TRIFLOXYSTROBIN (213)

The first draft was prepared by Professor Arpad Ambrus, Hungarian Food Chain Safety Office, Budapest Hungary

EXPLANATION

Trifloxystrobin is a broad-spectrum contact fungicide for foliar application. It was first evaluated by the JMPR in 2004 (T, R) and 2012 (R). The 2004 Meeting established an ADI of 0–0.04 mg/kg bw and decided that ARfD was not necessary. The Meeting agreed that the residue definition for enforcement purposes for plant commodities should be trifloxystrobin per se, for animal commodities and dietary intake assessment the residue definition should be parent compound and CGA 321113 (expressed as trifloxystrobin equivalents).

Data on identity, formulations, physical and chemical properties, metabolism and environmental fate of trifloxystrobin were submitted to the JMPR in 2004. No new information was made available. Supervised trials data were submitted for a number of commodities for evaluation by the 2004, and 2012 JMPR.

Trifloxystrobin was listed by the 46th Session of CCPR (2014) for the evaluation by the 2015 JMPR for additional MRLs. Additional supervised trial data were submitted for evaluation on dry soya beans, lentils, chick peas and peas together with new data, which were not available in the first evaluation in 2004.

METHODS OF RESIDUE ANALYSIS

Analytical methods

The Meeting received descriptions and validation data for analytical methods for residues of trifloxystrobin (CGA 321113) and several other metabolites in different plant matrices.

The DFG method S19, evaluated in 2004, is suitable for enforcement. Analytical methods used in residue trials evaluated by the present Meeting are summarized below.

Method 00742 (Nuesslein, F 2002)

The method was developed and validated for the determination of residues of parent trifloxystrobin and CGA 321113 (metabolite) in/on sample materials of carrots, Brussels sprouts, cabbages, tomatoes, red peppers and lettuce. Both analytes were extracted from plant materials using a mixture of acetonitrile/water. After filtration and concentration to the aqueous remainder, the acidified crude extract was purified by liquid-liquid partition on a ChemElut cartridge, thereby partitioning the analytes in a mixture of cyclohexane / ethyl acetate. The residues were quantified by reverse-phase HPLC with Turbo-Ionspray MS/MS-detection. The limit of quantitation (LOQ) was 0.02 mg/kg in all matrices. Recoveries for trifloxystrobin ranged from 72 to 99% with mean values between 81 and 93% and relative standard deviations between 0.7 and 10.4%. In the case of CGA 321113, recoveries were between 71 and 103% with mean values between 83 and 100% and relative standard deviations between 0.6 and 8.1%. The repeatability was tested with carrots and tomatoes.

Supplement E001 for method 00742 (Nuesslein, F 2003)

The analytical method 00742 was validated for the determination of trifloxystrobin and CGA 321113 in additional plant materials. Recovery tests were performed at fortification levels of 0.02 mg/kg, 0.20 mg/kg and 2.0 mg/kg with the sample materials beans (beans with pods), broccoli (head), cauliflower (head), cherries (fruit), cucumbers (fruit), currants (fruit), leeks (shoots), melons (fruit, peel), plums (fruit) and strawberries (fruit, jam and preserves). The LOQ was 0.02 mg/kg in all matrices. Individual recovery rates of trifloxystrobin ranged from 68 to 103% with overall standard deviations (RSD) between 1.1 and 9.3%. In the case of CGA 321113, recoveries were between 81 and

Trifloxystrobin

101% with overall standard deviations (RSD) between 1.4 and 5.4%. The repeatability was tested successfully with cauliflower and strawberries.

Method 00765 (Sur, R 2003.)

The method was developed and validated to determine trifloxystrobin, its metabolite CGA 321113, and cyproconazole in/on cucumbers, green peppers, melons and tomatoes. The active substances and the metabolite were extracted twice from the sample material with an acetonitrile/water mixture. After filtration and dilution the extract solution was subjected to HPLC-MS/MS analysis for quantitation. For all three analytes two transitions are recorded. The LOQ for all analytes was 0.01 mg/kg. The method was validated by spiking control samples with the analytes at fortification levels of 0.01 and 0.1 mg/kg. The overall mean recovery for the quantifier transition was 99% (RSD 3.8%, n=32) for trifloxystrobin and 100% (RSD 2.7%, n=32) for CGA 321113. For the qualifier transition the overall mean recovery was 100% (RSD 4%, n=32) for trifloxystrobin and 96% (RSD 6.2%, n = 32) for CGA 321113. The repeatability was tested with melons and tomatoes.

Method 01013 (Brumhard, B and Stuke, S 2007.)

The method was developed for the determination of residues of trifloxystrobin and metabolite CGA 321113, and other actives substances and their metabolites in/on plant material (citrus fruit, pea green seed, wheat grain, rape seed, and corn green material). All analytes were extracted from plant materials using a mixture of acetonitrile/water. After filtration of the extract, the stable isotopically labelled analytes were added. The solution was made up to volume, diluted and subjected to reversed phase HPLC-MS/MS without a further clean-up step.

The LOQ for the determination of trifloxystrobin and CGA 321113 was 0.01 mg/kg in all matrices tested. The method was validated by spiking control samples with the analytes at fortification levels of 0.01 and 0.1 mg/kg. Mean recoveries for each fortification level and the overall mean recovery were within the 70–110% range for all matrices. The correlation between the injected amount of substance and the detector response was linear for solvent standards ranging from 0.005 to 50 μ g/L. Possible matrix effects were eliminated by the internal standard procedure using isotopically stable labelled standards.

Apparent residues in control samples were below $0.3 \times LOQ$. Two MRM transitions were monitored and calculated for each analyte and each matrix tested. The HPLC-MS/MS method is highly specific and an additional confirmatory method is not necessary. The repeatability was tested successfully with all matrices. Relative standard deviations were below 20% for all analytes and sample materials. The method 01013 allows determination of trifloxystrobinderived residues in crops with a LOQ of 0.01 mg/kg.

Method 01313 (Stuke, S 2013.)

The method was developed for the determination of residues of trifloxystrobin (CGA 279202) and metabolite CGA 321113, and their isomers CGA357262, CGA357261, CGA331409, and CGA373466 in/on corn green material, bean dry seed, wheat grain, rape seed, dried hops and orange fruit. All analytes were extracted from plant materials using a mixture of acetonitrile/water. After filtration by using celite and addition of ammonium acetate solution to adjust the pH, the extract was made up to volume, diluted and subjected to HPLC-MS/MS measurement. The LOQ for the determination of trifloxystrobin and CGA 321113 was 0.01 mg/kg in all matrices tested. The method was validated by spiking control samples with the analytes at fortification levels of 0.01 and 0.1 mg/kg (0.05 and 0.5 mg/kg in hops). Mean recoveries for each fortification level and the overall mean recovery were within the 70–110% range for trifloxystrobin and CGA 321113. The mean and the overall mean relative standard deviations at each fortification level were below 20%.

The results of the method validation were confirmed using a second and a third MRM transition for confirmation. The LOQ was 0.01 mg/kg for trifloxystrobin-derived residues.

Method 200177 (de Haan, RA 2002.)

The method was developed for the determination of trifloxystrobin and CGA 321113 in plant materials. The residues of trifloxystrobin and CGA 321113 were extracted from homogenised plant samples with acetonitrile/water (4 vol. + 1 vol.) in a blender. The suspension was vacuum filtered through a paper filter. The remaining solids were blended a second time with fresh solvent and filtered. The filtrates were combined and deuterated internal standard was added. The total volume was adjusted to 50 mL with acetonitrile/water (4 vol. + 1 vol.). A solid phase extraction was performed on a SPE column under slight vacuum. The column was rinsed with acetonitrile/water (4 vol. + 1 vol.) and the analytes were eluted with acetonitrile. The solution was evaporated to dryness, the dry residue was subsequently dissolved in acetonitrile/water (4 vol. + 1 vol.). The final determination was done with LC/MS/MS in the positive ion mode. The LOQ was 0.01 mg/kg.

The recovery values obtained during the validation of the above methods are summarized in Table 1.

Sample /method	Analyte	Spike level [mg/kg)	No of tests	Mean recovery [%]	RSD [%]
Method 00742 trifloxyst	robin 409.2 →186.3 (145.2) amu; CGA 321113: 3	895.1→186.1	(145.2).	
Carrot	Trifloxystrobin	0.02, 0.2	10	85	5.9
	CGA321113		10	83	5.6
Brussels sprout	Trifloxystrobin	0.02, 0.2, 2.0	9	86	5.2
	CGA321113			90	5.6
Cabbage, head	Trifloxystrobin	0.02, 0.2, 2.0	9	84	5.3
	CGA321113		9	91	2.5
Lettuce, head	Trifloxystrobin	0.02, 0.2, 2.0	9	88	7.5
	CGA321113		9	95	3.0
Pepper	Trifloxystrobin	0.02, 0.2, 2.0	9	90	4.5
**	CGA321113		9	96	3.3
Tomato	Trifloxystrobin	0.02, 0.2	10	89	9.5
	CGA321113		10	96	5.2
Method 00742/Suppleme					
Bean	Trifloxystrobin	0.02, 0.2, 2.0	9	91	5.3
	CGA321113			91	5.1
Broccoli, head	Trifloxystrobin	0.02, 0.2, 2.0	9	93	3.6
	CGA321113			96	4.1
Cauliflower	Trifloxystrobin	0.02, 0.2	10	92	3.6
	CGA321113	,		93	4.1
Cherry, fruit	Trifloxystrobin	0.02, 0.2, 2.0	9	95	2.7
	CGA321113	, ,		94	2.9
Cucumber	Trifloxystrobin	0.02, 0.2, 2.0	9	94	3.5
	CGA321113	, ,		90	4.7
Currant	Trifloxystrobin	0.02, 0.2, 2.0	9	92	4.0
	CGA321113	, ,		95	4.3
Leek	Trifloxystrobin	0.02, 0.2, 2.0	9	93	1.9
	CGA321113			94	1.8
Melon, fruit	Trifloxystrobin	0.02, 0.2, 2.0	9	94	2.3
· · · · · ·	CGA321113			94	2.6
Melon, peel	Trifloxystrobin	0.02, 0.2, 2.0	9	93	1.1
	CGA321113	, ,		94	1.4
Plum, fruit	Trifloxystrobin	0.02, 0.2, 2.0	9	94	1.3
	CGA321113	, ,		96	1.4
Strawberry, fruit	Trifloxystrobin	0.02, 0.2	10	86	9.3
T	CGA321113			89	3.8
Strawberry, jam	Trifloxystrobin	0.02, 0.2, 2.0	9	94	5.3
÷ • •	CGA321113	, ,		95	4.7
Strawberry, preserve	Trifloxystrobin	0.02, 0.2, 2.0	9	95	5.4
2 / F	CGA321113	, ,		95	5.4
Method 00765 trifloxyst	robin 409.2 \rightarrow 186.3 (145.2) amu: CGA 321113: 3	395.1→186.1	(145.2).	1
Cucumber	Trifloxystrobin	0.01, 0.1	6	94	2.9

Table 1 Recovery of trifloxystrobin and CGA321113 from different plant materials

Sample /method	Analyte	Spike level [mg/kg)	No of tests	Mean recovery [%]	RSD [%]
	CGA321113			99	3.0
Green pepper	Trifloxystrobin	0.01, 0.1	6	101	3.4
	CGA321113			102	3.3
Melon	Trifloxystrobin	0.01, 0.1	10	97	1.9
	CGA321113			98	107
Tomato	Trifloxystrobin	0.01, 0.1	10	101	1.9
	CGA321113			100	1.9
Method 01013 trifloxystro	obin 409.2 →186.3 (145.2) amu; CGA 321113: 3	95.1→186.1	(145.2).	
Citrus fruit	Trifloxystrobin	0.01, 0.1	10	99	3.7
	CGA321113			102	8.8
Peas	Trifloxystrobin	0.01, 0.1	10	100	3.1
	CGA321113			101	4.7
Rape seed	Trifloxystrobin	0.01, 0.1	10	99	3.6
	CGA321113			103	5.6
Wheat grain	Trifloxystrobin	0.01, 0.1	10	98	3.1
	CGA321113			88	13.2
Corn green material	Trifloxystrobin	0.01, 0.1	10	104	5.6
	CGA321113			94	12.8
Method 200177 trifloxyst	robin 409.2 →186.3 (145.	2) amu; CGA 321113:	395.1→186.	1 (145.2).	
TFS-d ₃ 412 \rightarrow 186; CGA	321113-d₃ 398 →186				
Pepper, tomato	Trifloxystrobin	0.01	16	93	11.2
	CGA321113			91	13.6
Soya beans	Trifloxystrobin	0.01, 0.05, 0.2		86	6.4
	CGA321113			91	19

Stability of residues in stored analytical samples

Individual data on storage stability were evaluated by the 2004 JMPR. The results indicated that the residues of trifloxystrobin and CGA 321113 are stable under freezer storage conditions for at least 24 months (grapes, cucumbers, potato, and wheat grain, straw and whole plant) or 18 months (apple fruit, apple wet pomace, peanut nutmeat, peanut oil, and grape juice). No new information was provided.

USE PATTERNS

Various formulations of trifloxystrobin are registered for application in chickpeas, dry peas, lentils and soya (Table 2) for the control of various fungus diseases of Chickpea (Ch), dry peas (Dp), Lentils (L) and soya (S): Alternaria spp. (S), Ascochyta lentis (L), Ascochyta pisi (Dp), Ascochyta rabiei (Ch), Botrytis cinerea (CH, L), Cercospora kikuchii (S), Cercospora sojina (S), Colletotrichum truncatum (Ch,L,S), Corynespora cassiicola (S), Diaporthe phaseolorum (S), Erysiphe diffusa (S), Macrophomina phaseolina (S), Microsphaera diffusa (S), Mycosphaerella pinodes (Dp), Phakopsora pachyrhizi (S), Phomopsis longicolla (S), Rhizoctonia solani (S), Sclerotinia sclerotiorum (Ch, L, S), and Septoria glycines (S).

Formulation	Active ingredient content
SC 500	375 g/L trifloxystrobin + 125 g/L prothionazole
SC 535	375 g/L trifloxystrobin + 160 g/L cyproconazole
EC 267.5	187.5 g/L trifloxystrobin + 80 g/L cyproconazole
SC 325	150 g/L trifloxystrobin + 175 g/L prothionazole
EC 250	125 g/L trifloxystrobin + 125 g/L propiconazole
SC 300	100 g/L trifloxystrobin + 200 g/L tebuconazole

Table 2 Composition of trifloxystrobin formulations

Crop	Country	Formulation	Application			PHI
			Rate, [kg ai/	'ha]	No.	(days)
Chickpea	Canada	SC 325		0.132	1–2	30 (seed) ^a

Crop	Country	Formulation	Applicatio	n		PHI
			Rate, [kg a	ui/ha]	No.	(days)
Chickpea	USA	SC 325		0.12	1-2	30 (seed) ^a
Dry peas	Canada	SC 325		0.132	1-2	30 (seed) ^a
Dry peas	USA	SC 325		0.12	1-2	30 (seed) ^a
Lentils	Canada	SC 325		0.132	1-2	30 (seed) ^a
Lentils	USA	SC 325		0.12	1-2	30 (seed) ^a
Soya bean	Brazil	EC 267.5	0.0563	0.075	2	30
		SC 325	0.045-	0.060	2	30
		SC 300	0.04–	0.06	1-4	30
		SC 535	0.0563-	0.075	2	30
		EC 250		0.05	2	30
Soya bean	Canada	EC 250		0.0625	max. 2	20 ^b
		SC 325		0.0858	max. 2	20 ^b
Soya bean	USA	EC 250		0.0913	max. 3	21 ^b
Soya bean	USA	SC 500	0.1095	0.1271	max. 3	21 ^b

^a Do not apply within 7 days of cutting or swathing of the crop for forage

^b Do not graze or feed soya bean forage or hay

RESIDUES RESULTING FROM SUPERVISED TRIALS ON CROPS

Numerous residue trials were performed according to GLP with different mixture formulations of trifloxystrobin.

