10046, Test FL29

		Applica	tion			Residues			Starlagterial and
Location/year	Crop variety	FL	No	kg ai/ha	kg ai/hL	Portion analysed	DAT, days	mg/kg	Study trial no.
Davis, CA USA/2008	Snap bean/ Blue Lake 274	SC	2	0.11	0.28	Pods w/seed	1	<u>0.41</u>	IR-4 PR No. 10046, Test CA01
Prosser, WA USA/2008	Snap bean/ OSU 91G	SC	2	0.11	0.31	Pods w/seed	1	<u>0.14</u>	IR-4 PR No. 10046, Test WA03
Delhi, ON Canada/2008	Snap bean/ Bronco	SC	2	0.11	0.3	Pods w/seed	1	<u>0.16</u>	IR-4 PR No. 10046, Test ON14
Delhi, ON Canada/2008	Snap bean/ Storm	SC	2	0.11	0.3	Pods w/seed	1	<u>0.12</u>	IR-4 PR No. 10046, Test ON15
Peas		1		1	1		1	1	1
Queensland Australia/2009	Green Peas/ Greenfeast	SC	3	0.02	0.005	Peas	0 1 3 7 12		HAL0802, S3/T2
Queensland Australia/2009	Green Peas/ Greenfeast	SC	2	0.11	0.02	Peas	0 1 3 7 12	< 0.01 < 0.01 < 0.01 < 0.01 < 0.01	HAL0802, S3/T3
Tasmania Australia/ 2009–10	Processing peas/ Resal	SC	3	0.02	0.007	Peas	0 1 3 7 14	$ \begin{array}{r} < 0.01 \\ < 0.01 \\ < 0.01 \\ < 0.01 \\ < 0.01 \\ < 0.01 \end{array} $	HAL0802, S4/T2
Tasmania Australia/ 2009–10	Peas/ Resal	SC	2	0.1	0.04	Peas	0 1 3 7 14	< 0.01 0.01 < 0.01 < 0.01 < 0.01	HAL0802, S4/T3
New South Wales, Australia/2009	Snap peas/ Sugar Bon	SC	3	0.02	0.005	Pods w/seed	0 1 3 6 14	0.02 0.01 0.02 0.03 0.47	HAL0802, S1/T2
New South Wales, Australia/2009	Snap peas/ Sugar Bon	SC	2	0.1	0.027	Pods w/seed	0 1 3 6 14	0.09 0.10 0.14 0.29 1.3	HAL0802, S1/T3
Queensland, Australia/2009	Snow peas/ Dwarf Oregon	SC	3	0.02	0.004- 0.006	Pods w/seed	0 1 3 7 14	0.09 0.03 0.03 <u>0.06</u> 0.01	HAL0802, S2/T2
Queensland, Australia/2009	Snow peas/ Dwarf Oregon	SC	2	0.11	0.02	Pods w/seed	0 1 3 7 14	0.24 0.10 0.08 0.08 0.07	HAL0802, S2/T3
Tasmania, Australia/2010	Snow peas/ Sugar Bon	SC	3	0.02	0.005	Pods w/seed	0 1 3 7 14	0.03 0.02 0.01 0.02 <u>0.04</u>	HAL0802, S5/T2
Tasmania, Australia/2010	Snow peas/ Sugar Bon	SC	2	0.11	0.027	Pods w/seed	0 1 3 7 14	$\begin{array}{c} 0.11 \\ 0.07 \\ 0.05 \\ < 0.01 \\ 0.09 \end{array}$	HAL0802, S5/T3

		Applica	tion			Residues				
Location/year	Crop variety	FL	No	kg ai/ha	kg ai/hL	Portion analysed	DAT, days	mg/kg	Study trial no.	
Simcoe, ON Canada/2008	Pea / Oregon Giant	SC	2	0.11	0.06	Pods w/seed	1	<u>0.61</u>	IR-4 PR No. 10003, Test ON25	
Delhi, ON Canada/2008	Garden pea/ Progress	SC	2	0.11	0.04	Seed	1	<u>0.02</u>	IR-4 PR No. 10003, Test ON10	
Delhi, ON Canada/2008	Garden pea/ Bolero	SC	2	0.11	0.04	Seed	1	<u>0.03</u>	IR-4 PR No. 10003, Test ON11	
Delhi, ON Canada/2008	Garden pea/ Bolero	SC	2	0.11	0.04	Seed	1	<u>0.03</u>	IR-4 PR No. 10003, Test ON12	
Kentville, Canada/2008	Garden pea/ Wando	SC	2	0.11	0.04	Seed	1	<u>0.02</u>	IR-4 PR No. 10003, Test NS04	
Elm Creek, Canada/2008	Garden pea/ Mr. Big	SC	2	0.11	0.06	Seed	1	<u>0.01</u>	IR-4 PR No. 10003, Test MB01	
Freeville, NY USA/2008	Pea/Sugar Snap	SC	2	0.11	0.02	Pods w/seed	1	<u>0.64</u>	IR-4 PR No. 10003, Test NY28	
Salinas, CA USA/2008	Pea / Sugar Ann	SC	2	0.11	0.015	Pods w/seed	1	<u>0.48</u>	IR-4 PR No. 10003, Test CA*25	
Aurora, OR USA/2008	Pea / Sugar Sprint	SC	2	0.11	0.04	Pods w/seed	1 3 6 13	0.45 0.31 0.23 0.08	IR-4 PR No. 10003, Test OR22	
Kimberly, ID USA/2008	Garden pea/ Thomas Laxton	SC	2	0.11	0.05	Seed	1	<u>0.03</u>	IR-4 PR No. 10003, Test ID01	

Soya bean, dry

Four residue trials were conducted in sobybean in Brasil in 2010. The results are shown in Table 7.

Table 7 Residues of chlorantraniliprole in soya bean seed (Report BPL-JM-036-003-10-RF)

		Applicat	ion			Residue	s	Study trial
Location/year	Crop variety	FL	No	kg ai/ha	kg ai/hL	DAT, days	mg/kg	no.
Brazil/2010 Sao Paulo	Soya bean/ conquista	SC	2	0.01	0.004	7 14 21 28	$ \begin{array}{r} 0.01 \\ 0.01 \\ \underline{< 0.01} \\ \hline < 0.01 \end{array} $	Test No. 1
Brazil/2010 Paraná,	Soya bean/ CD 206	SC	2	0.01	0.005	7 14 21 28	< 0.01 < 0.01 <u>< 0.01</u> <0.0006	Test No. 2
Brazil/2010 Paraná,	Soya bean/ Codetec 206	SC	2	0.01	0.005	21	<u>< 0.01</u>	Test No. 3
Brazil/2010 Mato Grosso do Sul,	Soya bean/ Monsoy 7908 RR	SC	2	0.01	0.005	21	<u>< 0.01</u>	Test No. 4

Carrots

A total of 19 residue trials were conducted in Europe in carrots during 2009/2010. The results are shown in Table 8.

Table 8 Residues of chlorantraniliprole in carrots	(Report DuPont-27575)
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Location/year	Crop variety	Applic	ation	I		Residues	1	Study trial no.
Creek Depublie		FL	No	kg ai/ha	kg ai/hL	DAT, days	mg/kg	Study that no.
/2009	Kamaran F1	WG	2	0.04	0.004	21	0.014	Test No. 10
Czech Republic/2010	Carrot/ Kamaran F1	WG	2	0.04	0.004	-0 +0 7 14 20 27	<0.004 <0.004 <0.004 <0.004 <u><0.004</u> <0.004	Test No. 18
France, North /2009	Carrot/ Mac Kabro	WG	2	0.04	0.008	-0 +0 7 14 21 28	<0.004 <0.004 <0.004 <0.004 <0.004 <0.004	Test No. 3
France, North, /2009	Carrot/ Kingston	WG	2	0.04	0.008	21	<u><0.004</u>	Test No. 2
France, North/2010	Carrot/ Kiev	WG	2	0.04	0.008	21	<u>0.010</u>	Test No. 12
France, South/2009	Carrot/ Dordogne	WG	2	0.03	0.004	-0 +0 7 14 21 28	<0.004 <0.004 <0.004 0.008 <u><0.004</u> <0.004	Test No. 1
France, South/2010	Carrot/ Dordogne	WG	2	0.04	0.008	-0 +0 7 14 21 28	<0.004 <0.004 0.005 <0.004 <u>0.005</u> <0.004	Test No. 11
Germany/2009	Carrot/ Nantaise 2	WG	2	0.04	0.004	-0 +0 7 14 21 28	0.020 0.010 0.022 0.024 0.021 0.015	Test No. 9
Germany/2010	Carrot/ Nantaise 2	WG	2	0.04	0.004	21	<u><0.004</u>	Test No. 17
Greece/2009	Carrot/ Tempo F1	WG	2	0.04	0.004	21	0.030	Test No. 7
Greece /2010	Carrot/ Tempo f1	WG	2	0.04	0.004	21	<u><0.004</u>	Test No. 15
Italy/2009	Carrot/ Dordogne	WG	2	0.04	0.004	21	<u>0.025</u>	Test No. 4
Italy/2009	Carrot/ Maestro	WG	2	0.04	0.004	-0 +0 7 14 20 27	0.004 0.010 0.096 0.006 <u>0.036</u> 0.030	Test No. 5
Italy /2010	Carrot/ Napoli	WG	2	0.04	0.004	19	0.005	Test No. 13
Spain/2009	Carrot/ Nevis	WG	2	0.04	0.004	-0 +0 7 14 21 28	<0.004 <0.004 0.009 0.040 <u>0.004</u> <0.004	Test No. 6