Trials were generally well documented with laboratory and field reports. Laboratory reports included method validation with procedural recoveries from spiking at residue levels similar to those occurring in samples from the supervised trials. Dates of analyses or duration of residue sample storage were also provided. Although trials included control plots, no control data are recorded in the tables except where residues in control samples exceeded the LOQ. Control samples are indicated in the summary tables with a "c". Unless stated otherwise, residue data are recorded unadjusted for recovery. The averages of detected residues, used for estimation of residue levels, are double underlined.

Residues have generally been rounded to two significant figures or, for residues near the LOQ, to one significant figure. However, the calculations were made with Excel utilising all digits. Residue values from the trials conducted according to GAP have been used for the estimation of maximum residue levels. Those results included in the evaluation are underlined.

Pulses

Soya beans

Four field trials were conducted in Canada (Ardiel, KD 2007.) with application rates of two times 0.0625 kg trifloxystrobin/ha and sampling 19 or 21 days after the last application.

In 2003 a total of twenty residue trials were performed in the USA. Trifloxystrobin was applied three times at application rates of 0.086 to 0.095 kg trifloxystrobin/ha. Samples of soya bean (seed) were taken at days 19 to 24 after the last application. In 2005 an additional twenty residue trials were conducted in the USA. Trifloxystrobin was applied three times at application rates of 0.122 to 0.134 kg ai/ha. Samples of soya bean (seed) were taken at days 19 to 23 after the last application.

The residues of trifloxystrobin and CGA 321113 were determined according to method 200177. The LOQ was 0.01 mg/kg.

Altogether 16 trials were reported from Brazil according to the Brazilian use patterns with two applications up to 0.075 or four applications up to 0.06 kg trifloxystrobin/ha and a PHI of about 30 days. The LOQ was 0.01–0.02 mg/kg (Anon. 2010, Anon. 2012a, 2012b, Resende, G 2011, Santiago, L 2012a, 2012b, Galhiane, MS and de Sousa, SL 2006a, Galhiane, MS and de

Sousa, SL 2006b, Galhiane, MS and de Sousa, SL 2006c, Galhiane, MS and de Sousa, SL 2006d, Galhiane, MS and de Sousa, SL 2006e, Galhiane, MS and de Sousa, SL 2006f.).

The results of the trials are summarized in Tables 4–6.

Study			App	ication]	Residues [mg/	/kg] ^a	
Trial No.	Crop	Country	No	kg/ha	kg/hL	GS	DAT	TFS	CGA	
Plot No.	Variety			(as)	(as)					
Year										
Canadian GAP: 2 t	ime 0.0625	kg ai/ha wit	h PHI	of 30 day	/S.					
06BCS-14	DeKalb,	Canada	2	0.0625	0.0179-	87	9	0.012	< 0.01	
05BCS06-01-05D	DKBOO-	Rock-			0.0182		9	< 0.01	< 0.01	
CND-05BCS06-	99	wood					14	< 0.01	< 0.01	
01-05D, 2005							14	< 0.01	< 0.01	
							21	< 0.01	< 0.01	
							21	< 0.01	< 0.01	
							24	< 0.01	< 0.01	
							24	< 0.01	< 0.01	
							30	< 0.01	< 0.01	
							30	< 0.01	< 0.01	< 0.01
06BCS-14	Pioneer	Canada	2	0.0625	0.0166-	86	19	< 0.01	< 0.01	
05BCS06-02-05H	90B73	Green-			0.0182		19	< 0.01	< 0.01	
CND-05BCS06-		field								
02-05H, 2005										
06BCS-14	SeCan	Canada	2	0.0625	0.0168-	85	19	< 0.01	< 0.01	
05BCS06-03-05H	Raptor	Breslau			0.0185		19	< 0.01	< 0.01	
CND-05BCS06-										
03-05H, 2005										
06BCS-14	Herbic.	Canada	2	0.0625	0.0230-	77	21	< 0.01	< 0.01	
05BCS06-04-05H	Inc. 26-	St-Pie			0.0231		21	< 0.01	< 0.01	
CND-05BCS06-	02R	America,								
04-05H, 2005		North								

Table 4 Results of residue trials conducted with 250 EC trifloxystrobin (TFS) in/on soya bean seed in Canada

FL=Formulation

No=number of applications

GS=growth stage at last application

DAT=days after last treatment

TFS= trfloxystrobin

^a Residues were measured in dry seeds.

Table 5 Results of residue	e trials conducted	with triflox	vstrobin in/on s	ova bean seed in Brazil
1 abic 5 Results of restauc		i with thirds	ysuoon m/on s	oya ocali secu ili Diazi

Study	Crop	Country	Appli	catio	n			DDAT	Residues	[mg/kg] ^a	
Trial No.	Variety	Location	FL	No	kg/ha	kg/hL	GS		TFS	CGA	Sum
Plot No.					(as)	(as)				321113	
Year											
Brazil GAP: SC	325 max 2×7	5 g/ha PHI=	30 day	s							
F11-035	Soya bean	Brazil	325	2	0.06000.0650	0.0300-	75	25	< 0.01	0.01	
F11-035-01	TMG	Paulinia	SC			0.0325		30	< 0.01	< 0.01	< 0.01
2011	7161 RR							35	< 0.01	< 0.01	
F11-035	Soya bean	Brazil	325	2	0.06080.0615	0.0304-	71	25	< 0.01	0.02	
F11-035-02	Monsoy	Ribeirão	SC			0.0308		30	< 0.01	0.02	0.03
2012	7808 RR	Preto						35	< 0.01	0.01	
F11-035	Soya bean	Brazil	325	2	0.05970.0608	0.0298-	79	25	< 0.01	< 0.01	
F11-035-03	BRS GO	Uber-	SC			0.0304		30	< 0.01	< 0.01	< 0.01
2012	7560	lândia						35	< 0.01	< 0.01	
F11-035	Soya bean	Brazil	325	2	0.0600	0.0300	75	30	< 0.01	0.01	< 0.01
F11-035-04	ANTA 82	Trindade	SC								
2012											
F11-035	Soya bean	Brazil	325	2	0.06000.0653	0.0300-	65	32	< 0.01	0.01	< 0.01
F11-035-05	CD206	Castro	SC			0.0327					
2011											
F11-036	Soya bean	Brazil	325	2	0.0766	0.0383	75	25	< 0.01	< 0.01	
F11-036-01	TMG	Paulinia	SC					30	< 0.01	0.01	0.02
2011	7161 RR							35	< 0.01	0.01	

Study	Crop	Country	Appli	catio	n			DDAT	Residues	[mg/kg] ^a	
Trial No. Plot No. Year	Variety	Location	FL	No	kg/ha (as)	kg/hL (as)	GS		TFS	CGA 321113	Sum
F11-036 F11-036-02 2012	Soya bean Monsoy 7808 RR	Brazil Ribeirão Preto	325 SC	2	0.07500.0759	0.0375- 0.0380	71	25 30 35		0.02 <u>0.02</u> 0.02	0.03
F11-036 F11-036-03 2012	Soya bean M 7908 RR	Brazil Uber- lândia	325 SC	2	0.07140.0774	0.0357- 0.0387	75	25 30 35		< 0.01 <u>0.01</u> 0.01	0.02
F11-036 F11-036-04 2012	Soya bean ANTA 82	Brazil Trindade	325 SC	2	0.07500.0762	0.0375- 0.0381	75	30	< 0 <u>.01</u>	< 0 <u>.01</u>	< 0.01
F11-036 F11-036-05 2011	Soya bean CD 206	Brazil Castro	325 SC	2	0.07660.0776	0.0383- 0.0388	65	32	< 0 <u>.01</u>	0.01	
Brazilian GAP:	SC 300: 0.05	kg ai/ha 4 ti	mes; 0	.06 k	g ai/ha 2 times,	PHI 30 day	ys				
F09-022 F09-022-02 2010	Soya bean M7908 RR	Uberlan- dia / MG	300 SC	4	0.073-0.080	0.037- 0.040	83	25	< 0.01	< 0.01	< 0.01
F09-022 F09-022-03 2010	Soya bean NK 8350	Ponta Grossa / Parana	300 SC	4	0.07250.0849	0.0363- 0.0425	60	28	< 0.01 (n.d.)	< 0.01	< 0.01
F09-022 F09-022-04 2010	Soya bean Valiosa	Goiania / GO	300 SC	4	0.075-0.077	0.038- 0.039	85	29	< 0.01	< 0.01 (n.d.)	< 0.01
UNESP RA- 992/06 FR05BRA001 BRA- FR05BRA001- P1-A, 2005	Soya bean CD 205	EAE- Paulinia/ SP	75 WG	4	0.050	0.025	86	30	< 0.02	< 0.01 (n.d.)	< 0.02
UNESP RA- 993/06 FR05BRA001 BRA- FR05BRA001- P2-A,2005	Soya bean CD 201	Brazil Londrina - PR	75 WG	4	0.050	0.025	85	30	< 0.02	< 0.01 (n.d.)	< 0.02
UNESP RA- 994/06 FR05BRA001 BRA- FR05BRA001- P3-A,2005	Soya bean Xingu	Brazil Rondono- polis - MT	75 WG	4	0.050	0.025	83	30	< 0.01 (n.d.)	< 0.01 (n.d.)	< 0.01

No=number of applications

GS=growth stage at last application

DAT=days after last treatment

TFS: trifloxystrobin

n.d.=residues below limit of detection

^a Residues were measured in dry seeds,

Study			Applic	catio		-			Residues [[mg/kg] ^a	-
Trial No. Plot No. Year	Variety	Country	FL	N o	kg/ha (as)	kg/hL (as)	GS	DAT	TFS	CGA 321113	Sum
USA GAP 250E	L C. 0.09125 k	g/ha max 3 tii	nes wif	h PF	I II of 21 d	avs					
RCTFY004 FL079-03H USA-FL079- 03H-B, 2003	Hartz Seed H6686R R	USA Tifton, Georgia	250 EC	3	0.092	0.064	86	20 20	< 0.01 < 0.01	< 0.01 < 0.01	< 0.01
RCTFY004 FL080-03H USA-FL080- 03H-B, 2003	NK S73- Z5	USA Molino, Florida	250 EC	3	0.084– 0.092	0.043– 0.044	79	24 24	< 0.01 < 0.01	< 0.01 < 0.01	< 0,.01
RCTFY004 FL081-03H USA-FL081- 03H-B, 2003	Hornbec k 5588RR	USA Proctor, Arkansas	250 EC	3	0.091- 0.092	0.063– 0.066	91	21 21	< 0.01 < 0.01	< 0.01 < 0.01	< 0.01
RCTFY004 FL082-03H USA-FL082- 03H-B, 2003	Delta King 5661 RR	USA Newport, Arkansas	250 EC	3	0.092– 0.093	0.049– 0.049	79	20 20	< 0.01 < 0.01	< 0.01 < 0.01	< 0.01
RCTFY004 FL083-03D USA-FL083- 03D-B 2003	S56-D7	USA Leland, Mississippi	250 EC	3	0.087-0.092	0.068–	77	18 18 21 21 26 26 27 27 32 32	$\begin{array}{c} 0.055\\ 0.020\\ 0.018\\ 0.035\\ \hline 0.265\\ \hline 0.012\\ < 0.01\\ 0.030\\ 0.019\\ 0.014\\ 0.015\\ \end{array}$	$\begin{array}{c} 0.022 \\ < 0.01 \\ < 0.01 \\ < 0.01 \\ \hline < 0.01 \\ < 0.01 \\ < 0.01 \\ < 0.01 \\ < 0.01 \\ < 0.01 \\ < 0.01 \\ < 0.01 \end{array}$	0.265
RCTFY004 FL084-03D USA-FL084- 03D-B : yes 2003	FS HT322 STS	USA Seymour, Illinois	250 EC	3	0.092–0.093	0.063– 0.068	85	18 18 21 21 24 24 27 27 33 33			
RCTFY004 FL085-03H USA-FL085- 03H-B, 2003	NK S26 C9	USA Springfield, Nebraska	250 EC	3	0.092	0.063– 0.064		21 21	< 0.01 < 0.01	< 0.01 < 0.01	< 0.01
RCTFY004 FL086-03H USA-FL086- 03H-B, 2003	Patriot Round- up Ready	USA Stilwell, Kansas	250 EC	3	0.087– 0.095	0.060– 0.066	85	22 22	0.041 0.040 0.041	0.016 0.016 0.016	0.057
RCTFY004 FL087-03H USA-FL087- 03H-B, 2003	Becks 323RR	USA Oxford, Indiana	250 EC	3	0.091– 0.093	0.048– 0.053	79	20 20	< 0.01 < 0.01	< 0.01 < 0.01	< 0.01
RCTFY004 FL088-03H USA-FL088- 03H-B, 2003	92B94	USA Bagley, Iowa	250 EC	3	0.090– 0.094	0.040– 0.041	77	20 20	< 0.01 < 0.01	< 0.01 < 0.01	< 0.01
RCTFY004 FL089-03H USA-FL089- 03H-B, 2003	BT-402	USA Carlyle, Illinois	250 EC	3	0.090– 0.094	0.048– 0.061	79	19 19	0.010 < 0.01 0.01	0.013 0.020 0.017	0.027

Study	1		Applic	atio	n				Residues [[mg/kg] ^a	
Trial No.	Variety	Country	FL	Ν	kg/ha	kg/hL	GS	DAT	TFS	CGA	Sum
Plot No.				0	(as)	(as)				321113	
Year											
RCTFY004	GL2301	USA	250	3	0.092	0.047-	81	20	< 0.01	0.013	
FL090-03H	RR	Saginaw,	EC			0.048		20	< 0.01	< 0.01	
USA-FL090-		Michigan							< 0.01	0.013	0.023
03H-B, 2003											
RCTFY004	Mycogen	USA	250	3	0.091-	0.031-	79	20	< 0.01	0.013	
FL091-03H	44150	Gardner,	EC		0.093	0.031		20	< 0.01	< 0.01	
USA-FL091-		North							< 0.01	0.013	0.023
03H-B, 2003		Dakota									
RCTFY004	SC 9373	USA	250	3	0.089–	0.060-	77	19	< 0.01	< 0.01	< 0.01
FL092-03H		New	EC		0.093	0.061		19	< 0.01	< 0.01	
USA-FL092-		Holland,	-					-			
03H-B, 2003		Ohio									
RCTFY004	Dekalb	USA	250	3	0.091-	0.032-	93	20	< 0.01	< 0.01	< 0.01
FL093-03H	06-51	Campbell,	EC	ľ	0.091	0.032		20	< 0.01	< 0.01	
USA-FL093-		Minnesota						-			
03H-B, 2003							1				
RCTFY004	Pioneer9	USA	250	3	0.091-	0.062-	95	20	< 0.01	< 0.01	< 0.01
FL094-03H	1m50	Geneva,	EC		0.094	0.062		20	< 0.01	< 0.01	
USA-FL094-	111100	Minnesota	20		0.07 .	01002					
03H-B, 2003											
RCTFY004	Dekalb	USA	250	3	0.091-	0.055-	81	21	< 0.01	< 0.01	< 0.01
FL095-03H	3151	Sheridan,	EC	2	0.094	0.061	01	21	< 0.01	< 0.01	
USA-FL095-	5151	Indiana	20		0.071	0.001			0.01	< 0.01	
03H-B, 2003		malana									
RCTFY004	Rough	USA	250	3	0.091-	0.033-	95	21	< 0.01	< 0.01	< 0.01
FL096-03H	Rider	Northwood	EC	5	0.094	0.033	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	21	< 0.01	< 0.01	0.01
USA-FL096-	10001	North	20		0.07 .	0.000					
03H-B, 2003		Dakota									
RCTFY004	Pioneer	USA	250	3	0.090-	0.043-	91	19	< 0.01	< 0.01	< 0.01
FL097-03H	93B86	Richland,	EC	2	0.092	0.059		19	< 0.01	< 0.01	
USA-FL097-	JSD 00	Iowa	20		0.072	0.057		17	0.01	< 0.01	
03H-B, 2003		10.00									
RCTFY004	Brunner	USA	250	3	0.095	0.033-	81	20	< 0.01	< 0.01	< 0.01
FL098-03H	BR-1500	Arkansaw,	EC	5	0.075	0.033	01	20	< 0.01	< 0.01	0.01
USA-FL098-	RR	Wisconsin	LC			0.055		20	< 0.01	< 0.01	
03H-B, 2003		Wisconsin									
US GAP 500 SC:	0.1095-0.1	271 max 3 tin	nes, PH	[21	days	1	1				
RATFY011	S73-Z5	USA	500	3	0.128	0.0977-	87	21	< 0.01	< 0.01	< 0.01
TF001-05H		Tifton	SC			0.100	1	21	< 0.01	< 0.01	
USA-TF001-											
05H-B, 2005							1				
RATFY011	Pioneer	USA	500	3	0.123-	0.107-	88	19	< 0.01	< 0.01	
TF002-05H	95B96	Molino	SC		0.129	0.110		19	0.029	< 0.01	0.02
USA-TF002-										<u> </u>	
05H-B, 2005											
RATFY011	AG4403	USA	500	3	0.128-	0.0895-	92	20	0.030	0.017	
TF003-05H	RR	Proctor	SC	ľ	0.120	0.0902	_	20	0.022	0.016	
USA-TF003-							1	- ×	0.022	0.0165	0.043
05H-B, 2005							1		0.020	0.0100	0.010
RATFY011	DPL	USA	500	3	0.128-	0.0848-	80	21	0.011	< 0.01	
TF004-05H	5806 RR	Cheneyvill	SC		0.128-	0.0846	00	21	0.011	< 0.01	
USA-TF004-	5000 KK	e	50		0.12)	0.0070	1	21	0.013	< 0.01	0.012
05H-B, 2005							1		0.012	. 0.01	0.012
5511 D , 2005	L	1	I	<u> </u>	I	1	1	1	1	L	1