Lagation/waar	Cron veriety	Applic	ation			Residues		Study trial no
Location/year Spain /2010 UK/2009	Crop variety	FL	No	kg ai/ha	kg ai/hL	DAT, days	mg/kg	Study that no.
						-0	< 0.004	
				0.04		+0	< 0.004	
	Carrot/	WG	2		0.004	7	< 0.004	Test No. 14
Spain /2010	Namur	wu	2	0.04	0.004	14	< 0.004	105t NO. 14
						21	< 0.004	
						28	< 0.004	
						-0	0.012	
						+0	0.008	
LIK/2009	Carrot/	WG	2	0.04	0.004	7	0.016	Test No. 8
0102007	Romance		2	0.01	0.001	14	0.013	1031110.0
						20	0.009	
						28	<u>0.027</u>	
						-0	< 0.004	
						+0	< 0.004	
UK /2010	Carrot/	WG	2	0.04	0.004	8	< 0.004	Test No. 16
0K/2010	Nairobi	wu	2	0.04	0.004	15	< 0.004	1051 NO. 10
						22	< 0.004	
						29	< 0.004	

Radish

Six trials were conducted in radish in Canada and USA in 2008. Residues in roots and tops at 1 DATare shown in Table 8 $\,$

		Appl	ication			Residues			
Location/year	Crop variety	FL	No	kg ai/ha	kg ai/hL	Portion analysed	DAT, days	mg/kg	Trial no.
MB Canada/2008	Radish/ Champion	SC	2	0.11	0.05	Roots Tops	1 1	$\frac{0.03}{3.9}$	No. 5
PA USA/2008	Radish/ French breakfast	SC	2	0.11	0.04	Roots tops	1 1	<u>0.26</u> 11	No. 1
FL USA/2008	Radish/ Crunchy Royale	SC	2	0.11	0.04	Roots tops	1 1	<u>0.04</u> 10	No. 2
FL USA/2008	Radish/ Cherriette	SC	2	0.11	0.04	Roots Tops	1 1	<u>0.05</u> 19	No. 3
IA USA/2008	Radish/ Champion	SC	2	0.11	0.05	Roots Tops	1 1	<u>0.05</u> 7.7	No. 4
CA USA/2008	Radish/ Crunchy royale	SC	2	0.11	0.04	Roots Tops	1 1	$\frac{0.08}{22}$	No. 6

Table 8 Residues of chlorantraniliprole in radish (Report DuPont-25887)

Globe artichokes

Eight trials were conducted in Europe and USA in globe artichoke from 2008 to 2010. The results are shown in Table 9.

Table 0	Desidues	of chl	rontronili	nrola i	in Gl	oha	artichoko	G
Table 9	Residues	of child	Jianuanni	prote i	in Gi	obe	articitoke	S

Location/year	Cron	Appli	cation			Residues			Study trial
	variety	FL	No	g ai/ha	g ai/hL	Portion analysed	DAT, days	mg/kg	no.
France/2008	Globe artichoke/ Macau	ZC	2	0.03	0.0003	Whole fruit	0* 0 3 7 14	nsa 0.14 <u>0.16</u> 0.12 0.06	T000566-08- REG, Test 1

	Const	Appli	cation			Residues			Cto de trial
Location/year	variety	FL	No	g ai/ha	g ai/hL	Portion analysed	DAT, days	mg/kg	no.
Spain/2008	Globe artichoke/ Tudela	ZC	2	0.03	0.0003	Whole fruit	0* 0 3 7 14	0.03 0.20 <u>0.08</u> 0.03 < 0.01	T000566-08- REG, Test 2
Spain/2009	Globe artichoke/ Tudela	ZC	2	0.03	0.0005	Whole fruit	0* 0 3 7 14	0.03 0.09 <u>0.06</u> 0.05 0.06	CEMS- 4441-REG, Test 1
Spain/2009	Globe artichoke/ Tudela	ZC	2	0.03	0.0005	Whole fruit	0* 0 3 7 14	0.02 0.09 <u>0.07</u> 0.03 0.05	CEMS- 4441-REG, Test 2
CA, USA/2010	Artichoke/ Green globe	SC	2	0.11	0.12	Flower buds	3	<u>0.60</u>	IR-4 PR No. 10083, Test No. CA63
CA, USA/2010	Artichoke/ Green globe	SC	2	0.11	0.016	Flower buds	3	<u>0.59</u>	IR-4 PR No. 10083, Test No. CA64
CA, USA/2010	Artichoke/ Green globe	SC	2	0.11	0.016	Flower buds	4	<u>0.72</u>	IR-4 PR No. 10083, Test No. CA65
CA, USA/2010	Artichoke/ Green globe	SC	2	0.11	0.012	Flower buds	3	<u>0.48</u>	IR-4 PR No. 10083, Test No. CA66

Rice

Eight trials were conducted with chlorantraniliprole in rice in Brazil using foliar application and 19 trials were conducted in USA using seed application. The results are shown n Table 9.

		Appli	cation			Residue	S	Papart
Location/year	Crop variety	FL	No	kg	kg	DAT,	mg/kg	Study trial no.
				aı/ha	aı/hL	days	88	
Foliar application								
						15	0.13	
SP,	EDACDI 115	WG	1	0.02	0.015	33	0.06	BPL-JM-036-008-09
Brazil/2010	EFAGKIIIJ	wG	1	0.05	0.015	45	< 0.01	Test No. C1
						60	< 0.01	
						13	0.02	
SD Drozi1/2010	Matti	WG	1	0.02	0.015	28	< 0.01	BPL-JM-036-008-09
Sr, Blazil/2010	IVIOIII	wG	1	0.05	0.015	43	< 0.01	Test No. C2
						58	< 0.01	
						15	0.10	
SC Brozil/2010	EDACDI 100	WG	1	0.02	0.015	30	0.03	BPL-JM-036-008-09
SC, DIazii/2010	EFAGKI 109	wG	1	0.05	0.015	45	< 0.01	Test No. C3
						60	< 0.01	
						15	0.16	
SC Brozil/2010	EDACD1 112	WG	1	0.02	0.015	30	< 0.01	BPL-JM-036-008-09
SC, DIazii/2010	EFAGKI IIS	wG	1	0.05	0.015	45	< 0.01	Test No. C4
						60	< 0.01	
SC Brozil/2010	EDACD1 100	WG	1	0.02	0.015	15	< 0.01	BPL-JM-036-008-09
SC, DIazii/2010	LI AUKI 109	wu	1	0.03	0.015	60	< 0.01	Test No. P1
SC Brozil/2010	SCS 115 CI	WG	1	0.02	0.015	15	0.03	BPL-JM-036-008-09
SC, DIazil/2010	SCS 115 - CL	wG	1	0.03	0.015	60	< 0.01	Test No. P2
DS Drozil/2010	IDCA 117	WG	1	0.02	0.015	15	0.13	BPL-JM-036-008-09
K5, DIa211/2010	INOA II/	WU	1	0.03	0.015	60	< 0.01	Test No. P3