Study			Applic	catio	n				Residues	[mg/kg] ^a	
Trial No.	Variety	Country	FL	Ν	kg/ha	kg/hL	GS	DAT	TFS	CGA	Sum
Plot No.				0	(as)	(as)				321113	
Year	0	TICA	500		0.120	0.0070	0.2	17	0.01	0.01	
RATFY011 TF005-05D	Soya bean	USA Leland	500 SC	3	0.130-0.132	0.0872– 0.0898	83	17	< 0.01 < 0.01	< 0.01 < 0.01	
USA-TF005-	Pioneer	Leland	SC		0.132	0.0898		17 21	< 0.01 <u>0.014</u>	< 0.01 < 0 <u>.01</u>	
05D-B, 2005	9492 RR							21	≤ 0.014	< 0.01 < 0.01	
05D-D, 2005)4)2 KK							21	0.014	≤ 0.01	0.012
								23	< 0.01	< 0.01	0.012
								23	< 0.01	< 0.01	
								27	< 0.01	< 0.01	
								27	< 0.01	< 0.01	
								31	< 0.01	< 0.01	
								31	< 0.01	< 0.01	
RATFY011	RG 200	USA	500	3	0.128-	0.0757-	70	16	< 0.01	< 0.01	
TF006-05D	RR	Sabin	SC		0.133	0.0847		16	< 0.01	< 0.01	
USA-TF006-								21	< 0.01	< 0.01	
05D-B, 2005								21	< 0.01	0.011	
								24 24	< 0.01	< 0.01	
								24	$\frac{0.014}{0.014}$	$\frac{0.010}{0.01}$	0.021
								27	< 0.014	< 0.01	0.021
								27	< 0.01	0.010	
								31	< 0.01	< 0.010	
								31	< 0.01	< 0.01	
RATFY011	Taylor	USA	500	3	0.128-	0.0908-	83	20	< 0.01	< 0.01	
TF007-05H	427 RR	Stilwell	SC		0.133	0.0937		20	< 0.01	< 0.01	< 0.01
USA-TF007-											
05H-B, 2005											
RATFY011	Nk 32G5	USA	500	3	0.127-	0.104-	79	19	0.013	0.010	
TF008-05H		Spring-	SC		0.130	0.106		19	0.015	< 0.01	
USA-TF008-		field							0.014	0.01	0.0244
05H-B, 2005											
RATFY011	HS3236	USA	500	3	0.127-	0.0901-	79	20	< 0.01	< 0.01	0.01
TF009-05H USA-TF009-		Monti-cello	SC		0.133	0.0943		20	< 0.01	< 0.01	< 0.01
05H-B, 2005											
RATFY011	Taylor	USA	500	3	0.126-	0.0906-	87	20	0.012	< 0.01	
TF010-05H	427 RR	Stilwell	SC	5	0.120-	0.0900-	07	20	< 0.012	< 0.01	
USA-TF010-	427 100	Buiwen	be		0.150	0.0755		20	0.012	< 0.01	0.012
05H-B, 2005									0.012	0.01	0.012
RATFY011	Asgrow	USA	500	3	0.128-	0.104-	79	19	< 0.01	0.010	
TF011-05H	2801	Earlham	SC		0.129	0.106		19	0.018	< 0.01	
USA-TF011-									0.014	0.01	0.0254
05H-B, 2005											
RATFY011	92M70	USA	500	3	0.128-	0.102-	79	21	< 0.01	< 0.01	
TF012-05H		Bagley	SC		0.129	0.105		21	< 0.01	< 0.01	< 0.01
USA-TF012-											
05H-B, 2005		110.		-	0.105	0.0707	6.		0.01	0.011	
RATFY011	Mycogen	USA	500	3	0.130-	0.0788-	81	21	< 0.01	0.011	
TF013-05H	0941731	Gardner	SC		0.132	0.0910		21	< 0.01	< 0.01	0.021
USA-TF013-									< 0.01	0.011	0.021
05H-B. 2005 RATFY011	SC 9374	USA	500	3	0.128-	0.0883-	95	19	< 0.01	< 0.01	
TF014-05H	50 75/4	New	SC		0.128-	0.0883-	35	19	< 0.01	< 0.01	
USA-TF014-		Holland	SC		0.155	0.0077		17	< 0.01	< 0.01	< 0.01
05H-B, 2005		1.0.1mild									
RATFY011	Pioneer	USA	500	3	0.127-	0.0686-	77	21	0.015	0.038	
TF015-05H	92M80	York	SC		0.127	0.0690		21	0.015	0.030	
USA-TF015-									0.16	0.042	0.058
05H-B, 2005											
RATFY011	NK 43-	USA	500	3	0.127-	0.0696-	79	20	< 0.01	< 0.01	
TF016-05H	B1	Carlyle	SC		0.129	0.0759		20	< 0.01	< 0.01	< 0.01
USA-TF016-				1							
05H-B, 2005											

Study			Applic	atio	n				Residues [mg/kg] ^a	
Trial No.	Variety	Country	FL	Ν	kg/ha	kg/hL	GS	DAT	TFS	CGA	Sum
Plot No.				0	(as)	(as)				321113	
Year						-					
RATFY011	Asgrow	USA	500	3	0.129–	0.0733-	79	21	< 0.01	< 0.01	
TF017-05H	AG1603	Arkansaw	SC		0.130	0.0734		21	< 0.01	< 0.01	< 0.01
USA-TF017-											
05H-B, 2005											
RATFY011	Dairylan	USA	500	3	0.126-	0.0608-	97	21	< 0.01	< 0.01	
TF018-05H	d 3410	Sheridan	SC		0.127	0.0692		21	< 0.01	< 0.01	< 0.01
USA-TF018-											
05H-B, 2005											
RATFY011	Soya	USA	500	3	0.129–	0.0872-	95	23	<u>0.015</u>	< 0.01	
TF019-05H	bean	Kiowa	SC		0.131	0.108		23	< 0.01	< 0.01	
USA-TF019-	Asgrow								0.012	< 0.01	< 0.012
05H-B, 2005	3802										
RATFY011	Soya	USA	500	3	0.126–	0.0751-	79	19	0.030	0.018	
TF020-05H	bean	St. John	SC		0.132	0.0781		19	0.011	0.017	
USA-TF020-	Pioneer								0.02	0.018	0.039
05H-B, 2005	93B85										

No=number of applications

GS=growth stage at last application

DAT=days after last treatment

TFS=Trifloxystrobin

^a Residues were measured in dry seeds

Beans and Peas (dry)Green beans

Nine field trials were conducted in Canada in 2012 with trifloxystrobin in/on <u>dry beans</u> (Milo, J and Harbin, A 2013a.) Two applications at 0.129 to 0.137 kg ai/ha were done with a spray interval of 10 to 14 days and a pre-harvest interval of 28 to 32 days.

Nine field trials were conducted in Canada in 2012 with trifloxystrobin in/on <u>peas</u> (Milo, J and Harbin, A 2013b.). Two applications at 0.108 to 0.135 kg ai/ha were done with a spray interval of 11 to 14 days and a pre-harvest interval of 29 to 31 days.

The residues of trifloxystrobin and CGA 321113 were quantified according to methods 00742, 00742/M001 and 01313 at a LOQ of 0.01 mg/kg.

The results are summarized in Tables 7 and 8.

Table 7 Results of residue trials conducted with 325 SC trifloxystrobin in/on kidney beans in Canada

Study			App	lication				Residues [m	ng/kg] ^a	
Trial No.	Crop	Country	No	kg/ha	kg/hL	GS	DAT	TFS	CGA	SUM
Plot No.	Variety			(as)	(as)				321113	
Year	-									
Canadian GAP S	C325> 0.13	32 kg ai/ha 1–	-2 tim	es, PHI 30 days						
RAJAN003	Zorro	Canada	2	0.13430.1375	0.0959-	77	29	< 0.01	0.011	
RAJAN003-01-	Black	Arthur			0.0982		29	< 0.01	0.011	
12H, 2012	Bean							< 0.01	0.011	< 0.021
RAJAN003	Red	Canada	2	0.13570.1362	0.0969-	73	32	< 0.01	< 0.01	
RAJAN003-02-	Hawk	Rock-			0.0973		32	< 0.01	< 0.01	< 0.01
12H, 2012	(red	wood								
	Kidney)									
RAJAN003	Zorro	Canada	2	0.1292	0.0923	75	29	< 0.01	0.010	
RAJAN003-03-	Black	Breslau					29	< 0.01	0.012	
12H, 2012	Bean							< 0.01	0.011	0.021

Study			App	lication				Residues [n	ng/kg] ^a	
Trial No.	Crop	Country	No	kg/ha	kg/hL	GS	DAT	TFS	CGA	SUM
Plot No.	Variety			(as)	(as)				321113	
Year										
RAJAN003	Pinto	Canada	2	0.13060.1319	0.0933-	66	28	< 0.01	0.012	
RAJAN003-04-		Whitecap			0.0942		28	< 0.01	0.013	
12H, 2012								< 0.01	0.012	0.023
RAJAN003	Pintos	Canada	2	0.13060.1315	0.0933-	65	28	< 0.01	< 0.01	
RAJAN003-05-		Outlook			0.0939		28	< 0.01	< 0.01	< 0.01
12H, 2012										
RAJAN003	Pinto	Canada	2	0.13040.1343	0.0931-	66	28	< 0.01	< 0.01	
RAJAN003-06-		Kenaston			0.0959		28	< 0.01	< 0.01	< 0.01
12H, 2012										
RAJAN003	Viva	Canada	2	0.12940.135	0.0924-	75	32	< 0.01	< 0.01	< 0.01
RAJAN003-07-	Pink	Taber			0.0964		32	< 0.01	< 0.01	
12H, 2012										
RAJAN003	Viva	Canada	2	0.12940.135	0.0924-	75	32	< 0.01	< 0.01	
RAJAN003-07-	Pink	Taber			0.0964		32	< 0.01	< 0.01	
12H, 2012										
RAJAN003	Pinto	Canada	2	0.12940.1314	0.0924-	71	21	0.011	0.015	
RAJAN003-08-		Rosthern			0.0939		21	0.018	0.017	
12D, 2012							25	< 0.01	0.014	
							25	< 0.01	0.013	
							29	< 0.01	0.012	
							29	< 0 <u>.01</u>	0.011	
								<u>< 0.01</u>	0.012	0.022
							36	< 0.01	0.012	
							36	< 0.01	< 0.01	
							40	< 0.01	0.011	
							40	< 0.01	0.011	
RAJAN003	Bean,	Canada	2	0.1315-	0.0939-	71	31	< 0.01	< 0.01	< 0.01
RAJAN003-09-	Kidney	Alvena		0.1327	0.0948		31	< 0.01	< 0.01	
12H, 2012	Pintos									

No=number of applications

GS=growth stage at last application

DAT=days after last treatment

 $TFS {=} trifloxystrobin$

^a Residues were measured in dry seeds,

Table 8 Results	of residue trial	s conducted v	with 325 SC	trifloxystrobin	in/on pea in 2012

Study			Appl	ication				Residues [mg/kg] ^a	
Trial No.	Crop	Country	No	kg/ha	kg/hL	GS	DAT	TFS	CGA	Sum
Plot No.	Variety			(as)	(as)				321113	
Canadian GAP:	SC325, 0.132	2 kg ai/ha 1–2	times	with PHI of 3	30 (seed)					
RAJAN004	Pea, field	Canada	2	0.1301-	0.0929-	72	31	< 0.01	0.021	
RAJAN004-	Meadow	Whitecap		0.1305	0.0932		31	< 0.01	0.023	
01-12H								< 0.01	0.022	0.033
RAJAN004	Pea, field	Canada	2	0.1312-	0.0937-	71	31	< 0.01	0.011	
RAJAN004-	Meadow	Outlook		0.1314	0.0939		31	< 0.01	0.014	
02-12H								< 0.01	0.012	0.023
RAJAN004	Pea, field	USA	2	0.1308-	0.0934-	73	30	< 0.01	0.016	
RAJAN004-	Admiral	Carring-ton		0.1357	0.0969		30	< 0.01	0.016	0.027
03-12H										
RAJAN004	Dec Cald	Canada	2	0.1303-	0.0931-	73	29	< 0.01	< 0.01	
RAJAN004 RAJAN004-	Pea, field Meadow		2	0.1303-	0.0931-	13	29 29	< 0.01	< 0.01	< 0.01
	Meadow	Kenaston		0.1311	0.0936		29	< 0.01	< 0.01	< 0.01
04-12H		<u> </u>		0.1001	0.004			0.01	0.01	
RAJAN004	Pea, field	Canada	2	0.1326-	0.0947-	71	29	< 0.01	≤ 0.01	0.01
RAJAN004-	Meadow	Waldheim		0.133	0.0950		29	< 0.01	< 0.01	< 0.01
05-12H										

Study			App	lication				Residues	[mg/kg] ^a	
Trial No. Plot No.	Crop Variety	Country	No	kg/ha (as)	kg/hL (as)	GS	DAT	TFS	CGA 321113	Sum
RAJAN004 RAJAN004- 06-12H	Pea, field Meadow	Canada Alvena	2	0.1329	0.0949	72	29 29	< 0.01 < 0.01	0.011 0.011	0.021
RAJAN004 RAJAN004- 07-12H	Pea, field Meadow	Canada Wakaw	2	0.1309– 0.1339	0.0935– 0.0956	71	29 29	< 0.01 < 0.01	0.011 0.013	0.022
RAJAN004 RAJAN004- 08-12H	Pea, field Thunder- bird	Canada Joseph- burg	2	0.1266– 0.1341	0.0904– 0.0958	75	30 30	< 0.01 < 0.01	0.010 0.011	0.021
RAJAN004 RAJAN004- 09-12D	Pea, field Meadow	Canada Rosthern	2	0.108- 0.1082	0.0771-0.0773	69	20 20 25 25 31 31 34 34 40 40	$\begin{array}{c} 0.012\\ 0.012\\ 0.016\\ 0.019\\ \underline{<0.01}\\ \underline{<0.01}\\ \underline{<0.01}\\ \underline{<0.01}\\ \underline{<0.01}\\ \underline{<0.01}\\ \underline{<0.01}\\ \underline{<0.01}\\ \underline{<0.01} \end{array}$	< 0.01 < 0.01 < 0.01 < 0.01 $< 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0$	< 0.01

FL=Formulation; No=number of applications; GS=growth stage at last application; DAT=days after last treatment; TFS: trifloxystrobin; ¹. Residues were measured in dry seeds,

Animal feeds

The conditions of supervised trials are described under the respective commodities. Only the residues in relevant animal commodities are summarized.

Table 9 Residues of trifloxystrobin in/on soya bean forage derived from trials conducted in the USA

Study			Appli	cation					Residues [n	ng/kg] ^a
Trial No. Plot No. Year	Variety	Country	FL	No	kg/ha (as)	kg/hL (as)	GS	DAT	TFS	CGA 321113
USA GAP 250E0 Do not graze or f			with PH	I of 2	l days					
RCTFY004 FL079-03H USA-FL079- 03H-A, 2003	Hartz Seed H6686RR	USA Tifton, Georgia	250 EC	3	0.092	0.052– 0.064	67	0	1.53 6.07	0.106 0.395
RCTFY004 FL080-03H USA-FL080- 03H-A, 2003	NK \$73-Z5	USA Molino, Florida	250 EC	3	0.086– 0.094	0.043– 0.046	74	0	0.81 1.21	0.075 0.096
RCTFY004 FL081-03H USA-FL081- 03H-A, 2003	Horn-beck 5588RR	USA Proctor, Arkansas	250 EC	3	0.092	0.063– 0.066	71	0	2.92 4.65	0.137 0.219
RCTFY004 FL082-03H USA-FL082- 03H-A, 2003	Delta King 5661 RR	USA Newport, Arkansas	250 EC	3	0.092– 0.094	0.049– 0.049	75	0	3.12 3.48	0.168 0.176
RCTFY004 FL083-03D USA-FL083- 03D-A,2003	S56-D7	USA Leland, Mississi- ppi	250 EC	3	0.091-0.094	0.074– 0.076	70	0 0 3 5 5 7 7 7 10 10	3.00 2.90 2.11 0.828 0.590 0.978 1.27 0.685 0.630 0.388	0.226 0.295 0.215 0.158 0.138 0.230 0.154 0.122 0.091 0.081

Study			Applic	cation					Residues [mg/kg] ^a
Trial No. Plot No. Year	Variety	Country	FL	No	kg/ha (as)	kg/hL (as)	GS	DAT	TFS	CGA 321113
RCTFY004 FL084-03D USA-FL084- 03D-A, 2003	FS HT322 STS	USA Seymour, Illinois	250 EC	3	0.093	0.061-0.062	72	0 0 3 3 6 6 8 8 8 10 10	2.80 2.72 1.30 1.25 0.822 0.895 0.752 0.902 0.705 0.728	0.121 0.135 0.186 0.195 0.160 0.166 0.151 0.160 0.131 0.133
RCTFY004 FL085-03H USA-FL085- 03H-A, 2003	NK S26 C9	USA Spring- field, Nebraska	250 EC	3	0.092– 0.183	0.061– 0.129	65	0	2.30 1.58	0.095 0.083
RCTFY004 FL086-03H USA-FL086- 03H-A, 2003	Patriot Round-up Ready	USA Stilwell, Kansas	250 EC	3	0.093– 0.187	0.063– 0.132	79	0	4.45 6.90	0.178 0.225
RCTFY004 FL087-03H USA-FL087- 03H-A, 2003	Becks 323RR	USA Oxford, Indiana	250 EC	3	0.094– 0.095	0.051– 0.059	69	0	3.45 3.55	0.208 0.196
RCTFY004 FL088-03H USA-FL088- 03H-A, 2003	92B94	USA Bagley, Iowa	250 EC	3	0.089– 0.092	0.036– 0.042	67	0	3.50 5.00	0.164 0.240
RCTFY004 FL089-03H USA-FL089- 03H-A, 2003	BT-402	USA Carlyle, Illinois	250 EC	3	0.089– 0.093	0.060– 0.065	69	0	3.18 3.75	0.213 0.222
RCTFY004 FL090-03H USA-FL090- 03H-A, 2003	GL2301RR	USA Saginaw, Michigan	250 EC	3	0.091– 0.092	0.047– 0.048	69	0	1.54 9.87	0.121 0.948
RCTFY004 FL091-03H USA-FL091- 03H-A, 2003	Mycogen 44150	USA Gardner, North Dakota	250 EC	3	0.092– 0.093	0.030– 0.037	81	0	4.85 /0.027 ^b 6.98	0.485 0.508
RCTFY004 FL092-03H USA-FL092- 03H-A, 2003	SC 9373	USA New Holland, Ohio	250 EC	3	0.091– 0.093	0.062– 0.066	69	0	2.48 2.32	0.154 0.140
RCTFY004 FL093-03H USA-FL093- 03H-A, 2003	Dekalb 06-51	USA Campbell, Minnesota	250 EC	3	0.091– 0.092	0.032– 0.033	70	0	2.75 3.15	0.224 0.258
RCTFY004 FL094-03H USA-FL094- 03H-A, 2003	Pioneer91m50	USA Geneva, Minnesota	250 EC	3	0.091– 0.092	0.058– 0.061	69	0	5.28 4.92	0.365 0.338
RCTFY004 FL095-03H USA-FL095- 03H-A, 2003	Dekalb 3151	USA Sheridan, Indiana	250 EC	3	0.091– 0.092	0.057– 0.058	70	0	3.28 2.46	0.244 0.199
RCTFY004 FL096-03H USA-FL096- 03H-A, 2003	Rough Rider	USA Northwood, North Dakota	250 EC	3	0.089– 0.094	0.032– 0.033	69	0	2.70 2.95	0.255 0.270
RCTFY004 FL097-03H USA-FL097- 03H-A, 2003	Pioneer 93B86	USA Richland, Iowa	250 EC	3	0.091– 0.094	0.050– 0.067	67	0	3.18 3.30	0.115 0.117

Study			Appli	catio	n				Residues	[mg/kg] ^a
Trial No.	Variety	Country	FL	No		kg/hL	GS	DAT	TFS	CGA
Plot No.					(as)	(as)				321113
Year										
RCTFY004	Brunner BR-	USA	250	3	0.093-	0.033-	69	0	3.95	0.148
FL098-03H	1500-RR	Arkansaw,	EC		0.096	0.033			3.38	0.115
USA-FL098-		Wisconsin								
03H-A, 2003										
	C: 0.1095-0.1271	max 3 times, F	HI 21	days						
	feed soya bean for									
RATFY011	\$73-Z5	USA	500	3	0.128	0.0762-	67	0	6.065	0.228
TF001-05H	570 20	Tifton	SC	2	0.1120	0.102	07	Ũ	6.843	0.210
USA-TF001-			~ ~							
05H-A, 2005										
RATFY011	Pioneer	USA	500	3	0.123-	0.0971-	70	0	6.771	0.186
TF002-05H	95B96	Molino	SC	5	0.123-	0.110	/0	0	6.365	0.199
USA-TF002-	J 5 D 70	Wonno	be		0.152	0.110			0.505	0.177
05H-A, 2005										
RATFY011	AG4403 RR	USA	500	3	0.128-	0.0902-	69	0	21.80	0.262
TF003-05H	AU4403 KK	Proctor	SOU SC	5	0.128-0.129	0.0902-	09	0	21.80	0.262
		FIOCIOF	SC		0.129	0.0928			23.00	0.237
USA-TF003- 05H-A, 2005										
	DDL 5004 DD	TICA	500	2	0.100	0.0720	60	0	10.00	0.171
RATFY011	DPL 5806 RR		500 SC	3	0.122-	0.0738 - 0.0871	69	0	10.22	0.171
TF004-05H		Cheney-	SC		0.127	0.0871			9.059	0.150
USA-TF004-		ville								
05H-A, 2005				-						
RATFY011	Pioneer 9492	USA	500	3	0.130-	0.107-	66	0	9.389	0.228
TF005-05D	RR	Leland	SC		0.132	0.112		0	10.47	0.257
USA-TF005-								3	7.858	0.382
05D-A, 2005								3	8.267	0.379
								5	5.482	0.335
								5	5.094	0.305
								7	3.728	0.299
								7	3.512	0.297
								11	2.783	0.261
								11	2.658	0.213
RATFY011	RG 200 RR	USA	500	3	0.125-	0.0771-		0	11.53	0.285
TF006-05D		Sabin	SC		0.130	0.0839		0	11.14	0.267
USA-TF006-								3	2.455	0.296
05D-A, 2005								3	2.393	0.319
								5	1.287	0.214
								5	1.554	0.246
								7	1.288	0.175
								7	1.144	0.169
								10	1.567	0.263
								10	0.676	0.125
									1	
RATFY011	Taylor 427	USA	500	3	0.128-	0.0898-	75	0	13.75	0.243
TF007-05H	RR	Stilwell	SC		0.132	0.0934			17.36	0.316
USA-TF007-									1	
05H-A, 2005										
RATFY011	Nk 32G5	USA	500	3	0.129	0.102-	67	0	11.07	0.274
TF008-05H		Spring-field	SC		/	0.102		Ĭ	9.589	0.259
USA-TF008-										
05H-A, 2005										
RATFY011	HS3236	USA	500	3	0.124-	0.0917-	70	0	14.49	0.254
TF009-05H	1155250	Monti-cello	SC	5	0.124-	0.0917-	10		14.49	0.234
USA-TF009-		Monu-Ceno	SC		0.132	0.0721			17.10	0.230
									1	
05H-A, 2005	Taular 407	TICA	500	2	0.120	0.0905	77	0	5.094	0.129
RATFY011	Taylor 427	USA	500	3	0.128-	0.0895-	77	0	5.984	0.138
TF010-05H	RR	Stilwell	SC		0.134	0.0937			6.586	0.147
USA-TF010-										
05H-A, 2005										

Study			Appli	catio	n				Residues	[mg/kg] ^a
Trial No. Plot No. Year	Variety	Country	FL	No	kg/ha (as)	kg/hL (as)	GS	DAT	TFS	CGA 321113
RATFY011 TF011-05H USA-TF011- 05H-A, 2005	Asgrow 2801	USA Earlham	500 SC	3	0.128– 0.130	0.101– 0.106	67	0	8.649 8.747	0.343 0.318
RATFY011 TF012-05H USA-TF012- 05H-A, 2005	92M70	USA Bagley	500 SC	3	0.124– 0.128	0.0992– 0.102	66	0	9.009 5.698	0.249 0.182
RATFY011 TF013-05H USA-TF013- 05H-A, 2005	Myco-gen 0941731	USA Gardner	500 SC	3	0.131– 0.133	0.0887– 0.0963	71	0	16.11 17.30	0.307 0.297
RATFY011 TF014–05H USA-TF014- 05H-A, 2005	SC 9374	USA New Holland	500 SC	3	0.126– 0.131	0.0879– 0.0894	70	0	11.41 10.09	0.203 0.199
RATFY011 TF015-05H USA-TF015- 05H-A, 2005	Pioneer 92M80	USA York	500 SC	3	0.127– 0.129	0.0686– 0.0690	67	0	12.73 8.950	0.274 0.257
RATFY011 TF016-05H USA-TF016- 05H-A, 2005	NK 43-B1	USA Carlyle	500 SC	3	0.127– 0.128	0.0743– 0.0934	66	0	13.58 12.19	0.358 0.353
RATFY011 TF017-05H USA-TF017- 05H-A, 2005	Asgrow AG1603	USA Arkansaw	500 SC	3	0.129	0.0729– 0.0733	69	0	12.46 13.44	0.276 0.277
RATFY011 TF018-05H USA-TF018- 05H-A, 2005	Dairy-land 3410	USA Sheridan	500 SC	3	0.124– 0.130	0.0667– 0.0723	69	0	6.096 5.792	0.129 0.120
RATFY011 TF019-05H USA-TF019- 05H-A, 2005	Asgrow 3802	USA Kiowa	500 SC	3	0.127– 0.129	0.101– 0.106	69	0	15.26 16.67	0.343 0.332
RATFY011 TF020-05H USA-TF020- 05H-A, 2005	Pioneer 93B85	USA St. John	500 SC	3	0.126– 0.129	0.0736– 0.0759	73	0	10.43 10.66	0.369 0.418

No=number of applications

GS=growth stage at last application

DAT=days after last treatment

^a Residues were measured in forage samples

^b residues in control

TFS=trifloxystrobin;

Trifloxystrobin

Study			Applic	ation				Residues a	[mg/kg]
Trial No.	Variety	Country	FL	No	kg/ha	kg/hL	GS	TFS	CGA 321113
Plot No.					(as)	(as)			
Year									
USA GAP 250EC,			h PHI of	f 21 da	ays				
Do not graze or fee	1		1	1		1			
RCTFY004	Hartz Seed	USA	250	3	0.092	0.052-	67	9.62	0.908
FL079-03H	H6686RR	Tifton,	EC			0.064		8.50	0.840
USA-FL079-03H-		Georgia							
A,2003 RCTFY004	NK \$73-Z5	USA	250	3	0.086-	0.043-	74	4.00	0.535
FL080-03H	NK 5/5-25	Molino,	EC	3	0.080-	0.045-	74	3.58	0.518
USA-FL080-03H-		Florida	LC		0.094	0.040		5.56	0.516
A, 2003		Tionda							
RCTFY004	Horn-beck	USA	250	3	0.092	0.063-	71	5.50	0.602
FL081-03H	5588RR	Proctor,	EC	-		0.066		5.55	0.562
USA-FL081-03H-		Arkansas							
A, 2003									
RCTFY004	Delta King	USA	250	3	0.092-	0.049-	75	9.18	0.540
FL082-03H	5661 RR	Newport,	EC		0.094	0.049		2.22	0.129
USA-FL082-03H-		Arkansas							
A, 2003				-	0.051				
RCTFY004	S56-D7	USA	250	3	0.091-	0.074-	70	6.30	0.788
FL083-03D		Leland,	EC		0.094	0.076		6.55	0.730
USA-FL083-03D-		Mississippi							
A, 2003 RCTFY004	FS HT322	USA	250	3	0.093	0.061-	72	10.4	0.90
FL084-03D	STS	Seymour,	EC 250	3	0.095	0.061-	12	9.82	0.0.88
USA-FL084-03D-	515	Illinois	LC			0.002		9.82	0.0.88
A, 2003		minois							
RCTFY004	NK S26 C9	USA	250	3	0.092-	0.061-	65	6.25 °	0.858
FL085-03H	1.11.520 05	Springfield,	EC	2	0.183	0.129	00	/5.55 ^b	/1.04 ^b
USA-FL085-03H-		Nebraska						3.80	0.570
A, 2003									
RCTFY004	Patriot	USA	250	3	0.093-	0.063-	79	9.98	0.902
FL086-03H	Round-up	Stilwell,	EC		0.187	0.132		10.4	0.930
USA-FL086-03H-	Ready	Kansas							
A, 2003				-					
RCTFY004	Becks 323RR	USA	250	3	0.094-	0.051-	69	10.4	1.20
FL087-03H USA-FL087-03H-		Oxford,	EC		0.095	0.059		12.3	1.36
		Indiana							
A, 2003 RCTFY004	92B94	USA	250	3	0.089–	0.036-	67	8.38	1.11
FL088-03H	72074	Bagley,	EC	5	0.089-	0.030-	07	10.6	1.11
USA-FL088-03H-		Iowa			0.072	0.042		10.0	1.20
A, 2003									
RCTFY004	BT-402	USA	250	3	0.089-	0.060-	69	7.92	4.12
FL089-03H		Carlyle,	EC		0.093	0.065		10.2	4.45
USA-FL089-03H-		Illinois							
A, 2003	ļ								
RCTFY004	GL2301RR	USA	250	3	0.091-	0.047-	69	14.6	2.00
FL090-03H		Saginaw,	EC		0.092	0.048		12.1	1.35
USA-FL090-03H-		Michigan							
A, 2003									
RCTFY004	Myco-gen	USA	250	3	0.092-	0.030-	81	15.4	2.52
FL091-03H	44150	Gardner,	EC		0.093	0.037	1	13.2	2.58
USA-FL091-03H-		North			_				
A, 2003		Dakota							
RCTFY004	SC 9373	USA	250	3	0.091-	0.062-	69	4.92	0.732
FL092-03H		New	EC		0.093	0.066		7.05	1.07
USA-FL092-03H-		Holland,							
A, 2003		Ohio							

Table 10 Residues of trifloxystrol	bin in/on soya bean ha	y derived from trials	conducted in the USA
···· · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	