Table 9 Residues of chlorantraniliprole in rice grain in Brazil and USA

		Appli	cation			Residue	s	Demost
Location/year	Crop variety	FL	No	kg ai/ba	kg ai/bI	DAT,	mg/kg	Study trial no.
				al/11a	ai/IIL	15 Udys	0.16	DDI IM 026 008 00
RS, Brazil/2010	Puitá	WG	1	0.03	0.015	15 60	0.10 < 0.01	BPL-JM-030-008-09 Test No. P4
				mσ		00	< 0.01	Test NO. 14
Seed application				ai/seed				
LA, USA/2007	Cocodrie	FS	1	0.1	0.56	127	0.05	DuPont-21999, Test No. 1
LA, USA/2007	Wells	FS	1	0.1	0.56	123	0.03	DuPont-21999, Test No. 2
LA, USA/2007	Wells	FS	1	0.1	0.56	116	0.04	DuPont-21999, Test No. 3
LA, USA/2007	Wells	FS	1	0.1	0.56	122	0.05	DuPont-21999, Test No. 4
LA, USA/2007	Wells	FS	1	0.1	0.56	122	0.05	DuPont-21999, Test No. 5
LA, USA/2007	Cocodrie	FS	1	0.1	0.56	122	0.07	DuPont-21999, Test No. 6
LA, USA/2007	Francis	FS	1	0.1	0.56	122	0.09	DuPont-21999, No. 7
AR, USA/2007	Wells	FS	1	0.1	0.56	134	0.03	DuPont-21999, No. 9
AR, USA/2007	Bengal	FS	1	0.1	0.56	138	0.05	DuPont-21999, No. 10
AR, USA/2007	Wells	FS	1	0.1	0.56	143	0.03	DuPont-21999, No. 11
AR, USA/2007	Bengal	FS	1	0.1	0.56	148	0.03	DuPont-21999, Test No. 12
MO, USA/2007	Francis	FS	1	0.1	0.56	120	0.01	DuPont-21999, No. 13
TX, USA/2007	Cocodrie	FS	1	0.1	0.56	113	0.06	DuPont-21999, No. 14
TX, USA/2007	Cocodrie	FS	1	0.1	0.56	120	0.05	DuPont-21999, No. 15
CA,USA/2007	Calrose	FS	1	0.1	0.56	130	0.05	DuPont-21999, No. 16
CA, USA/2007	Calrose	FS	1	0.1	0.56	117	0.06	DuPont-21999, No. 17
LA, USA/	XL 745	FS	1	0.044	0.09	125	0.02	DuPont-30021, No. 1
LA USA/	XL723	FS	1	0.044	0.09	118	0.01	DuPont-30021, No. 2
MO USA/2011	XL 745	FS	1	0.044	0.09	135	0.01	DuPont-30021, No. 3

Cereals

Eleven trials were conducted with chlorantraniliprole in cereals in USA in 2009/2010. The results are shown in Table 10.

Table 10. Results of residue trials conducted with chlorantraniliprole in cereal grain (IR-4 PR No. 10204)

		Appli	cation			Residues		
Location/year	Crop /variety	FL	No	kg ai/ha	kg ai/hL	DAT, days	mg/kg	Trial no.
ND, USA/2009	Barley/Tradition	SC	2	0.12	0.1	1	2.0	ND01
SD, USA/2009	Barley/Lacey	SC	2	0.11	0.06	1	1.9	SD07
ID, USA/2009	Barley/Camas Spring	SC	2	0.11	0.06	1	1.9	ID14
ND, USA/2009	Sorghum/LM 5001	SC	2	0.11	0.08	1	1.2	ND02
NM, USA/2009	Sorghum/DK 28E	SC	2	0.11	0.06	1	1.5	NM13
NM, USA/2009	Sorghum/M3838	SC	2	0.11	0.04	1	0.79	NM19
ND, USA/2009	Wheat/Alsen	SC	2	0.12	0.09	1	0.22	ND03
ND, USA/2009	Wheat/Glenn	SC	2	0.11	0.08	1	0.19	ND04
ND, USA/2009	Wheat/Faller	SC	2	0.12	0.10	1	0.18	IND05
SD, USA/2009	Wheat/Briggs Hard Red	SC	2	0.12	0.055	1	0.25	SD08
NM, USA/2010	Wheat/El Dorado	SC	2	0.12	0.05	1	0.41	NM18

^a highest residue values of two individual field samples.

Oil seeds

Twelve trials were conducted with canola and sunflower in Canada and USA in 2010. The results are shown in Table 11.

		Applica	tion			Residue	s	Study
Location/year	Crop/variety	FL	No	kg ai/ha	kg ai/hL	DAT, days	mg/kg	trial no.
MB, Canada/2010	Canola/Invigor 5440	SC	2	0.11	0.12	1	0.25	4
SK, Canada/2010	Canola/Roundup Ready	SC	2	0.12	0.11	1	<u>0.34</u>	5
AB, Canada/2010	Canola/Liberty 5440	SC	2	0.12	0.11	1	0.23	6
NE, USA/2010	Canola/Patriot RR	SC	2	0.11	0.08	1	1.0	1
NE, USA/2010	Canola/Patriot RR	SC	2	0.11	0.08	1	0.83	2
WA, USA/2010	Canola/72-65RR	SC	2	0.11	0.08	1	<u>0.14</u>	3
SK, Canada/2010	Sunflower/Viper	SC	2	0.12	0.12	1	0.82	11
MB, Canada/2010	Sunflower/Mycogen 8N272	SC	2	0.11	0.12	1	0.16	12
MB, Canada/2010	Sunflower/Dahlgren	SC	2	0.11	0.12	1	0.12	8
IA, USA/2010	Sunflower/Peredovic	SC	2	0.11	0.07	1	<u>0.79</u>	7
NE, USA/2010	Sunflower/3080 DMR, NS	SC	2	0.11	0.08	1	0.21	9
ND, USA/2010	Sunflower/RH9558	SC	2	0.12	0.06	1	0.03	10

Table 11 Results of residue trials conducted with chlorantraniliprole in oil seeds (DuPont-26888)

Coffee

Eight trials were conducted in coffee in Brazil in 2007 and 2010. The coffee cherries were dried for 24 days in the field and the coffee beans were mechanically separated from the skin. The residues found in the coffee beans are shown in Table 12.

Lagation/waar	Crop	Applic	ation			Residues		Study trial no
Location/year	variety	FL	No	kg ai/ha	kg ai/hL	DAT, days	mg/kg	Study trial no.
São Manuel, SP /2010	Coffee/ Obata	WG	2	0.03	0.008	7 14 21 28	0.01 0.01 <u>0.01</u> < 0.01	BPL-JM-036-004-10-RF- Revision 1, Test No. 1
Alvilandia, SP/2010	Coffee/ Obata	WG	2	0.03	0.008	7 14 21 28	0.04 0.01 <u>0.01</u> < 0.01	BPL-JM-036-004-10-RF- Revision 1, Test No. 2
Carlopolis, SP /2010	Coffee/ Obata	WG	2	0.03	0.008	21	<u>< 0.01</u>	BPL-JM-036-004-10-RF- Revision 1, Test No. 4
Varginha, MG /2010	Coffee/ Catuai	WG	2	0.03	0.008	21	<u>0.01</u>	BPL-JM-036-004-10-RF- Revision 1, Test No. 5
Espirito Santo do Pinhal, SP/2007	Coffee/ Acacia	WG	3	0.05	0.013	8 22	0.10 <u>0.02</u>	RE-2007-171, Test No. 1
Machado, MG /2007	Coffee/ Topazio	WG	3	0.05	0.013	1 3 7 14 21	0.19 0.16 0.12 0.06 <u>0.02</u>	RE-2007-205, Test No. 1
Arceburgo, MG/2007	Coffee/ Ubata	WG	3	0.05	0.013	1 4 7 14 21	0.21 0.14 0.10 0.07 <u>0.02</u>	RE-2007-206, Test No. 1
Indianoplois, MG/2007	Coffee/ Ubata	WG	3	0.05	0.013	7 21	0.12 0.03	RE-2007-207, Test No. 1

Table 12. I	Results c	of residue	trials	conducted	with	chlorantrani	iliprole	in	coffee	beans	in	Brazil.
14010 12.1	cobuito c	11051000	unun	conducted	** 1011	cintrantian	111111010	111	001100	ocuns	111	Diazii.

Hops

Four trials were conducted in hops in USA in the period of 2009-2012. After harvest, the hop cones were dried in ovens/dryer rooms/kilns simulating commercial practices. The hop cones were dried at approximately 60-65 °C for up 2.5 to 24 hours. The results are shown in Table 13.

Location/waar	Cron veriety	Appl	ication			Residues		Study trial
Location/year	Crop variety	FL	No	kg ai/ha	kg ai/hL	DAT, days	mg/kg	no.
						0	7.8	
						1	7.6	
ID, USA/2011	Hops/Newport	SC	2	0.1	0.02	3	<u>8.9</u>	ID04
						8	7.0	
						14	6.4	
OR, SA/2011	Hops/Nugget	SC	2	0.1	0.02	0	<u>19</u>	OR05
						0	7.2	
						1	7.5	
WA, SA/2011	Hops/Nugget	SC	2	0.1	0.01	3	7.6	WA04
						7	5.5	
						13	5.9	
WA, SA/2011	Hops/Warrior	SC	2	0.1	0.01	0	<u>13</u>	WA06

Table 13 Results of residue trials conducted with chlorantraniliprole hops (IR-4 PR No. A10491). Residues in dried hop cones

Animal feed commodities

In the trials for legume vegetables and cereals reported in the previous tables, commodities for animal consumption were also analysed for chlorantroniliprole residues. The results are shown in Tables 14-16.

		Applic	cation			Residues			
Location/year	Crop variety	FL	No	kg ai/ha	kg ai/hL	Portion analysed	DAT, days	mg/kg	Study trial no.
Queensland, Australia/2009	Green beans/ Labrador	SC	3	0.02	0.006	Foliage	1 7 14	$\begin{array}{c} \underline{0.31} (2.24) \\ 0.15 (0.90) \\ 0.11 (0.50) \end{array}$	HAL0802, S6/T2
Queensland, Australia/2009	Green beans/ Labrador	SC	2	0.1	0.03	Foliage	1 7	1.5 (11.66) 0.81 (4.45)	HAL0802, S6/T3
France, South/2008	Beans/ Booster	SC	2	0.05	0.0005	Plants wo/ pods	0* 0 1 3 7	3.3 6.3 4.7 3.3 <u>6.8</u>	T000565-08- REG (CEMS- 3913), Test 1
Italy/2008	Beans/ Oriente	SC	2	0.05	0.0005	Plants wo/ pods	0* 0 1 3 7	2.0 2.8 4.9 <u>4.3</u> 3.3	T000565-08- REG (CEMS- 3913), Test 2
Spain/2009	Beans/ Emerite	SC	2	0.05	0.0005	Plants wo/ pods	0* 0 1 3 7	2.4 6.0 6.1 3.2 4.5	T000565-08- REG (CEMS- 3913), Test 3
Spain/2008	Beans/ Killy	SC	2	0.05	0.0005	Plants wo/ pods	0* 0 1 3 7	2.9 5.4 6.2 <u>6.6</u> 6.1	T000565-08- REG (CEMS- 3913), Test 4
Greece/2011	Beans/ Magirus	WG	2	0.04	0.004	Plants wo/ pods	1	1.2	DuPont- 33033, Test No. 1
South France/2011	Beans/ Angers	WG	2	0.04	0.004	Plants wo/ pods	1	2.4	DuPont- 33033, Test No. 2

Table 14 Residues of chlorantraniliprole in legume animal feed

		Application				Residues			
Location/year	Crop variety	FL	No	kg ai/ha	kg ai/hL	Portion analysed	DAT, days	mg/kg	Study trial no.
Spain/2011	Beans/ Alquife	WG	2	0.04	0.004	Plants wo/ pods	-0 +0 1 3	1.4 2.1 3.0 <u>2.4</u>	DuPont- 33033, Test No. 3
MD USA/2008	Snap bean/ Provider	SC	2	0.11	0.26	Plants w/pods	1	<u>5.2</u>	IR-4 PR 10046, Test MD15
NY USA/2008	Snap bean/ Hystyle	SC	2	0.11	0.32	Plants w/pods	1	<u>6.0</u>	IR-4 PR 10046, Test NY29
WI USA/2008	Snap bean/ Hystyle	SC	2	0.11	0.4	Plants w/pods	1	<u>4.9</u>	IR-4 PR 10046, Test WI21
OH USA/2008	Snap bean/ Eureka	SC	2	0.11	0.37	Plants w/pods	1	<u>0.01</u>	IR-4 PR 10046, Test OH*12
FL USA/2008	Snap bean/ Dusky	SC	2	0.11	0.38	Plants w/pods	1	<u>1.7</u>	IR-4 PR 10046, Test FL29
CA USA/2008	Snap bean/ Blue Lake274	SC	2	0.11	0.28	Plants w/pods	1	<u>6.2</u>	IR-4 PR 10046, Test CA01
WA USA/2008	Snap bean/ OSU 91G	SC	2	0.11	0.3	Plants w/pods	1	<u>4.5</u>	IR-4 PR 10046, Test WA03
ON Canada/2008	Snap bean/ Bronco	SC	2	0.11	0.3	Plants w/pods	1	<u>5.5</u>	IR-4 PR 10046, Test ON14
ON Canada/2008	Snap bean/ Storm	SC	2	0.11	0.3	Plants w/pods	1	<u>3.8</u>	IR-4 PR 10046, Test ON15
NY USA/2008	pea/Sugar Snap	SC	2	0.11	0.02	Plants w/pods	1	<u>3.8</u>	IR-4 PR 10003, Test NY28
CA USA/2008	pea/Sugar Ann	SC	2	0.11	0.015	Plants w/pods	1	<u>4.9</u>	IR-4 PR 10003, Test CA*25
OR USA/2008	pea/Sugar Sprint	SC	2	0.11	0.04	Plants w/pods	1	<u>2.8</u>	IR-4 PR 10003, Test OR22
ON Canada/2008	pea/Oregon Giant	SC	2	0.11	0.06	Plants w/pods	1	<u>4.4</u>	IR-4 PR 10003, Test ON25
ID USA/2008	pea/Thomas Laxton	SC	2	0.11	49 + 49	Plants w/pods	1	<u>6.4</u>	IR-4 PR 10003, Test ID01
ON Canada/2008	pea/ Progress	SC	2	0.11	37 + 37	Plants w/pods	1	<u>4.3</u>	IR-4 PR 10003, Test ON10
ON Canada/2008	pea/Bolero	SC	2	0.11	37 + 37	Plants w/pods	1	<u>5.3</u>	IR-4 PR 10003, Test ON11
ON Canada/2008	pea/Bolero	SC	2	0.11	37 + 37	Plants w/pods	1	<u>4.8</u>	IR-4 PR 10003, Test ON12
NS Canada/2008	Pea/Wando	SC	2	0.11	37 + 38	Plants w/pods	1	<u>3.4</u>	IR-4 PR 10003, Test NS04
MB Canada/2008	Pea/Mr. Big	SC	2	0.11	58 + 58	Plants w/pods	1	3.0	IR-4 PR 10003, Test MB01

		Application				Residues			
Location/year	Crop variety	FL	No	kg ai/ha	kg ai/hL	Portion analysed	DAT, days	mg/kg	Study trial no.
New South Wales, Australia/2009	Peas/ Sugar Bon	SC	3	0.02	0.005	Foliage	1 6 14	0.29 (1.2)a 0.60 (3.3) <u>2.2</u> (5.1)	HAL0802, S1/T2
New South Wales, Australia/2009	Peas/ Sugar Bon	SC	2	0.1	0.03	Foliage	1 6	0.16 (1.0) 2.8 (17.2)	HAL0802, S1/T3
Queensland Australia/2009	Peas/Greenf east	SC	3	0.02	0.005	Empty pods	0 1 3 7 12	$\begin{array}{c} 0.03 \\ 0.02 \\ < 0.01 \\ \underline{0.05} \\ 0.04 \end{array}$	HAL0802, S3/T2
Queensland Australia/2009	Peas/ Greenfeast	SC	3	0.1	0.005	Foliage	1 7 12	0.23 (1.5) 0.12 (0.77) 0.86 (5.6)	HAL0802, S3/T2
Queensland Australia/2009	Peas/ Greenfeast	SC	2	0.1	0.005	Empty pods	0 1 3 7 12	0.39 0.15 0.16 0.19 0.30	HAL0802, S3/T3
Queensland Australia/2009	Peas/ Greenfeast	SC	2	0.1	0.005	Foliage	1 7	0.88 (6.2) 0.52 (3.2)	HAL0802, S3/T3
Tasmania Australia/ 2009–10	Peas/ Resal	SC	3	0.02	0.007	Empty pods	0 1 3 7 14	0.07 0.04 0.04 0.10 <u>0.20</u>	HAL0802, S4/T2
Tasmania Australia/ 2009–10	Peas/Resal	SC	3	0.02	0.007	Foliage	1 7 14	0.26 (2.1) 0.13 (0.73) <u>0.78</u> (2.66)	HAL0802, S4/T2
Tasmania Australia/ 2009–10	Peas/ Resal	SC	2	0.1	0.04	Empty pods	0 1 3 7 14	0.28 0.24 0.24 0.26 0.39	HAL0802, S4/T3
Tasmania Australia/2009– 10	Peas /Resal	SC	2	0.1	0.04	Foliage	1 7	0.92 (7.2) 0.48 (2.8)	HAL0802, S4/T3

^{a.} Residue values on a dry weight basis are shown parenthetically. Where no quantifiable levels were found, i.e., the result on a fresh weight is <LOQ, the associated result on a dry weight basis is also expressed as <LOQ (0.01 mg/kg).