$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Study			Applic	ation				Residues a [r	ng/kg]
Piot No. Year Piot No. Campbell, JUSA-FL093-03H Dekalb 06-51 USA Campbell, Minnesota 250 3 0.091- 0.032 0.032- 0.033 70 8.20 1.04 A.2003 Pioneer91m50 USA 250 3 0.091- 0.092 0.032- 0.033 70 8.20 1.04 A.2003 Pioneer91m50 USA 250 3 0.091- 0.092 0.058- 0.092 69 4.28 0.690 RCTFY004 Dekalb 3151 USA 250 3 0.091- 0.052 0.057- 0.058 70 1.66 0.278 RCTFY004 Rough Rider USA 250 3 0.091- 0.054 0.032- 0.054 70 1.66 0.278 RCTFY004 Rough Rider USA 250 3 0.094 0.032- 0.054 700 1.46 X2AFL096-03H- A.2003 North North North North North North 0.094 0.067 67 4.02 0.362 RCTFY004 Pioneer USA 250 3 0	Trial No.	Variety	Country			kg/ha	kg/hL	GS		
RCTFY004 FL093-03H A, 2003 Dekalb 06-51 RCTFY004 FL094-03H A, 2003 USA RCTFY004 FL094-03H A, 2003 Pioneer91m50 RCTFY004 FL094-03H A, 2003 USA FL094-03H RCTFY004 Pioneer91m50 Geneva, Minnesota 250 EC 3 0.091- 0.092 0.032- 0.033 70 8.20 1.04 RCTFY004 A, 2003 Pioneer91m50 USA Geneva, Minnesota 250 3 0.091- 0.092 0.058- 0.061 69 4.28 0.690 RCTFY004 FL095-03H A, 2003 Dekalb 3151 USA Sheridan, Indiana 250 3 0.091- 0.092 0.058 70 1.66 0.278 RCTFY004 RCTFY004 Pioneer USA FL096-03H USA-FL096-03H A, 2003 Rough Rider Pioneer USA RCTFY004 250 3 0.091- 0.094 0.032- 0.094 67 1.01 1.96 RCTFY004 RCTFY004 Pioneer USA RCTFY004 Stenare Richland, L0wa 250 3 0.091- 0.094 0.050- 0.033 69 11.14 0.425 RCTFY004 Brunner BR- L098-03H Iso0-RR Wisconsin 250 3 0.091- 0.096 0.033- 0.033 69 11.8 0.638 USA-FL		-	-							
FL09.03H USA-FL093-03H A, 2003 Campbell, Minnesota EC 0.092 0.033 7.40 1.02 RCTFY004 FL094-03H USA-FL094-03H A, 2003 Pioneer91m50 USA Geneva, Minnesota 250 Geneva, Minnesota 3 0.091- 0.061 0.058- 0.092 69 4.28 0.690 RCTFY004 FL095-03H A, 2003 Dekalb 3151 USA 250 3 0.091- 0.092 0.058- 0.061 69 4.28 0.690 RCTFY004 FL095-03H A, 2003 Dekalb 3151 USA 250 3 0.091- 0.092 0.058- 0.092 69 10.1 1.66 0.278 RCTFY004 FL096-03H USA-FL095-03H- A, 2003 Rough Rider USA 250 3 0.089- 0.094 0.033 7.00 1.46 Northwood, USA-FL097-03H A, 2003 Pioneer USA 250 3 0.091- 0.067 0.050- 5.30 67 4.02 0.362 RCTFY004 Pioneer USA 250 3 0.091- 0.067 0.053 69 11.8 0.638 RCTFY004 Brunner BR- L098-03H A, 2005 Isou Rationan EC <td></td>										
USA-FL093-03H- A. 2003 Minnesota Image of the second Geneva, Minnesota Solution Output Output Output Second Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Output Out		Dekalb 06-51			3			70		
A. 2003 Pioneer91m50 USA Geneva, Minnesota 250 EC 0.091- 0.052 0.058- 0.061 69 4.28 0.690 VSA-FL094-03H- A, 2003 Dekalb 3151 USA Sheridan, Indiana 250 3 0.091- 0.057- 0.061 69 4.28 0.690 RCTFY004 Dekalb 3151 USA 250 3 0.091- 0.057- 0.058 70 1.66 0.278 RCTFY004 Rough Rider USA 250 3 0.092 0.058 70 1.66 0.278 RCTFY004 Rough Rider USA 250 3 0.092 0.032- 69 10.1 1.96 RCTFY004 Pioneer USA 250 3 0.091- 0.050- 67 4.02 0.362 RCTFY004 Pioneer USA 250 3 0.094 0.067 5.30 0.475 USA-FL097-03H Jase6 Richland, Iowa EC 0.094 0.067 5.30 0.475 USA-FL098-03H Isou-R				EC		0.092	0.033		7.40	1.02
RCTFY004 FL094-03H A, 2003 Pioneer91m50 Geneva, Minnesota USA EC 250 0.92 3 0.091- 0.061 0.058- 69 69 4.28 0.690 0.812 RCTFY004 FL095-03H USA-FL095-03H A, 2003 Dekalb 3151 USA Sheridan, Indiana USA EC 3 0.092 0.092 0.057- 0.058 70 1.66 0.278 RCTFY004 A, 2003 Rough Rider USA Northwood, North EC 3 0.094 0.032- 0.094 69 10.1 1.96 RCTFY004 FL096-03H USA-FL096-03H USA-FL097-03H A, 2003 Rough Rider USA Richland, Iowa 250 3 0.091- 0.067 0.050- 0.067 67 4.02 0.362 RCTFY004 FL097-03H A, 2003 Pioneer USA Richland, Iowa 250 3 0.091- 0.067 0.050- 67 67 4.02 0.362 RCTFY004 FL098-03H A, 2003 Brunner BR- ISO-RR USA Karkansaw, Wisconsin 250 3 0.092- 0.033 0.033- 0.033 69 11.8 0.638 US A-FL098-03H LSO-FL098-03H A, 2003 ISO-RR USA Tifton SC 3 0.128 0.0762- 0.033 67 8.374 0.884 US A-FL098-03H LSO-FTFV011 FV001			Minnesota							
FL094-03H USA-FL094-03H- A, 2003 Geneva, Minnesota EC Minnesota 0.092 0.061 5.00 0.812 RCTFY004 FL095-03H- A, 2003 Dekalb 3151 USA Sheridan, Indiana USA Sheridan, Indiana 250 3 0.091- 0.092 0.057- 0.092 70 1.66 0.278 RCTFY004 FL095-03H A, 2003 Rough Rider USA Northwood, North EC 3 0.089- 0.094 0.032- 0.033 69 10.1 1.96 RCTFY004 FL096-03H A, 2003 Pioneer USA Northwood, North EC 3 0.094- 0.094 0.033- 0.033 69 10.1 1.96 RCTFY004 FL097-03H 4, 2003 Pioneer USA RCTFY004 Pioneer SB86 USA Richland, Iowa EC 3 0.091- 0.067 0.050- 5.30 0.475 USA-FL097-03H 4, 2003 Brunner BR- ISO-RR USA Arkansaw, Wisconsin EC 3 0.093- 0.033 0.033- 9.88 69 11.8 0.638 USA-FL098-03H- 4, 2005 ST3-ZS USA Tifton SC 3 0.128- 0.132 0.0762- 0.102 67 8.374 0.337 0.884										
USA-FL094-03H- A, 2003 Minnesota Minnesota 0 0.057- 0.092 0.057- 0.058 0 1.66 0.278 RCTFY004 A, 2003 Dekalb 3151 USA Sheridan, Indiana EC 3 0.091- 0.092 0.057- 0.058 0 1.66 0.278 RCTFY004 FL096-03H A, 2003 Rough Rider USA 250 3 0.089- 0.094 0.032- 0.094 69 10.1 1.96 RCTFY004 FL096-03H A, 2003 Pioneer USA 250 3 0.091- 0.094 0.033 7.00 1.46 Northwood, North Dakota 0 0.094 0.050- 0.094 67 4.02 0.362 RCTFY004 Pioneer USA 250 3 0.091- 0.094 0.067 5.30 0.475 USA-FL097-03H- A, 2003 Brunner BR- ISO-R USA Arkansaw, Wisconsin EC 0.092- 0.093- 0.033- 0.033 69 11.8 0.638 USA-FL098-03H A, 2003 Isoo-RR Wisconsin EC 0.096- 0.033 0.033- 0.033 69 18.374 0.884		Pioneer91m50			3			69		
A, 2003 C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C C </td <td></td> <td></td> <td>,</td> <td>EC</td> <td></td> <td>0.092</td> <td>0.061</td> <td></td> <td>5.00</td> <td>0.812</td>			,	EC		0.092	0.061		5.00	0.812
RCTFY004 FL095-03H USA-FL095-03H- A, 2003 Dekalb 3151 North Northwood, SA-FL096-03H- USA-FL096-03H- VISA-FL096-03H- North Dakota USA SL09 SC 250 Northwood, SC 3 Norsh North North North Dakota 0.091- Norsh North Dakota 0.057- No.058 70 1.66 0.278 S.19 RCTFY004 FL096-03H- QUSA-FL096-03H- A, 2003 Rough Rider North Dakota USA Northwood, North Dakota 250 3 0.089- North Dakota 0.032- No.094 69 10.1 1.96 RCTFY004 FL097-03H- A, 2003 Pioneer 93B86 USA Richland, Iowa 250 3 0.091- No.094 0.050- No.067 67 4.02 0.362 RCTFY004 FL098-03H- USA-FL098-03H- A, 2003 Brunner BR- ISO-R USA Arkansaw, Wisconsin 250 3 0.093- No96 0.033- No96 69 11.8 0.638 VUS AFL098-03H- USA-FL098-03H- A, 2003 ISO-R Arkansaw, Wisconsin EC 0.096 0.033- No96 69 11.8 0.638 No not graze or feed soya bean forage or hay. SC 3 0.128 0.0762- No1102 67 8.374 0.884 RATFY011 TF001-05H- QS05 Pioneer HOS USA Nofton SC			Minnesota							
FL095-03H USA-FL095-03H- A, 2003 Sheridan, Indiana EC North 0.092 0.058 5.19 0.638 RCTFY004 A, 2003 Rough Rider USA 250 3 0.089- 0.032- 69 10.1 1.96 RCTFY004 A, 2003 Pioneer USA 250 3 0.094 0.033 7.00 1.46 RCTFY004 FL097-03H- A, 2003 Pioneer USA 250 3 0.091- 0.050- 0.094 67 4.02 0.362 RCTFY004 FL097-03H- A, 2003 Pioneer USA 250 3 0.094 0.067 5.30 0.475 USA-FL098-03H- A, 2003 Isoo-RR Michland, North EC 0.096 0.033- 0.033 69 11.8 0.638 US GAP 500 SC: 0.1095-0.1271 max 3 times, PHI 21 days 0.0096 0.033 9.88 0.515 Do not graze or feed soya bean forage or hay. Tifton SC 0.128 0.00762- 0.102 67 8.374 0.884 TF001-05H VSA S00 3 0.128 0.0971- 0.10.										
USA-FL095-03H- A, 2003 Indiana Indiana<		Dekalb 3151			3			70		
A, 2003 Rescale Second			· · · · ·	EC		0.092	0.058		5.19	0.638
RCTFY004 FL096-03H USA-FL096-03H- A, 2003 Rough Rider North Dakota USA Northwood, North 250 EC 3 0.089- 0.094 0.032- 0.033 69 10.1 1.96 RCTFY004 FL097-03H A, 2003 Pioneer USA 93B86 USA Richland, Iowa 250 3 0.091- 0.094 0.033- 0.067 69 10.1 1.46 RCTFY004 Pioneer USA A, 2003 93B86 Richland, Iowa EC 0.091- 0.094 0.050- 0.067 67 4.02 0.362 RCTFY004 Brunner BR- L088-03H A, 2003 USA Arkansaw, Wisconsin 250 3 0.093- 0.096 0.033- 0.033 69 11.8 0.638 VUS GAP 500 SC: 0.1095-0.1271 max 3 times, PHI 21 days Do not graze or feed soya bean forage or hay. 500 3 0.128 0.0762- 0.102 67 8.374 0.884 TF001-05H USA-TF001-05H- A, 2005 SC 3 0.123- 0.102 0.0971- 0.132 10.10 25.34 1.149 RATFY011 USA-TF002-05H- A, 2005 Pioneer Proctor SC 3 0.129- 0.0928 0.0902- 69 60.81 1.089 RATFY01			Indiana							
FL096-03H A, 2003 Northwood, North Dakota EC North Dakota 0.094 0.033 7.00 1.46 RCTFY004 FL097-03H A, 2003 Pioneer USA 250 3 0.091- 0.050- 67 4.02 0.362 RCTFY004 FL097-03H- A, 2003 Pisse Richland, Iowa EC 0.094 0.067 67 4.02 0.362 RCTFY004 FL098-03H US GAP 500 SC: 0.1095-0.1271 max 3 times, PHI 21 days 0.096 0.033 69 11.8 0.638 VIS GAP 500 SC: 0.1095-0.1271 max 3 times, PHI 21 days 0.096 0.0762- 67 8.374 0.884 Do not graze or feed soya bean forage or hay. SC 3 0.128 0.0762- 67 8.374 0.884 TF001-05H- A, 2005 ST3-Z5 USA 500 3 0.123- 0.0971- 0.102 10.37 1.191 USA-TF002-05H- A, 2005 95B96 Molino SC 3 0.123- 0.092- 69 60.81 1.089 TF003-05H- A, 2005 AG4403 RR USA Foctor SC 3 <td></td> <td>D 1 D 1</td> <td>TIC A</td> <td>250</td> <td>2</td> <td>0.000</td> <td>0.022</td> <td>60</td> <td>10.1</td> <td>1.04</td>		D 1 D 1	TIC A	250	2	0.000	0.022	60	10.1	1.04
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		Rough Rider			3			69		
A, 2003 Dakota Image: CTFY004 Pioneer USA 250 3 0.091- 0.050- 67 4.02 0.362 FL097-03H 93B86 Richland, Iowa EC 0.094 0.067 67 4.02 0.362 A, 2003 Brunner BR- Iowa EC 0.094 0.067 69 11.8 0.638 FL098-03H 1500-RR Arkansaw, Wisconsin EC 0.096 0.033- 69 11.8 0.638 US GAP 500 SC: 0.1095-0.1271 max 3 times, PHI 21 days Do not graze or feed soya bean forage or hay. Visconsin 3 0.128 0.0762- 67 8.374 0.884 TF001-05H S73-Z5 USA 500 3 0.128 0.0762- 67 8.374 0.884 TGO0-05H Trifton SC 3 0.122- 0.0971- 70 19.44 0.906 RATFY011 Pioneer USA SC 3 0.123- 0.0971- 70 19.44 0.906 <td< td=""><td></td><td></td><td></td><td>EC</td><td></td><td>0.094</td><td>0.033</td><td></td><td>7.00</td><td>1.46</td></td<>				EC		0.094	0.033		7.00	1.46
RCTFY004 FL097-03H A, 2003 Pioneer 93B86 USA Richland, Iowa 250 EC 3 EC 0.091- 0.094 0.050- 0.067 67 4.02 0.362 RCTFY004 RCTFY004 RCTFY004 FL098-03H USA-FL098-03H USA-FL098-03H- A, 2003 Brunner BR- 1500-RR USA Arkansaw, Wisconsin 250 3 0.093- 0.096 0.033- 0.096 69 11.8 0.638 USA-FL098-03H- USA-FL098-03H- USA-FL098-03H- A, 2003 ISO0-RR Arkansaw, Wisconsin EC 3 0.093- 0.096 0.033- 0.033 69 11.8 0.638 VUSA-FL098-03H- USA-FL098-03H- USA-FL098-03H- A, 2003 S73-Z5 USA Tifton SC 3 0.128 0.0762- 0.102 67 8.374 0.884 TF001-05H- USA-TF001-05H- A, 2005 ST3-Z5 USA Tifton SC 3 0.128 0.0971- 0.132 67 8.374 0.884 TF002-05H- A, 2005 Pioneer USA SC SC 3 0.123- 0.132 0.0971- 0.102 70 19.44 0.906 RATFY011 TF003-05H- A, 2005 AG4403 RR USA Proctor SC 3 0.128- 0.129 0.092- 0.0928 6										
FL097-03H USA-FL097-03H- A, 2003 93B86 Richland, Iowa EC 0.094 0.067 5.30 0.475 RCTFY004 FL098-03H USA-FL098-03H- A, 2003 Brunner BR- 1500-RR USA Arkansaw, Wisconsin 250 EC 3 0.093- 0.096 0.033- 0.033 69 11.8 0.638 VSA-FL098-03H- A, 2003 1095-0.1271 max 3 times, PHI 21 days Do not graze or feed soya bean forage or hay. 500 3 0.128 0.0762- 0.102 67 8.374 0.884 RATFY011 TF001-05H A, 2005 S73-Z5 USA Tifton SC 3 0.128 0.0762- 0.102 67 8.374 0.884 RATFY011 TF002-05H USA-TF002-05H- A, 2005 Pioneer USA Molino SC 3 0.123- 0.132 0.0971- 0.110 70 19.44 0.906 RATFY011 TF002-05H USA-TF003-05H- A, 2005 AG4403 RR USA Proctor SC 3 0.128- 0.129 0.9092- 0.9928 69 60.81 1.089 RATFY011 TF003-05H USA-TF003-05H- A, 2005 DPL 5806 USA Proctor SC 3 0.122- 0.0738- 0.127 0.0738- 0.0871 69 38.99 0.793 0		Dioncor		250	2	0.001	0.050	67	4.02	0.262
USA-FL097-03H- A, 2003 Iowa Iow					3			0/		
A, 2003 Brunner BR- FL098-03H (VSA-FL098-03H- A, 2003 USA Arkansaw, Wisconsin 250 EC 3 0.093- 0.033 0.033- 0.033- 0.033 69 11.8 0.638 USA-FL098-03H- A, 2003 1500-RR Arkansaw, Wisconsin EC 3 0.096- 0.033 0.033- 0.033 69 11.8 0.638 USA-FL098-03H- A, 2003 1500-RR Arkansaw, Wisconsin EC 3 0.096- 0.096 0.033- 0.033 69 11.8 0.638 USA-FL098-03H- A, 2003 500 SC 3 0.128 0.0762- 0.102 67 8.374 0.884 TF001-05H- A, 2005 ST3-Z5 USA Tifton SC 3 0.128 0.0762- 0.102 67 8.374 0.884 TF001-05H- A, 2005 VSA Tifton SC 3 0.123- 0.132 0.0971- 0.110 70 19.44 0.906 RATFY011 TF002-05H- 25.34 95B96 Molino SC 3 0.128- 0.129 0.0902- 0.0928 69 60.81 1.089 RATFY011 USA-TF003-05H- USA-TF003-05H- A, 2005 DPL 5806 USA SC SC<		73000		LC		0.094	0.007		5.50	0.473
RCTFY004 FL098-03H USA-FL098-03H- A, 2003 Brunner BR- 1500-RR USA Arkansaw, Wisconsin 250 EC 3 0.093- 0.096 0.033- 0.033 69 11.8 0.638 9.88 0.515 0.096 0.033 0.033 69 11.8 0.638 0.203 US GAP 500 SC: 0.1095-0.1271 max 3 times, PHI 21 days Do not graze or feed soya bean forage or hay. 500 3 0.128 0.0762- 0.102 67 8.374 0.884 RATFY011 S73-Z5 USA Tifton SC 3 0.128 0.0762- 0.102 67 8.374 0.884 RATFY011 S73-Z5 USA Tifton SC 3 0.123- 0.102 0.0971- 0.102 70 19.44 0.906 RATFY011 Pioneer USA TF002-05H Q2.05H Molino SC 3 0.123- 0.132 0.0902- 0.100 69 60.81 1.149 USA-TF002-05H- A, 2005 AG4403 RR USA Proctor SC 3 0.128- 0.129 0.0902- 0.0928 69 60.81 1.089 RATFY011 USA-TF003-05H- USA-TF003-05H- A 2005 DPL 5806			iuwa							
FL098-03H USA-FL098-03H- A, 2003 1500-RR Arkansaw, Wisconsin EC 0.096 0.033 9.88 0.515 US GAP 500 SC: 0.1095-0.1271 max 3 times, PHI 21 days Do not graze or feed soya bean forage or hay.		Brunner BD	USA	250	3	0.003	0.033	60	11.8	0.638
USA-FL098-03H- A, 2003 Wisconsin Wisconsin Image: Constraint of the second					5			09		
A, 2003 Image: constraint of the second		1300-KK		LC		0.090	0.033		9.00	0.515
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			w isconsin							
Do not graze or feed soya bean forage or hay. None No		1095_0 1271 m	ax 3 times PH	[21 days	,					
RATFY011 TF001-05H USA-TF001-05H- A, 2005 S73-Z5 USA Tifton 500 SC 3 0.128 0.0762- 0.102 67 8.374 0.884 RATFY01- A, 2005 Pioneer USA SC 3 0.128 0.0762- 0.102 67 8.374 0.884 RATFY011 Pioneer USA S00 3 0.123- 0.132 0.0971- 0.110 70 19.44 0.906 TF002-05H 95B96 Molino SC 3 0.123- 0.132 0.0971- 0.110 70 19.44 0.906 RATFY011 AG4403 RR USA SC 3 0.128- 0.129 0.0902- 0.0928 69 60.81 1.089 TF003-05H- A, 2005 AG4403 RR USA Proctor SC 3 0.128- 0.129 0.0902- 0.0928 69 60.81 1.404 USA-TF003-05H- A, 2005 DPL 5806 USA Cheneyville SC 3 0.122- 0.127 0.0738- 0.0871 69 38.99 0.793 0.51 0.883				121 uays	•					
TF001-05H USA-TF001-05H- A, 2005 Tifton SC 0.102 10.37 1.191 RATFY011 TF002-05H USA-TF002-05H- A, 2005 Pioneer 95B96 USA Molino 500 SC 3 0.123- 0.132 0.0971- 0.110 70 19.44 0.906 RATFY011 TF002-05H- A, 2005 95B96 Molino SC 3 0.123- 0.132 0.0971- 0.110 70 19.44 0.906 RATFY011 TF003-05H USA-TF003-05H- A, 2005 AG4403 RR Proctor USA SC 3 0.128- 0.129 0.0902- 0.0928 69 60.81 70.90 1.404 WSA-TF003-05H- A, 2005 DPL 5806 USA Cheneyville 500 SC 3 0.122- 0.127 0.0738- 0.0871 69 38.99 30.51 0.793 0.883				500	3	0.128	0.0762_	67	8 374	0.884
USA-TF001-05H- A, 2005 Image: Matrix of the system of the sy	-	575-25			5	0.120		07		
A, 2005 Image: Matrix of the state sta			rmon	be			0.102		10.57	1.171
RATFY011 TF002-05H USA-TF002-05H- A, 2005 Pioneer 95B96 USA Molino 500 SC 3 SC 0.123- 0.132 0.0971- 0.110 70 19.44 25.34 0.906 1.149 RATFY011 A, 2005 AG4403 RR USA Proctor 500 SC 3 SC 0.128- 0.129 0.0902- 0.0928 69 60.81 70.90 1.089 1.404 WSA-TF003-05H- USA-TF003-05H- A, 2005 DPL 5806 USA Cheneyville 500 SC 3 SC 0.128- 0.129 0.0902- 0.0928 69 60.81 70.90 1.404 RATFY011 TF004-05H DPL 5806 USA RR 500 Cheneyville 3 SC 0.122- 0.127 0.0738- 0.0871 69 38.99 30.51 0.793 0.883										
TF002-05H USA-TF002-05H- A, 2005 95B96 Molino SC 0.132 0.110 25.34 1.149 RATFY011 TF003-05H USA-TF003-05H A, 2005 AG4403 RR USA Proctor 500 SC 3 0.128- 0.129 0.0902- 0.0928 69 60.81 70.90 1.089 1.404 RATFY011 USA-TF003-05H- A, 2005 DPL 5806 USA Cheneyville 500 SC 3 0.122- 0.0738- 0.127 0.0738- 0.0871 69 38.99 30.51 0.793 0.883		Pioneer	USA	500	3	0.123-	0.0971-	70	19 44	0.906
USA-TF002-05H- A, 2005 AG4403 RR USA VSA 500 Proctor 3 SC 0.128- 0.129 0.0902- 0.0928 69 70.90 60.81 1.089 RATFY011 USA-TF003-05H- A, 2005 DPL 5806 USA VSA 500 SC 3 0.129 0.129- 0.0928 69 70.90 60.81 1.404 RATFY011 TF004-05H DPL 5806 USA RR 500 Cheneyville 3 SC 0.122- 0.127 0.0738- 0.0871 69 30.51 38.99 0.793 0.883					5			10		
A, 2005 AG4403 RR USA 500 3 0.128- 0.0902- 69 60.81 1.089 TF003-05H Proctor SC 0.129 0.0928 70.90 1.404 USA-TF003-05H- Proctor SC 0.129 0.0928 69 60.81 1.089 RATFY011 DPL 5806 USA 500 3 0.122- 0.0738- 69 38.99 0.793 TF004-05H RR Cheneyville SC 0.127 0.0871 30.51 0.883				~ -						
RATFY011 TF003-05H USA-TF003-05H- A, 2005 AG4403 RR USA Proctor 500 SC 3 0.128- 0.129 0.0902- 0.0928 69 70.90 60.81 70.90 1.089 1.404 RATFY011 TF004-05H DPL 5806 RR USA Cheneyville 500 SC 3 0.122- 0.0738- 0.127 0.0738- 0.0871 69 30.51 38.99 0.793 0.883										
TF003-05H USA-TF003-05H- A, 2005 Proctor SC 0.129 0.0928 70.90 1.404 RATFY011 DPL 5806 USA 500 3 0.122- 0.0738- 69 38.99 0.793 TF004-05H RR Cheneyville SC 0.127 0.0871 30.51 0.883		AG4403 RR	USA	500	3	0.128-	0.0902-	69	60.81	1.089
USA-TF003-05H- A, 2005 DPL 5806 USA 500 3 0.122- 0.0738- 69 38.99 0.793 TF004-05H RR Cheneyville SC 0.127 0.0871 30.51 0.883							0.0928			
RATFY011 DPL 5806 USA 500 3 0.122- 0.0738- 69 38.99 0.793 TF004-05H RR Cheneyville SC 0.127 0.0871 30.51 0.883	USA-TF003-05H-									
TF004-05H RR Cheneyville SC 0.127 0.0871 30.51 0.883	A, 2005									
TF004-05H RR Cheneyville SC 0.127 0.0871 30.51 0.883	RATFY011	DPL 5806	USA	500	3	0.122-	0.0738-	69	38.99	0.793
										0.883
USA-1F004-05H-	USA-TF004-05H-		÷							
A, 2005	A, 2005									
RATFY011 Pioneer 9492 USA 500 3 0.130– 0.107– 66 30.78 1.218	RATFY011	Pioneer 9492			3	0.130-	0.107-	66		
TF005-05D RR Leland SC 0.132 0.112 / ^b 0.0127 1.846	TF005-05D	RR	Leland	SC		0.132	0.112		/ ^b 0.0127	1.846
USA-TF005-05D- 28.24 0.827									28.24	0.827
A, 2005	A, 2005									
RATFY011 RG 200 RR USA 500 3 0.125- 0.0771- 67 31.47 2.026		RG 200 RR			3			67		
TF006-05D Sabin SC 0.130 0.0839 30.13 1.675			Sabin	SC		0.130	0.0839		30.13	1.675
USA-TF006-05D-										
A, 2005	,								ļ	-
RATFY011 Taylor 427 USA 500 3 0.128- 0.0898- 75 41.21 0.956		•			3			75		
TF007-05H RR Stilwell SC 0.132 0.0934 /0.0960 ^b /0.0349 ^b		RR	Stilwell	SC		0.132	0.0934			
USA-TF007-05H- 44.00 0.732									44.00	0.732
A, 2005									ļ	-
RATFY011 Nk 32G5 USA 500 3 0.129 0.102- 67 39.46 1.293		Nk 32G5			3	0.129		67		1.293
TF008-05H Springfield SC 0.106 /0.0295 b			Springfield	SC			0.106			
USA-TF008-05H- 40.51 1.559	USA-TF008-05H-								40.51	1.559
A, 2005										