		Appli	ication			Residues			Study trial
Location/year	Crop variety	FL	No	kg ai/ha	kg ai/hL	Portion analysed	DAT, days	mg/kga	no.
Force ND	Wheet/	SC	2	0.11	0.08	Forage	1	4.3	ND04
raigo, ND,	Glopp					Hay	1	9.5	
USA/2009	Olelili					Straw	1	4.7	
Value ND 59700	W/hoot/	SC	2	0.11	0.10	Forage	1	4.4	ND05
V = 1 V a, $ND = 38790$, $U \le 1/2000$	Faller					Hay	1	8.6	
USA/2009	Fallel					Straw	1	15	
Aurona CD	Wheat/	SC	2	0.11	0.06	Forage	1	4.3	No. SD08
Autora, SD, $USA/2000$	Briggs Hard					Hay	1	11	
USA/2009	Red					Straw	1	6.4	
Les Crusses NM	Wheet	SC	2	0.11	0.06	Forage	1	4.6	No. NM18
Las Cruces, NNI	Fl Darada					Hay	1	11	
88003, USA/2010	El Dorado					Straw	1	4.5	
Fargo, ND,	Sorghum/	SC	2	0.11	0.08	Forage	1	2.7	ND02
USA/2009	LM 5001					Stover	1	3.4	

Table 15 Results of residue trials conducted with chlorantraniliprole cereal animal feed (IR-4 PR No. 10204).

Chlorantraniliprole

		Appli	ication			Residues			Studentwist
Location/year	Crop variety	FL	No	kg ai/ha	kg ai/hL	Portion analysed	DAT, days	mg/kga	no.
Las Cruces, NM	Sorghum/	SC	2	0.11	0.07-0.08	Forage	1	4.0	NM13
USA/2009	DK 28E					Stover	1	5.9	
Las Cruces, NM	Sorghum/	SC	2	0.12	0.05	Forage	1	3.4	NM19
USA/2009	M3838					Stover	1	4.1	
Velva, ND	Barley/	SC	2	0.12	0.1	Hay	1	9.2	ND01
USA/2009	Tradition					Straw	1	14	
Aurora, SD,	Barley/	SC	2	0.12	0.05	Hay	1	5.5	SD07
USA/2009	Lacey					Straw	1	3.6	
Kimborly ID	Barley/	SC	2	0.11	0.06	Hay	1	11	ID14
USA/2009	Camas Spring					Straw	1	12	

Table 16 Residues of chlorantroniliplore in rice straw from seed treatment in USA in 2007 (Report DuPont-21999)

Location	Crop voriaty	Appli	cation			Residues		Trial
Location	Crop variety	FL	No	mg ai/seed	kg ai/ha	DAT, days	mg/kg	111al.
Cheneyville, LA	Rice/Cocodrie	FS	1	0.1	0.56	127	0.12	No. 1
Cheneyville, LA	Rice/Wells	FS	1	0.1	0.56	123	0.12	No. 2
Cheneyville, LA	Rice/Wells	FS	1	0.1	0.56	116	0.24	No. 3
Washington, LA	Rice/Wells	FS	1	0.1	0.56	122	0.13	No. 4
Washington, LA	Rice/Wells	FS	1	0.1	0.56	122	0.09	No. 5
Washington, LA	Rice/Cocodrie	FS	1	0.1	0.56	122	0.14	No. 6
Washington, LA	Rice/Francis	FS	1	0.1	0.56	122	0.22	No. 7
Wynne, AR	Rice/Wells	FS	1	0.1	0.56	134	0.10	No. 9
Augusta, AR	Rice/Bengal	FS	1	0.1	0.56	138	0.12	No. 10
Magness, AR	Rice/Wells	FS	1	0.1	0.56	143	0.05	No. 11
Newport, AR	Rice/Bengal	FS	1	0.1	0.56	148	0.11	No. 12
Dudley, MO	Rice/Francis	FS	1	0.1	0.56	120	0.02	No. 13
East Bernard, TX	Rice/Cocodrie	FS	1	0.1	0.56	113	0.13	No. 14
East Bernard, TX	Rice/Cocodrie	FS	1	0.1	0.56	120	0.16	No. 15
Richvale, CA	Rice/Calrose	FS	1	0.1	0.56	130	0.05	No. 16
Fresno, CA	Rice/Calrose	FS	1	0.1	0.56	117	0.16	No. 17

FATE OF RESIDUES IN PROCESSING

Rice

Two processing studies were conducted with rice in USA in 2007. Rice seed was treated once at 0.2 mg ai/seed and grain harvested after 148 days were processed using two different procedures (DuPont-21999). The results are shown in Table 17.

Table 17 Processing studies in rice

Matrix	Test No. 12		Test 15		Best estimate (median)
Grain	0.048	PF	0.044	PF	
Polished rice (mechanical processing)	0.003	0.07	0.003	0.07	0.11
Polished rice (parboil processing)	0.008	0.16	0.007	0.15	
Bran (mechanical processing)	0.061	1.3	0.11	2.5	1.7
Bran (parboil processing)	0.063	1.3	0.093	2.1	
Hulls (mechanical processing)	0.25	5.3	0.15	3.2	3.2
Hulls (parboil processing)	0.15	3.1	0.11	2.4	

Wheat

One processing study was conducted with wheat in USA in 2009 (IR-4 PR No. 10204, Test No. ND03) The plants were treated twice with a SC formulation at 0.1 kg ai/ha and the grain harvested after one day were processed. The results are shown in Table 18

ŭ ;		
Matrix	mg/kg	PF
Grain	0.225	-
AGF	7.56	33.7
Germ	0.260	1.2
Middlings	0.0647	0.3
Flour	0.0883	0.4
Shorts	0.157	0.7
Bran	0.240	1.1

Table 18 Processing study in wheat

APPRAISAL

The insecticide chlorantraniliprole was evaluated by the JMPR 2008 (T, R) and 2010 (R). The ADI for chlorantraniliprole is 0–2 mg/kg bw and an ARfD was considered unnecessary. The compound was listed by the Forty-fourth Session of the CCPR (2012) for the evaluation by the 2013 JMPR of residue data for avocadoes, pomegranates, strawberries and other berries, soya bean, radish, carrots, globe artichokes, wheat, rape seed, sunflower seed, coffee and hops.

The residue definition for compliance with MRL and for dietary intake for plant and animal commodities is chlorantraniliprole. The residue is considered fat-soluble.

Results from supervised residue trials on crops

Berries and other small fruits

Currently, there is a Codex MRL of 1 mg/kg for chlorantraniliprole in Berries and other small fruits, which replaced the previous MRL of 1 mg/kg in grapes.

In the USA, GAP for chlorantraniliprole in strawberry is for up to $4 \times 0.05-0.07$ kg ai/ha (7 days interval; total 0.225 kg ai/ha/season). Eight trials conducted in the USA in 2011 at 2×0.11 kg ai/ha (7 days interval) gave residues at 1 day PHI of 0.18, 0.21, 0.22, 0.23, 0.24 (2), 0.40 and 0.68 mg/kg. Eight indoor trials were conducted in southern Europe, where there is no approved use.

Residues of chlorantraniliprole in grapes from 17 trials in Canada and the USA evaluated by the 2008 JMPR complying with GAP of the USA ($3 \times 0.07-0.11$ kg ai/ha and 14 days PHI) were 0.02, 0.04 (3), 0.08, 0.09 (2), 0.11, 0.12, 0.18, 0.20, 0.26, 0.32, 0.34, 0.46, 0.48 and 0.52 mg/kg.

In the USA and Canada, GAP in bushberries (include cranberry and blueberry) is $3 \times 0.07-0.11$ kg ai/ha and 1 day PHI, total 0.

225 kg ai/ha/season). Seventeen trials were conducted in Canada and USA in cranberry and blueberry using 2 applications of the maximum GAP rate, with residues at 1 day PHI of 0.11, 0.12 (2), 0.13 (2), 0.16, 0.18 (2), 0.21 (2), 0.23, 0.24, 0.29, 0.32, 0.46, 0.75 and 0.84 mg/kg.

Data evaluated by the 2010 JMPR on residues of chlorantraniliprole in caneberries (raspberries and blackberries) from eight trials in Canada and the USA complying with GAP of the USA were: 0.05, 0.09 (2), 0.24, 0.44, 0.48 (2) and 0.51 mg/kg

The Meeting confirms its previous recommendation of a maximum residue level of 1 mg/kg for chlorantraniliprole in berries and other small fruits.

Avocado

The GAP of chlorantraniliprole in avocado in New Zealand is 2×0.09 kg ai/ha (21 days interval) and a 14 day PHI. Two trials conducted in the country according to GAP gave residues in fruit of 0.03 and 0.08 mg/kg. Six other trials conducted at higher or lower GAP gave residues ranging from 0.07 to 0.31 mg/kg at 14 days DAT.

As only two trials were conducted according to GAP, the Meeting could not recommend a maximum residue level for chlorantraniliprole in avocado.