Trifloxystrobin

Study			Applic	ation				Residues a [r	ng/kg]
Trial No.	Variety	Country	FL	No	kg/ha	kg/hL	GS	TFS	CGA 321113
Plot No.	2	2			(as)	(as)			
Year					` '				
RATFY011	HS3236	USA	500	3	0.124-	0.0917-	70	47.32	1.264
TF009-05H		Monti-cello	SC	_	0.132	0.0921		/0.0200 ^b	
USA-TF009-05H-			~ -					46.71	1.543
A, 2005									
RATFY011	Taylor 427	USA	500	3	0.128-	0.0895-	77	21.51	0.639
TF010-05H	RR	Stilwell	SC		0.134	0.0937	,,	/0.0205 b	0.057
USA-TF010-05H-	int	Buiwen	50		0.151	0.0957		11.16	0.455
A, 2005								11.10	0.455
RATFY011	Asgrow 2801	USA	500	3	0.128-	0.101-	67	26.98	0.955
TF011-05H	Asgiow 2001	Earlham	SC	5	0.128-	0.101-	07	/0.0187 b	0.955
USA-TF011-05H-		Laman	SC		0.150	0.100		33.67	1.361
A, 2005								55.07	1.501
	021470	TICA	500	2	0.124	0.0002	66	21.61	1 470
RATFY011	92M70	USA	500	3	0.124-	0.0992-	66	21.61	1.470
TF012-05H		Bagley	SC		0.128	0.102		/0.0158 ^b	1 272
USA-TF012-05H-								21.46	1.373
A, 2005					0.101	0.000-		42.00	1.510
RATFY011	Myco-gen	USA	500	3	0.131-	0.0887-	71	42.98	1.518
TF013-05H	0941731	Gardner	SC		0.133	0.0963		45.69	1.611
USA-TF013-05H-									
A, 2005									
RATFY011	SC 9374	USA	500	3	0.126-	0.0879-	70	15.90	1.465
TF014-05H		New	SC		0.131	0.0894		18.71	1.120
USA-TF014-05H-		Holland							
A, 2005									
RATFY011	Pioneer	USA	500	3	0.127-	0.0686-	67	22.60	0.821
TF015-05H	92M80	York	SC		0.129	0.0690		27.57	1.175
USA-TF015-05H-									
A, 2005									
RATFY011	NK 43-B1	USA	500	3	0.127-	0.0743-	66	40.04	5.460
TF016-05H		Carlyle	SC		0.128	0.0934		37.37	5.743
USA-TF016-05H-									
A, 2005									
RATFY011	Asgrow	USA	500	3	0.129	0.0729-	69	32.68	1.647
TF017-05H	AG1603	Arkansaw	SC			0.0733		/0.0158 ^b	
USA-TF017-05H-								31.00	1.749
A, 2005									
RATFY011	Dairy-land	USA	500	3	0.124-	0.0667-	69	8.100	0.337
TF018-05H	3410	Sheridan	SC		0.121	0.0723		8.446	0.346
USA-TF018-05H-									
A, 2005									
RATFY011	Asgrow 3802	USA	500	3	0.127-	0.101-	69	30.74	1.202
TF019-05H	110510 11 0002	Kiowa	SC		0.127	0.101-		36.92	1.372
USA-TF019-05H-		110wu	50		0.12)	0.100		50.72	1.372
A, 2005									
RATFY011	Pioneer	USA	500	3	0.126-	0.0736-	73	32.58	2.032
TF020-05H	93B85	St. John	SOU	5	0.126-	0.0736-	15	52.58 /0.0113 ^b	2.032
	73003	St. JUIII	SC		0.129	0.0739			1.878
USA-TF020-05H-								34.38	1.0/0
A, 2005									

FL=Formulation

No=number of applications

GS=growth stage at last application

DAT=days after last treatment

TFS: trifloxystrobin

^a Samples were taken 0–3 days after last application

^b Residues in control

Study			App	lication				Residues a	[mg/kg]	
Trial No.	Crop	Country	No	kg/ha	kg/hL	GS	DAT	TFS	CGA	Sum
Plot No.	Variety			(as)	(as)				321113	
Year	-									
RAJAN004	Pea, field	Canada	2	0.1301-	0.0929-	72	6	0.81	0.039	
RAJAN004-01-	Meadow	Whitecap		0.1305	0.0932		6	1.0	0.038	
12H, 2012								0.90	0.038	0.945
RAJAN004	Pea, field	Canada	2	0.13120.1314	0.0937-	71	6	1.0	0.039	
RAJAN004-02-	Meadow	Outlook			0.0939		6	1.1	0.040	
12H, 2012								1.0	0.04	1.09
RAJAN004	Pea, field	USA	2	0.13080.1357	0.0934-	73	7	1.3	0.055	
RAJAN004-03-	Admiral	Carring-			0.0969		7	1.3	0.048	
12H, 2012		ton						1.3	0.052	1.35
RAJAN004	Pea, field	Canada	2	0.13030.1311	0.0931-	73	8	0.67	0.027	
RAJAN004-04-	Meadow	Kenaston			0.0936		8	0.55	0.025	
12H, 2012								0.61	0.026	0.637
RAJAN004	Pea, field	Canada	2	0.1326-0.133	0.0947-	71	6	0.79	0.033	
RAJAN004-05-	Meadow	Waldheim			0.0950		6	0.77	0.031	
12H, 2012								0.78	0.032	0.813
RAJAN004	Pea, field	Canada	2	0.1329	0.0949	72	6	1.6	0.039	
RAJAN004-06-	Meadow	Alvena					6	1.4	0.038	
12H, 2012								1.5	0.385	1.54
RAJAN004	Pea, field	Canada	2	0.13090.1339	0.0935-	71	6	0.73	0.035	
RAJAN004-07-	Meadow	Wakaw			0.0956		6	1.1	0.038	
12H, 2012								0.915	0.037	0.953
RAJAN004	Pea, field	Canada	2	0.12660.1341	0.0904-	75	7	1.2	0.051	
RAJAN004-08-	Thunder-	Joseph-			0.0958		7	1.0	0.041	
12H, 2012	bird	burg						1.1	0.046	1.15
RAJAN004	Pea, field	Canada	2	0.108-0.1082	0.0771-	69	0	2.4	0.013	
RAJAN004-09-	Meadow	Rosthern			0.0773		0	3.1	0.011	
12D, 2012							3	1.7	0.030	
							3	1.6	0.032	
							7	2.3	0.035	
							7	<u>1.6</u>	<u>0.023</u>	
								<u>1.95</u>	0.029	1.98
							13	0.67	0.032	
							13	0.73	0.030	

Table 11 Residues in green parts of pea derived from trials conducted with 325 SC trifloxystrobin in Canada

No=number of applications

GS=growth stage at last application

DAT=Days after last treatment

TFS: trifloxystrobin

^a.Residues were measured in green materials.

Table 12 Residue in/on pea hay derived from trials conducted with 325 SC trifloxystrobin in/on pea in
Canada

Study			Applic	ation				Residues	s ^a [mg/kg]	
Trial No. Plot No. Year	Crop Variety	Country	No	kg/ha (as)	kg/hL (as)	GS	DAT	TFS	CGA 321113	Sum
RAJAN004 RAJAN004-01- 12H, 2012	Pea, field Meadow	Canada Whitecap	2	0.1301– 0.1305	0.0929– 0.0932	72	6 6	2.2 6.2 4.2	0.18 0.43 0.305	4.51
RAJAN004 RAJAN004-02- 12H, 2012	Pea, field Meadow	Canada Outlook	2	0.1312– 0.1314	0.0937– 0.0939	71	6 6	5.4 6.6 6.0	0.29 0.35 0.32	6.33

Study			Applic	ation				Residue	s ^a [mg/kg]	
Trial No. Plot No. Year	Crop Variety	Country	No	kg/ha (as)	kg/hL (as)	GS	DAT	TFS	CGA 321113	Sum
RAJAN004 RAJAN004-03- 12H, 2012	Pea, field Admiral	USA Carrington	2	0.1308– 0.1357	0.0934– 0.0969	73	7 7	2.1 2.1 2.1	0.13 0.041 0.086	2.19
RAJAN004 RAJAN004-04- 12H, 2012	Pea, field Meadow	Canada Kenaston	2	0.1303– 0.1311	0.0931– 0.0936	73	8 8	3.1 3.1 3.1	0.15 0.18 0.165	3.27
RAJAN004 RAJAN004-05- 12H, 2012	Pea, field Meadow	Canada Waldheim	2	0.1326– 0.133	0.0947– 0.0950	71	6 6	3.5 3.1 3.3	0.30 0.25 0.275	3.58
RAJAN004 RAJAN004-06- 12H, 2012	Pea, field Meadow	Canada Alvena	2	0.1329	0.0949	72	6 6	6.6 6.8 6.7	0.31 0.49 0.40	7.11
RAJAN004 RAJAN004-07- 12H, 2012	Pea, field Meadow	Canada Wakaw	2	0.1309– 0.1339	0.0935– 0.0956	71	6 6	6.0 4.6 5.3	0.24 0.26 0.25	5.56
RAJAN004 RAJAN004-08- 12H, 2012	Pea, field Thunder- bird	Canada Joseph- burg	2	0.1266– 0.1341	0.0904– 0.0958	75	7 7	8.2 5.3 6.75	0.23 0.15 1.19	6.95
RAJAN004 RAJAN004-09- 12D,2012	Pea, field Meadow	Canada Rosthern	2	0.108-0.1082	0.0771-0.0773	69	0 0 3 7 7 7 13 13	15 13 7.2 6.6 3.1 2.9 3.0 3.0 1.6	0.37 0.35 0.21 0.22 0.17 0.16 0.165 0.25 0.33	<u>3.17</u>

No=number of applications

GS=growth stage at last application

DAT=days after last treatment

TFS: trifloxystrobin

^a Residues were measured in hay,

Fate of residues in storage and processing

The effect of processing on trifloxystrobin residues was investigated in <u>soya beans</u> in the USA. In one trial, three foliar spray applications at rates of 0.446–0.471 kg trifloxystrobin/ha were made to soya beans with a 8 to 9-day interval between applications. Soya beans were harvested at normal maturity at a 19-day after last application (Beedle, EC and Harbin, AM 2005b.). Subsamples of the soya bean seed were removed for analysis. The remainder of the soya bean seed was used to generate aspirated grain fractions and then processed into hulls, meal, and refined oil. Processing was performed using batch procedures that simulated commercial processing practices. The residues of trifloxystrobin and CGA 321113 were determined according to method 200177. The individual analyte residues were summed to give a total trifloxystrobin residue. The limit of quantitation (LOQ) for total trifloxystrobin residue was 0.01 mg/kg in soya bean seed, hulls, meal, and refined oil, and 0.10 mg/kg in soya bean aspirated grain fractions.

Table 13 Results of processing soya beans treated with trifloxystrobin

Crop	Applic	ation		Portion analysed	Residues [mg/kg]			
Variety	FL	No	kg/ha (as)		TFS	CGA 321113	Total	Pf
	250	3	0.223-	seed	0.223	0.038	0.261	-
S56-D7	EC		0.235	hull	0.116	< 0.01	0.124	0.48
				meal	< 0.01	< 0.01	< 0.01	< 0.04
				oil, refined	0.034	< 0.01	0.034	0.13

Crop	Applic	ation		Portion analysed	Residues [mg/kg]		
Variety	FL	No	kg/ha (as)		TFS	CGA 321113	Total	Pf
				aspirated grain fractions	16.1	2.08	18.2	69.7

Residues in animal commodities

Dairy and poultry feeding studies were submitted for the 2004 JMPR review.

APPRAISAL

Trifloxystrobin was first evaluated by the JMPR in 2004 (T, R) and in 2012 (R). The 2004 Meeting established an ADI of 0–0.04 mg/kg bw and decided that ARfD was not necessary. The Meeting agreed that the residue definition for enforcement purposes for plant commodities should be trifloxystrobin per se, for animal commodities and dietary intake assessment the residue definition should be parent compound and CGA 321113 (expressed as trifloxystrobin equivalents) for plant and animal commodities.

Trifloxystrobin was listed by the Forty-sixth Session of CCPR (2014) for the evaluation by the 2015 JMPR for additional MRLs. Supervised trials data were submitted for evaluation on dry soya bean, lentil, chick pea and pea.

Analytical methods used for supervised trials were also provided.

Analytical methods

The Meeting received descriptions and validation data for analytical methods for residues of trifloxystrobin, CGA 321113 and several other metabolites in different plant matrices.

The plant materials are generally extracted with a mixture of acetonitrile/water. After filtration and concentration to the aqueous remainder, the acidified crude extract is purified, where necessary, by liquid-liquid partition. The residues are quantified by reverse-phase HPLC with MS/MS-detection. The average recoveries of trifloxystrobin and CGA 321113 and their relative standard deviations from test portions spiked at 0.01-2 mg/kg levels were for peas (100–101%, 3.1–4.7%) and soya beans (86–91%, 6.4, 19%). The limits of quantification ranged between 0.01–0.02 mg/kg.

The DFG method S19, evaluated in 2004, is suitable for enforcement.

Residues resulting from supervised trials on crops

The sum of trifloxystrobin and CGA 321113 was calculated and expressed as trifloxystrobin on the basis of the relative molecular masses. A conversion factor of 1.036 is required to express CGA 321113 as trifloxystrobin. As CGA 321113 does not generally constitute a significant proportion of the residue in crops, when the levels of trifloxystrobin or CGA 321113 were below the LOQ, their sum was calculated according to the method used by the 2004 JMPR.

Trifloxystrobin (mg/kg)	CGA 321113 (mg/kg)	Total (expressed as trifloxystrobin) (mg/kg)
< 0.01	< 0.01	< 0.01
< 0.01	0.011	0.021
0.10	< 0.02	0.10
0.92	0.16	1.1

In field trials duplicate samples were taken from each treated plot. Of the duplicate results the non-detected residues were disregarded in the calculation of average residue. As a conservative

approach, if the residues measured were 0.015 and < 0.01, the calculated average was taken as 0.015 mg/kg.

Pulses

Soya bean

The GAP in Canada allows maximum 2 times 0.0625 kg/ha treatment with a 20 day PHI. In 4 trials conducted according to GAP the residues in soya bean seeds were < 0.01 mg/kg (4).

The Brazilian GAP permits up to 4 treatments with 0.060 kg/ai/ha or 2 treatments with 0.075 kg ai/ha with a PHI of 20 days. Following treatment according to GAP the trifloxystrobin residues were below the LOQ (< 0.01 or < 0.02 mg/kg). CGA 321113 residues occurred in seven samples at 0.01–0.02 mg/kg level.

The US GAP permits 3 applications at rates between 0.0913–0.127 kg ai/ha and a PHI of 21 days. In 2003 a total of 20 trials were conducted in the USA applying trifloxystrobin three times at rates of 0.086–0.095 kg ai/ha. In addition, another 20 trials were performed in 2005 with application rates of 0.13 kg ai/ha and samples were taken at 21 days. Duplicate samples were taken from each site.

The US use patterns represent the critical GAP. The nominal application rates in US trials are within $\pm 25\%$ of the GAP. The residues of parent compound in rank order were: < 0.01 (28), 0.01 (4), 0.012, 0.014, 0.016 (2), 0.021, 0.027, and 0.041mg/kg.

The sum of residues were in rank order: < 0.01 (24), 0.012 (4), 0.021 (2), 0.023 (2), 0.024, 0.025, .026, 0.027, 0.039, 0.043, 0.057 and 0.058 mg/kg.

The Meeting estimated a maximum residue level of 0.05 mg/kg for trifloxystrobin in soya beans, and an STMR residue of 0.01 mg/kg for the sum of trifloxystrobin and CGA 321113.

Beans and peas, dry

The use of trifloxystrobin in/on dry pea, chickpea and lentil is registered in Canada and the USA.

Nine trials were conducted on dry peas and nine trials on dry beans according the GAP in Canada (1-2 application with 0.132 kg ai/ha, the PHI is 30 days). Duplicate samples were taken at each sampling interval.

In beans, the average residues of trifloxy strobin at about 30 days were < 0.01 mg/kg in all (9) samples.

The sum of trifloxystrobin and CGA 321113 residues expressed as trifloxystrobin were in rank order: < 0.01 (5), 0.021 (2), 0.022, and 0.023 mg/kg.

In peas, the residues of trifloxy strobin at about 30 days were all < 0.01 mg/kg in all (9) samples.

The sum of residues of trifloxystrobin and CGA 321113 expressed as trifloxystrobin (mg/kg) at about 30 days were: < 0.01 (3), 0.021 (2), 0.022, 0.023, 0.027 and 0.033 mg/kg.

The use pattern is the same for beans and peas and the residues are not different. Consequently the residue datasets can be combined for mutual support.

The residues of trifloxystrobin in dry bean and pea seeds were < 0.01 mg/kg.

The sum of residues in beans and peas in rank order were: < 0.01 (8), 0.021 (4), 0.022, 0.023 (2), 0.025, 0.027 and 0.033 mg/kg.

As the use pattern for lentils is the same as for beans and peas, the Meeting decided that the database is sufficient for making recommendation for these three commodities.

The Meeting estimated a maximum residue level of 0.01^* mg/kg and an STMR residue of 0.021 mg/kg for dry beans, lentils, and pea.

Animal feed

Soya bean forage and hay

Altogether 40 trials were conducted in USA in accordance with registered use patterns. Residues in forage and hay were measured and reported. However, grazing animals on soya bean fields or using forage and hay as animal feed are not permitted, therefore the results of trials were not evaluated.

Pea forage and hay

The average residues of trifloxystrobin and CGA 321113 measured in pea green materials (pea vine) obtained from trials conducted according to Canadian GAP are listed below.

Trifloxystrobin residues: 0.61, 0.78, 0.91, 0.92, 1.05, 1.10, 1.30, 1.50 and 1.95 mg/kg.

The sum of trifloxystrobin and CGA 321113 residues: 0.64, 0.81, 0.94, 0.95, 1.09, 1.15, 1.35, 1.54 and 1.98 mg/kg.

The Meeting estimated highest residue of 2 mg/kg and median residue of 1.1 mg/kg for the sum of trifloxystrobin and CGA321113 in pea vine for animal burden calculations.

The residues of trifloxystrobin and CGA 321113 (TFSA) measured in pea hay obtained from trials conducted according to Canadian GAP are listed below. Trifloxystrobin residues: 2.1, 3.0, 3.1, 3.3, 4.2, 5.3, 6.0, 6.7 and 6.8 mg/kg.

The sum of residues were in rank order: 2.2, 3.2, 3.3, 3.6, 4.5, 5.6, 6.3, 6.9 and 7.1 mg/kg

The Meeting estimated a maximum residue level of 17 mg/kg (dry weight) for peanut hay.

The Meeting estimated highest residue of 7.1 mg/kg and median residue of 4.5 mg/kg for the sum of trifloxystrobin and CGA321113 in pea hay for animal burden calculation.

Fate of Residues in Storage and Processing

Soya bean was treated with trifloxystrobin three times at a rate of 0.446-0.471 kg/ha and harvested 19 days after last application. The average total trifloxystrobin residue was 0.26 mg/kg in soya bean seed (raw agricultural commodity (RAC)), 18.2 mg/kg in soya bean aspirated grain fractions, 0.12 mg/kg in hulls, < 0.01 mg/kg in meal, and 0.03 mg/kg in refined oil. Concentration of the total trifloxystrobin residue was seen only in the soya bean aspirated grain fractions (processing factor about 70). No concentration of the total trifloxystrobin residue was seen in soya bean hulls, meal, or refined oil.

For the purpose of animal burden calculation, the Meeting estimated median residue of 0.7 mg/kg for aspirated grain fraction, 0.01 mg/kg for hull and < 0.0008 mg/kg for meal of soya bean.