Pomegranate

The GAP of chlorantraniliprole in pomegranate in USA is $3 \times 0.07-0.11$ kg ai/ha (7 days interval; max. 0.2 kg ai/ha/season) and a 1 day PHI. Five trials conducted in the country according to GAP gave residues of 0.09, 0.10 (2) and 0.12 (2) mg/kg.

The Meeting recommended a maximum residue level of 0.4 mg/kg and a STMR of 0.10 mg/kg for chlorantraniliprole in pomegranate.

Radish tops

Currently, there is a Codex MRL of 20 mg/kg for chlorantraniliprole in leafy vegetables.

In the USA, chlorantraniliprole is registered in root and tuber vegetables at a maximum rate of 4×0.07 kg ai/ha (3 day interval; max of 0.22 kg ai/ha/season) and a 1 day PHI. In six trials conducted in radish at 2×0.11 kg ai/ha gave residues in radish tops at a 1 day PHI of 3.9, 7.7, 10, 11, 19 and 22 mg/kg.

The Meeting recommended a maximum residue level of 40 mg/kg and a STMR of 10.5 mg/kg for chlorantraniliprole in radish leaves (including radish tops).

The Meeting agreed to withdraw its previous recommendation of 20 mg/kg for leafy vegetables for 20 mg/kg in leafy vegetables, except radish leaves.

Legume vegetables

In Italy, chlorantraniliprole is registered in beans at up to 2×0.04 kg ai/ha with a 3 day PHI. In five trials conducted in France, Italy and Spain in 2008/2009, according to this GAP, residues in fresh bean pods with seeds were 0.15 0.16, 0.40 (2) and 0.41 mg/kg. Five residue trials conducted in southern Europe according to the Italian GAP and submitted to the 2010 JMPR gave residues in fresh pods with seeds of 0.08, 0.09, 0.12, 0.16 and 0.25 mg/kg.

Trials conducted in southern Europe according to GAP (n=9) gave residues in bean pods with seeds of 0.08 (2), 0.12, 0.15, 0.16 (2), 0.40 (2) and 0.41 mg/kg.

In USA, the rate for legume vegetables is up to 4×0.07 kg ai/ha (max. of 0.225 kg ai/ha/season) and a 1 day PHI. In nine trials conducted in the USA and Canada (2008) at 2×0.11 kg ai/ha, residues in bean pods with seeds were: < 0.01, 0.10, 0.12 (3), 0.14 (2), 0.16 and 0.41 mg/kg.

In Australia, GAP for legume vegetable is 3×0.02 kg ai/ha and a 1 day PHI. In two trials conducted according to GAP, residues in bean pods with seeds were 0.08 (2) mg/kg.

Based on the European trials, the Meeting recommended a maximum residue level of 0.8 mg/kg and a STMR of 0.16 mg/kg for chlorantraniliprole in beans, except broad bean and soya bean (green pods and immature seeds).

In four trials conducted in peas in the USA and Canada according to GAP, residues in pea pods with seeds were 0.45, 0.48, 0.61 and 0.64 mg/kg.

In three trials conducted in Australia according to the Australian GAP for legume vegetables $(3 \times 0.02 \text{ kg ai/ha}, 1 \text{ day PHI})$, residues in pea pods with seeds were 0.04, 0.06 and 0.47 mg/kg.

Based on the US and Canadian trials, and with the support of the Australian trials, the Meeting recommended a maximum residue level of 2 mg/kg and a STMR of 0.545 mg/kg for chlorantraniliprole in Peas (pods and succulent = immature seeds).

In six trials conducted in the USA and Canada, according to GAP, residues in pea seed were 0.01, 0.02 (2) and 0.03 (3) mg/kg. In two trials conducted in Australia according to GAP, residues in pea seed were < 0.01 (2) mg/kg.

Based on trials conducted in Canada and the USA, and with the support of the Australian trials, the Meeting recommends a maximum residue level of 0.05 mg/kg and a STMR of 0.025 mg/kg for chlorantraniliprole in peas, shelled.

Soya bean, dry

The GAP chlorantraniliprole in soya bean in Brazil is 2×0.01 kg ai/ha, and a PHI of 21 days. Four trials conducted in 2010 according to GAP gave residues of < 0.01 mg/kg (4).

Four trials submitted to the 2010 JMPR used a furrow application (0.1 kg ai/ha) followed by two applications at the GAP rate gave residues at 21 days PHI of 0.10, 0.11 (2) and 0.12 mg/kg.

As only four trials according to GAP were submitted, the Meeting could not recommend a maximum residue level for chlorantraniliprole in soya beans.

Root and tuber vegetables

The current Codex MRL for chlorantraniliprole in Root and tuber vegetables is 0.02 mg/kg, following the recommendation made by the 2008 JMPR based on rotation crop data (0.01 mg/kg on radish root) and foliar trials on potatoes (< 0.01 mg/kg, n=27).

In the USA, chlorantraniliprole is registered in Root and tuber vegetables at a maximum rate of 4×0.07 kg ai/ha (3 days interval; max of 0.22 kg ai/ha/season) and a 1 day PHI. Six trials conducted in radish at 2×0.11 kg ai/ha gave residues at a 1 day PHI of 0.03, 0.04, 0.05, 0.06, 0.08 and 0.26 mg/kg in the radish root. The Meeting agreed that the contribution from previous use on the rotation regime would not significantly impact the final residues.

The Meeting estimates a maximum residue level of 0.5 mg/kg and a STMR of 0.055 mg/kg for chlorantraniliprole in radish.

Chlorantraniliprole is registered to be used in Italy in carrots at up to 2×0.04 kg ai/ha (7–10 days interval) and 21 days PHI. Nine trials conducted in southern Europe in 2009/2010 according to this GAP gave residues of < 0.004 (3), 0.004, 0.005 (2), 0.025, 0.03, and 0.036 mg/kg. Eight trials conducted in northern Europe at the same rate gave residues of < 0.004 (5) 0.01, 0.021, and 0.027 mg/kg. Residues in Europe can be combined as < 0.004 (8), 0.004, 0.005 (2) 0.01, 0.021, 0.025, 0.027, 0.03 and 0.036 mg/kg.

Considering the contribution from rotation crops (0.01 mg/kg), the Meeting estimated a maximum residue level of 0.08 mg/kg and a STMR of 0.02 mg/kg for chlorantraniliprole in carrots.

The Meeting agreed to replace its previous recommendation of 0.02 mg/kg for chlorantraniliprole in Root and tuber vegetables for 0.02 mg/kg in Root and tuber vegetables, except carrot and radish.

Globe artichoke

Chlorantraniliprole is registered for use in Italy in globe artichoke at 2×0.03 kg ai/ha (14 days interval) and a 3 day PHI. Four trials conducted in southern Europe at this GAP gave residues of 0.06, 0.07, 0.08 and 0.16 mg/kg.

The product is registered in the USA at $4 \times 0.05-0.11$ kg ai/ha (4 days interval; max of 0.22 kg ai/ha/season) and a 3 day PHI. Four trials conducted with 2 applications of the GAP rate gave residues of 0.47, 0.53, 0.59 and 0.69 mg/kg.

Based on the US trials, the Meeting recommended a maximum residue level of 2 mg/kg and a STMR of 0.56 for chlorantraniliprole in globe artichoke.

Rice

Chlorantraniliprole is registered to be used in Brazil in rice as a foliar treatment at 1×0.03 kg ai/ha and a 15 day PHI. In eight trials conducted in the country according to GAP, residues were < 0.01, 0.02, 0.03, 0.10, 0.13 (2) and 0.16 (2) mg/kg.

In the USA, the product is registered as seed treatment at 0.06 mg ai/seed (0.09 kg ai/ha). Sixteen trials conducted at 0.10 mg ai/seed (0.56 kg ai/ha) gave residues ranging from 0.01 to 0.09 mg/kg. Three trials conducted within GAP gave residues in the grain of 0.01 (2) and 0.02 mg/kg.

Based on the Brazilian foliar trials conducted according to GAP, the Meeting estimated a maximum residue level of 0.4 mg/kg and a STMR of 0.115 mg/kg for chlorantraniliprole in rice grain.

Two processing studies were submitted to the Meeting. In each, two different procedures were used to produce polished rice, with processing factors of 0.07 (2), 0.15 and 0.16, median of 0.11. This PF was applied to the residue data on rice grain to derive data on polish rice.

The Meeting estimates a maximum residue level of 0.04 mg/kg and a STMR of 0.013 mg/kg for chlorantraniliprole in polished rice.

Cereals, except rice

Currently, the Codex MRL for chlorantraniliprole in cereals is 0.02 mg/kg, following the recommendation made by the 2008 JMPR based on rotation crop data.

In the USA, three trials were conducted in barley, three in sorghum and five trials were conducted in wheat using 2×0.11 kg ai/ha. Residues in samples harvested at 1 DAT ranged from 0.19 to 2.2 mg/kg. As the compound is not registered for use in these crops in the USA, no estimations were made.

The Meeting replaced its previous recommendation of 0.02 mg/kg for cereals for 0.02 mg/kg in cereals, except rice.

Rape and sunflower seeds

Chlorantraniliprole is registered in Canada for oilseeds, except cotton, at $3 \times 0.025-0.07$ kg ai/ha (max of 0.2 kg ai/ha/season) and a 1 day PHI. Twelve trials were conducted in the USA and Canada in rape seed (canola) and sunflower according to this GAP.

Six trials conducted in rape seed (canola) gave residues at of 0.14, 0.23, 0.25, 0.34, 0.83 and 1.0 mg/kg.

Six trials conducted in sunflower gave residues at of 0.03, 0.12, 0.16, 0.21, 0.79 and 0.82 mg/kg.

The Meeting estimates a maximum residue level of 2 mg/kg for chlorantraniliprole in rape seed and sunflower seed.

The Meeting estimates a STMR of 0.295 mg/kg for chlorantraniliprole in rape seed and of 0.185 mg/kg for sunflower seed.

Coffee

Chlorantraniliprole is registered in Brazil for use on coffee at 2×0.03 kg ai/ha with a 21 day PHI. Eight trials were conducted in Brazil matching this GAP, giving residues of < 0.01, 0.01 (3), 0.02 (3) and 0.03 mg/kg.

The Meeting recommended a maximum residue level of 0.05 mg/kg and a STMR of 0.015 mg/kg for chlorantraniliprole in coffee.

Hops

Chlorantraniliprole is registered in the USA for use in hops at 4×0.072 kg ai/ha (max. of 0.22 kg ai/ha/season) with a 0 day PHI. Four trials conducted at GAP (2×0.1 kg ai/ha) gave residues in dried cones of 7.6, 8.9, 13 and 19 mg/kg.

The Meeting estimated a maximum residue level of 40 mg/kg and a STMR of 10.9 mg/kg for chlorantraniliprole in hops, dry.

Animal feeds

Three Australian trials conducted according to GAP gave residues at a 1 day PHI in bean and pea foliage of 0.31, 0.78 and 2.2 and mg/kg. In two pea trials, residues in empty pods were 0.05 and 0.20 mg/kg.

Five trials conducted in southern Europe in beans according to Italian GAP gave residues at a 3 day PHI in bean plants without pods of 2.4, 4.3, 4.5, 6.6 and 6.8, mg/kg.

The US label has no additional information covering the grazing of legume vegetables. Nineteen trials conducted in Canada and USA according to US GAP (4×0.07 kg ai/ha; max. of 0.225 kg ai/ha/season gave residues at a 1 day PHI in bean or pea plants with pods of 0.01, 1.7, 2.8, 3.0, 3.4, 3.8, 3.8, 4.3, 4.4, 4.5, 4.8, 4.9, 4.9, 5.2, 5.3, 5.5, 6.0, 6.2 and 6.4 mg/kg.

Based on Canadian and US data, the Meeting estimated a median residue of 4.4 mg/kg and a highest residue of 6.4 mg/kg for chlorantraniliprole in bean forage (green) and pea vines (green).

In ten trials conducted in wheat, sorghum and barley in the USA, residues were determined in forage, hay and straw. However, as these are not registered uses for chlorantraniliprole in USA, the data was not considered further.

Sixteen trials conducted in rice after seed treatment at a higher than GAP rate in USA, residues in straw ranged from 0.05 to 0.24 mg/kg.

Fate of residues during processing

At the present Meeting, a STMR of 0.115 mg/kg was estimated for rice grain. Two studies were conducted in rice.

The best Pf estimated for rice bran (n=4) was 1.7, leading to an estimated STMR-P of 0.196 mg/kg.

The best Pf estimated for rice hull (n=4) was 3.3. For animal dietary burden purposes, a median of 0.368 mg/kg was calculated for rice hull.

Residues in animal commodities

Farm animal dietary burden

The Meeting estimated the dietary burden of chlorantraniliprole 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 previous JMPR Meetings (2008 and 2010). Dietary burden calculations are provided in Annex 6 of the 2013 Report.

	US-Canad	a	EU		Australia		Japan	
Commodity	Max	Mean	Max	Mean	Max	Mean	Max	Mean
Beef cattle	7.6	3.4	19.9	10.7	31.7 ^a	15.7 ^c	3.5	1.5
Dairy cattle	13.4	6.0	22.4 ^b	10.1	26.8	13.1 ^d	15.8	6.7
Poultry - broiler	0.06	0.06	0.06	0.032	0.11	0.11	1.06	0.55
Poultry - layer	0.06	0.06	4.42 ^e	2.51 ^f	0.11	0.11	0.05	0.05

Livestock dietary burden for chlorantraniliprole, ppm of dry matter diet

^a Highest maximum beef or dairy cattle dietary burden suitable for maximum residue level estimated for mammalian tissues

^b Highest maximum dairy cattle dietary burden suitable for maximum residue level estimated for mammalian milk

^c Highest mean beef or dairy cattle dietary burden suitable for STMR estimated for mammalian tissues.

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

^e Highest maximum poultry dietary burden suitable for maximum residue level estimated for poultry tissues and eggs.

^fHighest mean poultry dietary burden suitable for STMR estimated for poultry tissues and eggs.

Animal commodity maximum residue level

The dietary burden estimated by the present Meeting for cattle is similar to that estimated by the 2010 JMPR and would not impact the previous recommendations for chlorantraniliprole in edible offal (mammalian), meat (from mammals other than marine mammals) and milk fats.

The calculated maximum poultry dietary burden suitable for maximum residue level estimated for poultry tissues and eggs was 4.4 ppm, about 2.4 times higher than the previous estimation. The calculated dietary burden for STMR estimation is 0.007 ppm.

In a metabolism study evaluated by the 2008 JMPR, poultry laying hens were dosed with [¹⁴C]chlorantraniliprole for 14 days at 10 ppm in the diet. Residues found in eggs, muscle, liver and skin/fat and the residues expected in poultry commodities based on the calculated animal burden are shown in the table below. The levels which the estimations were based are in bold.

	Feed level, ppm, for	Residue, mg/kg			
	Tissues and eggs residues	Eggs	Muscle	Liver	Fat
Highest residue level, hens					
Feeding study	10	0.308	0.0008	0.0196	0.009
Calculated burden	4.42	0.135	0.0004	0.008	0.004
STMR, hens					
Feeding study	10	0.282	0.0008	0.0196	0.009
Calculated burden	2.5	0.07	0.0002	0.005	0.002

The Meeting confirms its previous maximum residue level recommendation of 0.01* mg/kg for chlorantraniliprole in poultry meat (fat) and poultry edible offal, and estimated a STMR of 0 for poultry meat (fat) and 0.005 for poultry edible offal.

The Meeting estimated a maximum residue level of 0.2 mg/kg and a STMR of 0.07 for chlorantraniliprole in eggs.

The meeting withdraws its previous recommendation of 0.1 mg/kg for chlorantraniliprole in eggs.

RECOMMENDATIONS

Definition of the residue for compliance with for compliance with maximum residue levels and estimation of dietary intake in plant and animal commodities: *chlorantraniliprole*.

		Maximum residue level (mg/kg)		STMR, STMR (P)
CCN	Commodity name	New	Previous	mg/kg
VS 0620	Artichoke, globe	2		0.56
VP 0061	Beans, except broad bean and soya bean (green pods and immature seeds)	0.8		0.16
VR 0577	Carrot	0.08		0.02
GC 0080	Cereal grains	W	0.02	

		Maximum residue level (mg/kg)		STMR, STMR (P)
CCN	Commodity name	New	Previous	mg/kg
GC 0080	Cereal grains, except rice	0.02		0.01
SB 0716	Coffee beans	0.05		0.015
PE 0112	Eggs	0.2 0.1 0.07		0.07
DH 1100	Hops, dry	40		10.9
VL 0053	Leafy vegetables	W	20	
VL 0053	Leafy vegetables, except radish leaves	20		
VP 0063	Peas (pods and succulent = immature seeds)	2		0.545
VP 0064	Peas, shelled (succulent seeds)	0.05		0.025
FL 0355	Pomegranate	0.4		0.11
PM 0110	Poultry meat	0.01*	0.01*	0
PO 0111	Poultry, edible offal of	0.01*	0.01*	0.005
VR 0494	Radish	0.5		0.055
VL 0494	Radish leaves (includes radish tops)	40		10.5
SO 0495	Rape seed	2		0.295
GC 0649	Rice	0.4		0.115
	Rice, polished	0.04		0.013
	Rice, bran			0.196
VR 0075	Root and tuber vegetables	W	0.02	
VR 0075	Root and tuber vegetables, except carrot and radish	0.02		0.01
SO 0702	Sunflower seed	2		0.185

DIETARY RISK ASSESSMENT

Long-term intake

The ADI for chlorantraniliprole is 0–2 mg/kg bw. The International Estimated Daily Intakes (IEDI) for chlorantraniliprole was estimated for the 13 GEMS/Food cluster diets using the STMR or STMR-P values estimated by the current and previous JMPR. The results are shown in Annex 3 of the 2013 Report. The IEDI was 0% of the maximum ADI. The Meeting concluded that the long-term intake of residues of chlorantraniliprole from uses that have been considered by the JMPR is unlikely to present a public health concern.