Residues in animal commodities

Animal feeding studies were evaluated by the 2004 Meeting. <u>Dairy cows</u> were dosed with trifloxystrobin in capsules at the equivalent of 2, 5.9 or 21 ppm in the diet for 28–30 days. The residues measured in various samples are summarized below:

Sample	Day	Maximu	Maximum trifloxystrobin residues (mg/kg)							
		Dose 2 p	pm		Dose 5.9	ppm		Dose 21 ppm		
		Parent	321113	Total	Parent	321113	Total	Parent	321113	Total
Milk	26	-	-	-	-	-	-	< 0.01	< 0.01	< 0.02
Liver	28-30	< 0.02	< 0.02	< 0.04	< 0.02	< 0.02	< 0.04	< 0.02	0.09	0.11
Kidney	28-30	< 0.02	< 0.02	< 0.04	< 0.02	< 0.02	< 0.04	< 0.02	0.02	0.04
Perirenal fat	28-30	< 0.02	< 0.02	< 0.04				0,06	< 0.02	0.08
Omental fat	28-30	< 0.02	< 0.02	< 0.04	< 0.02	< 0.02	< 0.04	0.05	< 0.02	0.07
Round	28-30	-	-	-	-	-	-	< 0.02	< 0.02	< 0.04
Tenderloin	28-30	-	-	-	-	-	-	< 0.02	< 0.02	< 0.04

Laying hens were dosed at 1.5, 4.5 and 15 ppm level for 29 days. At the highest treatment level no residues (< 0.02 mg/kg) were detected in composite tissue samples of breast plus thigh, skin plus attached fat, peritoneal fat, liver and eggs.

The Meeting estimated the dietary burden of trifloxystrobin in farm animals on the basis of the diets listed in Annex 6 of the 2009 JMPR Report and using the estimated residues in livestock feed commodities evaluated by the present and previous Meetings.

	Trifloxyst	Trifloxystrobin animal dietary burden, ppm, of dry matter diet							
	US-Canad	US-Canada		EU Aust		Australia		Japan	
	Max	Mean	Max	Mean	Max	Mean	Max	Mean	
Beef cattle	2.17	1.15	26.6 ^a	6.97 ^b	8.24	5.00	4.53	0.84	
Dairy cattle	2.79	1.27	23.2°	6.37 ^d	8.21	4.11	2.11	0.43	
Poultry - broiler	0.11	0.11	0.069	0.069	0.15	0.15	0.03	0.03	
Poultry – layer	0.11	0.11	1.83 ^e	0.78 ^f	0.15	0.15	0.079	0.079	

^a Suitable for estimation maximum residue levels in meat

^b Suitable for estimation of median residues in meat

^c Suitable for estimation maximum residue levels in milk

^d Suitable for estimation median residue levels in milk

^e Suitable for estimation maximum residue levels in poultry meat and edible offal

^f Suitable for estimation median residue levels in poultry meat and edible offal

The maximum dietary burden of beef cattle and dairy cattle is about 30% higher than the maximum feeding level of 21 ppm. The Meeting concluded that the residues observed at the highest feeding level can still be used as a basis for estimation of maximum residues in meat, offal and milk.

The Meeting concluded that the current Codex limits cover the residues derived from the uses of trifloxystrobin and maintains its previous recommendations.

RECOMMENDATIONS

On the basis of the data from supervised trials the Meeting concluded that the residue levels listed in Annex 1 to the Report were suitable for establishing maximum residue limits and for IEDI assessment.

	Commodity	MRL, mg/kg		STMR or STMR-P
CCN	Name	proposed	previous	mg/kg
VD0071	Beans, dry	0.01*		0.021
VD0533	Lentils	0.01*		0.021
VD4511	Pea, dry	0.01*		0.021
VD0541	Soya bean	0.05		0.01

DIETARY RISK ASSESSMENT

Long-term intake

The International Estimated Daily Intakes (IEDIs) of trifloxystrobin were calculated for the 17 GEMS/Food cluster diets using STMRs and STMR-Ps estimated by the JMPR in 2004, 2012 and the current meeting. The results are shown in Annex 3 to the 2015 Report.

The ADI is 0–0.04 mg/kg bw and the calculated IEDIs were 1–4% of the maximum ADI. The Meeting concluded that the long-term intake of residues of trifloxystrobin from the uses considered by the JMPR is unlikely to present a public health concern.

The 2004 JMPR decided that it was unnecessary to establish an ARfD. The present Meeting therefore concluded that the short-term intake of trifloxystrobin residues is unlikely to present a public health.

REFERENCES

Code	Author	Year	Title, Institute, Report reference
06BCS-14	Ardiel, KD	2007	Stratego 250EC—Magnitude of the residue in/on soya beans. Bayer
			CropScience, Rockwood, Canada. Bayer CropScience AG, Report No.
			06BCS-14, Edition Number: M-281843-01-1, includes 05BCS06-01-
			05D, 05BCS06-02-05H, 05BCS06-03-05H, 05BCS06-04-05H.
			Unpublished.
RCTFY004	Beedle, EC &	2005a	Stratego 250 EC-Magnitude of the residue in/on soya beans. Bayer
	Harbin, AM		CropScience LP, Stilwell, KS, USA. Bayer CropScience AG, Report No.
			RCTFY004, Edition Number: M-248319-01-1, includes FL079-03H,
			FL080-03H, FL081-03H, FL082-03H, FL083-03D, FL084-03D, FL085-
			03H, FL086-03H, FL087-03H, FL088-03H, FL089-03H, FL090-03H,
			FL091-03H, FL092-03H, FL093-03H, FL094-03H, FL095-03H, FL096-
			03H, FL097-03H, FL098-03H. Unpublished.
RCTFY005	Beedle, EC &	2005b	Stratego 250 EC-Magnitude of the residue in/on soya bean aspirated
	Harbin, AM		grain fractions and soya bean processed commodities. Bayer CropScience
			LP, Stilwell, KS, USA. Bayer CropScience AG, Report No. RCTFY005,
			Edition Number: M-248315-01-1, includes FL077-03P. Unpublished.
	Brumhard, B &	2007	Analytical method 01013 for the simultaneous determination of residues
	Stuke S 2007		of the active items BYF00587, prothioconazole, tebuconazole,
			trifloxystrobin and the metabolites BYF00587-desmethyl, JAU6476-
			desthio (SXX0665) and CGA 321113 in/on plant material by HPLC-
			MS/MS. Bayer CropScience AG, Monheim, Germany. Bayer
			CropScience AG, Method No.: 01013, Edition Number: M-283439-03-1.
200177		2002	Unpublished.
200177	de Haan, RA	2002	Analytical method for the determination of residues of trifloxystrobin (
			Flint) and trifloxystrobin acid in/on tomatoes and peppers by LC-
			MS/MS. Bayer Corporation, Stilwell, KS, USA. Bayer CropScience AG,
UNESP RA-	Galhiane, MS & de	2006b	Report No.:200177, Edition Number: M-070236-01-1. Unpublished. Relatorio de estudo de residuo de Nativo WG (trifloxystrobin +
992/06	Sousa, SL	20000	metabolito & tebuconazole) em soja (analises realizadas em sementes).
992/00	Sousa, SL		Universidade Estadual Paulista (UNESP), Bauru, Brazil. Bayer
			CropScience AG, Report No.:UNESP RA-992/06, Edition Number: M-
			276619-02-1, includes FR05BRA001-P1. Unpublished.
UNESP RA-	Galhiane, MS & de	2006d	Relatorio de estudo de residuo de Nativo WG (trifloxystrobin +
993/06	Sousa, SL	20060	metabolito & tebuconazole) em soja (analises realizadas em sementes).
<i>yys</i> /00	boubu, bE		Universidade Estadual Paulista (UNESP), Bauru, Brazil. Bayer
			CropScience AG, Report No.:UNESP RA-993/06, Edition Number: M-
			276661-02-1, includes FR05BRA001-P2. Unpublished.
UNESP RA-	Galhiane, MS & de	2006f	Relatorio de estudo de residuo de Nativo WG (trifloxystrobin +
994/06	Sousa, SL	20001	metabolito & tebuconazole) em soja (analises realizadas em sementes).
	,		Universidade Estadual Paulista (UNESP), Bauru, Brazil. Bayer
			CropScience AG, Report No.: UNESP RA-994/06, Edition Number: M-
			276638-02-1, includes FR05BRA001-P3. Unpublished.
RATFY011	Krolski, M	2007	Absolute 500 SC—Magnitude of the residue in/on soya beans. Bayer
			CropScience LP, Stilwell, KS, USA. Bayer CropScience AG, Report No.
			RATFY011, Edition Number: M-285130-01-1, includes TF001-05H,
			TF002-05H, TF003-05H, TF004-05H, TF005-05D, TF006-05D, TF007-
			05H, TF008-05H, TF009-05H, TF010-05H, TF011-05H, TF012-05H,
			TF013-05H, TF014-05H, TF015-05H, TF016-05H, TF017-05H, TF018-
			05H, TF019-05H, TF020-05H. Unpublished.
RAJAN003	Milo, J & Harbin, A	2013a	Fox 325 SC foliar fungicide: Magnitude of trifloxystrobin residue in/on
			dry bean (Phaseolus spp) following treatment with SP102000010777
			(prothioconazole/trifloxystrobin). Activation Laboratories Ltd, Ancaster,
			Canada. Bayer CropScience AG, Report No.: RAJAN003, Edition
			Number: M-448944-01-1, includes RAJAN003-01-12H, RAJAN003-02-
			12H, RAJAN003-03-12H, RAJAN003-04-12H, RAJAN003-05-12H,
			RAJAN003-06-12H, RAJAN003-07-12H, RAJAN003-08-12D,

Trifloxystrobin

Code	Author	Year	Title, Institute, Report reference
			RAJAN003-09-12H. Unpublished.
RAJAN004	Milo, J & Harbin, A	2013b	Fox 325 SC foliar fungicide: Magnitude of trifloxystrobin residue in/on dry pea (Pisum spp) following treatment with SP102000010777
			(prothioconazole/trifloxystrobin). Activation Laboratories Ltd, Ancaster, Canada. Bayer CropScience AG, Report No.: RAJAN004, Edition
			Number: M-448947-01-1, includes RAJAN004-01-12H, RAJAN004-02-
			12H, RAJAN004-03-12H, RAJAN004-04-12H, RAJAN004-05-12H, RAJAN004-06-12H, RAJAN004-07-12H, RAJAN004-08-12H,
MD 079/02		2002	RAJAN004-09-12D. Unpublished.
MR-078/02	Nuesslein, F	2002	Method 00742 for the determination of residues of trifloxystrobin (paren compound) and CGA 321113 (metabolite) in/on sample materials of carrot, Brussels sprouts, cabbage, tomato, red pepper and lettuce by
			HPLC-MS/MS. Bayer AG, Leverkusen, Germany. Bayer CropScience AG, Method No.: 00742, Edition Number: M-060431-01-1, Report No.:
MR-052/03	Nuesslein, F	2003	MR-078/02. Unpublished. Supplement E001 of the method 00742 for the determination of residues
MIR-032/03	Nuessieni, 1	2003	of Trifloxystrobin and CGA 321113 in/on the additional sample material bean, broccoli, cauliflower, cherry, cucumber, currant, leek, melon, plum and strawberry. Bayer CropScience AG, Method No.: 00742/E001, Edition Number: M-089461-01-1, Report No.: MR-052/03. Unpublished
F09-022	Resende, G	2011	Determinação de resíduos de tebuconazol e trifloxistrobina e seu
	, _		metabólito CGA-321113 na cultura de soja após a pulverização de Nativo
			(300 SC) juntamente com o adjuvante óleo metilado de soja em ensaios
			no Brasil. Bayer S.A., Bayer CropScience, Sao Paulo, Brazil. Bayer
			CropScience AG, Report No.: F09-022, Edition Number: M-400361-02- 1, includes F09-022-01, F09-022-02, F09-022-03, F09-022-04. Unpublished.
F11-035	Santiago, L	2012a	Determinação de resíduos de prothioconazole e trifloxystrobin e seus
111-055			respectivos metabólitos na cultura da soja após a pulverização de Fox (325 SC) juntamente com o adjuvante óleo metilado de soja em ensaios no Brasil. Bayer S.A., Bayer CropScience, Sao Paulo, Brazil. Bayer
			CropScience AG, Report No.: F11-035, Edition Number: M-435784-02- 1, includes F11-035-01, F11-035-02, F11-035-03, F11-035-04, F11-035-
E11 026	Contingo I	20126	05. Unpublished.
F11-036	Santiago, L	2012b	Determinação de resíduos de prothioconazole e trifloxystrobin e seus respectivos metabólitos na cultura da soja após a pulverização de Fox
			(325 SC) juntamente com o adjuvante óleo metilado de soja em ensaios
			no Brasil. Bayer S.A., Bayer CropScience, Sao Paulo, Brazil. Bayer
			CropScience AG, Report No.: F11-036, Edition Number: M-435785-02-
			1, includes F11-036-01, F11-036-02, F11-036-03, F11-036-04, F11-036-05. Unpublished.
01313	Stuke, S	2013	Development of the residue analytical method 01313 for the
			determination of CGA279202, CGA357262, CGA357261, CGA331409, CGA321113, and CGA373466 by HPLC-MS/MS (amendment no. 1 to
			report). Bayer CropScience AG, Monheim, Germany. Bayer CropScience AG, Method No.: 01313, Edition Number: M-411496-02-1. Unpublished
00765	Sur, R	2003	Analytical method 00765 for the determination of residues of SPHERE (Trifloxystrobin, CGA 321113 and Cyproconazole) in/on cucumber,
			green pepper, melon and tomato by HPLC-MS/MS after microwave-
			assisted extraction crops and animal substrates by gas chromatography.
			Bayer CropScience AG, Monheim, Germany. Bayer CropScience AG, Method No.: 00765, Edition Number: M-077834-01-1. Unpublished.

TRANSLATIONS OF REPORTS OF BRAZILIAN TRIALS

Code	Author	Year	Title, Institute, Report reference
F09-022	Anon	2010	Tebuconazole + trifloxystrobin (200+100); 300 SC; soya bean; Brasil;
			BBA. Bayer S.A., Bayer CropScience, Sao Paulo, Brazil. Bayer
			CropScience AG, Report No.: F09-022, Edition Number: M-496466-01-
			1, includes F09-022-01, F09-022-02, F09-022-03, F09-022-04.
			Unpublished. Translation of Resende, G, 2011.
F11-035	Anon	2012a	JAU 6476 & CGA 279202; soya bean; SC 325; Brazil; BBA. Bayer S.A.,
			Bayer CropScience, Sao Paulo, Brazil. Bayer CropScience AG, Report
			No.: F11-035, Edition Number: M-444431-01-1, includes F11-035-01,

Code	Author	Year	Title, Institute, Report reference
			F11-035-02, F11-035-03, F11-035-04, F11-035-05. Unpublished. Translation of Santiago, L, 2012a.
F11-036	Anon	2012b	JAU 6476 & CGA 279202; soya bean; SC 325; Brazil; BBA. Bayer S.A.
			Bayer CropScience, Sao Paulo, Brazil. Bayer CropScience AG, Report
			No.: F11-036, Edition Number: M-444463-02-1, includes F11-036-01,
			F11-036-02, F11-036-03, F11-036-04, F11-036-05. Unpublished.
			Translation of Santiago, L, 2012b.
UNESP-RA-	Galhiane, MS & de	2006a	Tebuconazol & Trifloxystrobin; 75 WG; soya; Brazil; BBA.
992/06	Sousa, SL		Universidade Estadual Paulista (UNESP), Bauru, Brazil. Bayer
			CropScience AG, Report No.: UNESP-RA-992/06, Edition Number: M-
			276619-01-2, includes FR05BRA001-P1. Unpublished. Translation of
			Galhiane, MS & de Sousa, SL, 2006b.
UNESP RA-	Galhiane, MS & de	2006c	Tebuconazol & Trifloxystrobin; 75 WG; soya; Brazil; BBA.
993/0	Sousa, SL		Universidade Estadual Paulista (UNESP), Bauru, Brazil. Bayer
			CropScience AG, Report No.: UNESP RA-993/06, Edition Number: M-
			276661-01-2, includes FR05BRA001-P2. Unpublished. Translation of
			Galhiane, MS & de Sousa, SL, 2006d.
UNESP RA-	Galhiane, MS & de	2006e	Tebuconazol & Trifloxystrobin; 75 WG; soya; Brazil; BBA.
994/06	Sousa, SL		Universidade Estadual Paulista (UNESP), Bauru, Brazil. Bayer
			CropScience AG, Report No.: UNESP RA-994/06, Edition Number: M-
			276638-01-2, includes FR05BRA001-P3. Unpublished. Translation of
			Galhiane, MS & de Sousa, SL, 2006f.