Short-term intake

The 2008 JMPR decided that an ARfD for chlorantraniliprole was unnecessary. The Meeting therefore concluded that the short-term intake of chlorantraniliprole is unlikely to present a public health concern.

Authors	Year	Study
Allen, L	2010	Chlorantraniliprole and abamectin - residue study on protected strawberries in France (south), Italy and
Darbirata	20070	Spain in 2008. CEM Analytical Services Ltd. DuPont Report No. CEMR-3915-REG. Unpublished.
MA	2007a	rest report on DrA-E2145 restaue aner application of DrA-E2145 55% we insecticide to conce
IVIA		English Translation DuPont Report No. RE 2007 171 Unpublished
Barbirato	2007h	Analysis report on DPX-F2V45 residue after application of DPX-F2V45 35% WG insecticide to coffee
MA	20070	crons. Universidade de São Paulo. Instituto de Ouímica de São Carlos. Laboratório de Cromatografia
1012 1		English Translation Duport Report No · RE-2007-205 Unpublished
Barbirato	2007c	Test report on DPX-E2Y45 residue after application of DPX-E2Y45 35% WG insecticide to coffee
MA	20070	crops. Universidade de São Paulo. Instituto de Ouímica de São Carlos. Laboratório de Cromatografia.
		English Translation. DuPont Report No. RE-2007-206. Unpublished
Barbirato,	2007d	Test report on DPX-E2Y45 residue after application of DPX-E2Y45 35% WG insecticide to coffee
MA		crops. Universidade de São Paulo, Instituto de Química de São Carlos, Laboratório de Cromatografia.
		English Translation. DuPont Report No.: RE-2007-207. Unpublished
Cairns, S;	2011	Magnitude and decline of chlorantraniliprole residues in carrots following foliar applications of
Hoskins,		Chlorantraniliprole 35WG - Europe 2009 and 2010. Charles River Laboratories. DuPont Report No.
M; Foster,		DuPont-27575. Unpublished
A		
Corley, J	2012	Chlorantraniliprole: Magniture of the residue on hops. IR-4. DuPont Report No. IR-4
Defeci	2010	A10491. Unpublished
Defacto,	2010	Kesiuue (neid and laboratory) report of premio insecticide (Uniorantraniliprole) in/on soya bean
LK		(Orychie max L.). JM BIOAnanises 5/5 Lua. (English Translation Duront Report No. BPL-JM-036-003- 10 RE Revision No. 1). Unpublished
Defacio	2010	ro-Kr-Kovision 190. 17. Onpublished Residue (Field and Laboratory) report of Altacor Insecticide (Chlorantraniliprole) in/on Flooded Pice
I R	2010	(Oruza sativa L) IM Bio Analises S/S Ltda DuPont Report No. BPL -IM-036-008-09 Revision No.
LIX		1 Unnublished
Deziderio	2010	Residue (field and laboratory) report of Altacor insecticide (chlorantraniliprole) in/on coffee grains
LAG		(Coffea arabica L.). JM BioAnalises S/S Ltda. English Translation. DuPont Report No. BPL-JM-036-
		004-10-RF, Rev. 1. Unpublished.
Devine, C;	2010	Chlorantraniliprole and abamectin - residue study on protected strawberries in France (south) and Spain
Allen, L		2009. CEM Analytical Services Ltd. DuPont Report No. CEMR-4334-REG. Unpublished.
Dorschner,	2009	Chlorantraniliprole: Magnitude of the residue on blueberry. IR-4. DuPont Report No. IR-4 09810.
KW		Unpublished.
Dorschner,	2010b	Chlorantraniliprole: Magnitude of the residue on snap beans. IR-4. DuPont Report No. IR-4 PR No.
KW		10046. Unpublished
Dorschner,	2012	Chlorantraniliprole: Magnitude of the residue on pomegranate. IR-4. DuPont Report No. IR-4 10362.
KW	2010-	Unpublished Chlorenteneiling la Magnituda of the paridus of quantum program ID 4 Deinaston DuDont Depart No. ID
Dorschner,	2010a	ADD No. 10002. Unsubliched
NW	20129	4 FK NO. 10005. Olipuolislieu. Chlorantranilinrole: Magnitude of the residue on artichake. IR / DuPont Report No. IR / 10083
KW	2012a	Unpublished
Dorschner	2012h	Chlorantraniliprole: Magnitude of the residue on barley grain sorohum and wheat IR-4 DuPont Report
KW	20120	No. IR-4 10204. Unpublished
Haigh, I:	2012	Magnitude and decline of chlorantraniliprole residues in field green beans (fresh legume vegetables)
Just, G		following foliar applications of Chlorantraniliprole (DPX-E2Y45) 35WG - southern Europe – 2011.
		Charles River Laboratories. DuPont Report No. DuPont-33033. Unpublished
Ingram, B	2010	Determination of residues of chlorantraniliprole in green peas, processing peas, sugar snap peas, snow
		peas and beans. Peracto Pty Ltd. DuPont Report No. HAL0802. Unpublished
Lonsbary, S	2010	Chlorantraniliprole: Magnitude of the residue on cranberry. Minor Use Pesticide Program, Pest
		Management Centre, Agriculture and Agri-Food Canada; University of Florida, Food and Environmental
		Toxicology Laboratory. DuPont Report No. AAFC07-050R Amended Unpublished
Morriss, A;	2010	Chlorantraniliprole and abamectin - residue study on protected beans with pods in France (south), Italy
Allen, L		and Spain in 2008. CEM Analytical Services Ltd. DuPont Report No.: 1000565-08-REG, Revision No.
Morrise A:	20100	1. Ulipuulislicu Chlorentrenilinrala and lambda auhalathrin regiduce on artichalizes in Erenae (south) ard Serie in 2009
Devine C	2010a	CEM Analytical Services I td. DuPont Report No. T000566.08 DEC. Uppublished
Morrise A.	2010b	Chlorantranilinrole and lambda.cyhalothrin - residue study on articholes in Spain in 2000. CEM
Devine C	20100	Analytical Services Ltd. DuPont Report No. CEMS-4441-REG. Unnublished
Rice, F	2008	Magnitude of chlorantraniliprole residues in radishes following foliar applications of Chlorantraniliprole
		(DPX-E2Y45) 20SC [200 g/L (w/v); 18.4% (w/w)] – Canada and the U.S., 2008. ABC Laboratories
		Inc. (Missouri). DuPont Report No. DuPont-25887. Unpublished
Rice, F	2012	Magnitude of Chlorantraniliprole residues in strawberries following foliar applications with
-		Chlorantraniliprole (DPX-E2Y45) 20SC [200 g/L (w/v);18.4% (w/w)] – U.S. and Canada, 2011. ABC
		Laboratories, Inc. (Missouri), DuPont Report No. DuPont-30024.Unpublished

Rice, F	2008	Magnitude of chlorantraniliprole residues in rice combined with magnitude of chlorantraniliprole residues in processed fractions of rice following seed treatment with Chlorantraniliprole (DPX-E2Y45)
		60FS - U.S., 2007. ABC Laboratories, Inc. (Missouri). Report No. DuPont-21999, Revision No. 1.
		Unpublished
Rice, F	2011	Magnitude of chlorantraniliprole residues in canola and sunflowers following foliar applications with
		Chlorantraniliprole (DPX-E2Y45) 20SC [200 g/L (w/v); 18.4% (w/w)] - Canada and U.S., 2010. ABC
		Laboratories, Inc. DuPont Report No. DuPont-26888. Unpublished
Rice, F	2012	Magnitude of chlorantraniliprole residues in rice and crayfish following seed treatment with
		chlorantraniliprole (DPX-E2Y45) FS [50% (w/w)] - U.S., 2011-2012. ABC Laboratories, Inc.
		(Missouri). DuPont Report No. DuPont-30021. Unpublished
Ruhl, JC	2012	Magnitude and decline of residues of chlorantraniliprole in avocado following foliar applications of
		chlorantraniliprole (DPX-E2Y45) 35WG - New Zealand, 2009-10 and 2011-12. DuPont Stine-Haskell
		Research Center, DuPont Report No.: DuPont-36033 NZ, Unpublished