

## CHLORANTRANILIPROLE (230)

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### EXPLANATION

Chlorantraniliprole is an insecticide that operates by a highly specific biochemical mode of action. It was first evaluated for residues and toxicological aspects by the 2008 JMPR. The 2008 JMPR established an ADI for chlorantraniliprole of 0–2 mg/kg bw and concluded that an ARfD was unnecessary.

The 2008 JMPR also recommended the following residue definition for Chlorantraniliprole:

Definition of the residue for compliance with the MRL and dietary risk assessment in plant and animal commodities: *Chlorantraniliprole*

*The residue is fat-soluble.*

Chlorantraniliprole was last evaluated in 2016 for additional maximum residue levels. At the Fiftieth Session of the CCPR, chlorantraniliprole was listed for consideration of additional uses by the 2019 Extra JMPR. The Meeting received information on registered use patterns, supervised residue trials on beans, peas and oil palm with product labels from Malaysia and the USA.

### RESIDUE ANALYSIS

#### Analytical methods

Chlorantraniliprole was first evaluated by the JMPR in 2008. Supervised field trials submitted to the current Meeting were analysed using a slightly modified method 13294 or method 13261 both already evaluated by the 2008 JMPR based on LC-MS/MS. The following additional recovery data were reported for these methods:

Table 1 Recovery data for method 13294 (modified) in plant matrices (Dorsey, S., 2018, CHLORANT19E\_001)

Matrix	Fortification level (mg/kg)	n	Recovery in % (mean)	RSD (%)	Analyte
Peas, dry without shell	0.01	5	90-98 (92)	3	Chlorantraniliprole
	0.1	5	87-102 (96)	7	

Table 2 Recovery data for method 13261 in plant matrices (Petrova, D., 2017, CHLORANT19E\_002)

Matrix	Fortification level (mg/kg)	n	Recovery in % (mean)	RSD (%)	Analyte, Mass transition
Palm oil fruit	0.01	7	74-89 (79)	6	Chlorantraniliprole m/z 484 → 453
	0.1	7	87-107 (92)	8	
	0.5	1	78	-	
	0.01	5	79-88 (84)	4	Chlorantraniliprole m/z 484 → 286
	0.1	5	89-101 (93)	5	
Kernel oil	0.01	7	89-108 (101)	7	Chlorantraniliprole m/z 484 → 453
	0.1	7	69-81 (76)	5	
	0.01	5	106-109 (108)	1	Chlorantraniliprole m/z 484 → 286
	0.1	5	77-84 (81)	4	

Matrix	Fortification level (mg/kg)	n	Recovery in % (mean)	RSD (%)	Analyte, Mass transition
Oil palm kernels	0.01	2	71-73 (72)	-	Chlorantraniliprole m/z 484 → 453
	0.1	2	85-88 (86)	-	
Oil palm Mesocarp oil	0.01	2	82-99 (95)	-	Chlorantraniliprole m/z 484 → 453
	0.1	2	72-81 (76)	-	
	1.0	1	93	-	
Oil palm Mesocarp cake	0.01	2	92-98 (95)	-	Chlorantraniliprole m/z 484 → 453
	0.1	2	81-119 (100)	-	
	0.5	1	82	-	
Oil palm Kernel cake	0.01	2	88-93 (90)	-	Chlorantraniliprole m/z 484 → 453
	0.1	2	84-88 (86)	-	

### USE PATTERN

Chlorantraniliprole is intended for insecticidal use in beans, peas and oil palm by a foliar spray application in Malaysia and the USA.

Table 3 List of uses of Chlorantraniliprole

Crops or crop groups	Country	Application detail				
		kg ai/ha	Indoor/ Outdoor	No.	Interval in days	Pre harvest interval (PHI) in days
Legume Vegetables (succulent or dried) <sup>a</sup>	USA	0.11 (max. 0.225 kg ai/ha and season)	Outdoor	4	3	1
Oil Palm	Malaysia	0.03	Outdoor	2	14	1

<sup>a</sup> Including Bean (Lupinus) (includes grain lupin, sweet lupin, white lupin, and white sweet lupin); bean (Phaseolus) (includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean); bean (Vigna) (includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean); broad bean (fava); chickpea (garbanzo); guar; jackbean; lablab bean; lentil; pea (Pisum) (includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea); pigeon pea; sword bean

### RESULTS OF SUPERVISED RESIDUE TRIALS ON CROPS

Residue levels were reported as measured. Application rates were always reported as chlorantraniliprole equivalents. When residues were not detected they are shown as below the LOQ, e.g., < 0.01 mg/kg. Application rates, spray concentrations and mean residue results have generally been rounded to the even with two significant figures. The values from the trials conducted according to maximum GAP selected for the estimation of maximum residue levels, STMR and HR are underlined.

Laboratory reports included method validation including batch recoveries with spiking at residue levels similar to those occurring in samples from the supervised trials. Dates of analyses or duration of residue sample storage were also provided. Field reports provided data on the sprayers used and their calibration, plot size, residue sample size and sampling date. Although trials included control plots, no control data are recorded in the tables except where residues in control samples exceeded the LOQ. Residue data are recorded unadjusted for percent recovery.

Chlorantraniliprole - supervised residue trials

Commodity	Indoor/Outdoor	Treatment	Countries	Table
Beans	Outdoor	Foliar	USA	4
Peas	Outdoor	Foliar	USA	5
Oil palm	Outdoor	Foliar	Malaysia	6

Table 4 Residues of chlorantraniliprole following spray treatment on beans, dry

Location, Year (variety)	Application			Residues, mg/kg			Report/Trial No., Reference, analytical method, validation data, storage interval
	kg ai/ha	Inter- val days	kg ai/hL	Sample	DALA	Parent	
USA: 2×0.11 kg ai/ha (max. 0.225 kg ai/ha and season), 3 d RTI, 1 d PHI							
USA, Richland (IA) 2017 (Red Kidney Dark)	2 × 0.11	3	0.051	Dry seed	1	0.022, 0.028 (0.025)	48825-06, CHLORANT19E_001 Method: 13294 Storage interval:6 months
USA, York (NE) 2017 (Great Northern)	2 × 0.11	3	0.06	Dry seed	1	0.044, 0.058 (0.051)	48825-07, CHLORANT19E_001 Method: 13294 Storage interval:6 months
USA, Northwood (ND) 2017 (Medalist)	2 × 0.11	3	0.059	Dry seed	1	0.011, 0.011 (0.011)	48825-08, CHLORANT19E_001 Method: 13294 Storage interval:6 months
USA, Carlyle (IL) 2017 (Pinto)	2 × 0.11	3	0.062 0.085	Dry seed	1	0.01, 0.022 (0.016)	48825-09, CHLORANT19E_001 Method: 13294 Storage interval:6 months
USA, Vevla (ND) 2017 (T-9905)	2 × 0.11	3	0.096	Dry seed	1	0.013, 0.013 (0.013)	48825-10, CHLORANT19E_001 Method: 13294 Storage interval:6 months

DALA: days after last application

Table 5 Residues of chlorantraniliprole following spray treatment on peas, dry

Location, Year (variety)	Application			Residues, mg/kg			Report/Trial No., Reference, analytical method, validation data, storage interval
	kg ai/ha	Inter- val days	kg ai/hL	Sample	DALA	Parent	
USA: 2×0.11 kg ai/ha (max. 0.225 kg ai/ha and season), 3 day RTI, 1 day PHI							
USA, Jerome (ID) 2017 (Strike)	2 × 0.11	3	0.056	Dry seed	1	0.037, 0.035 (0.036)	48825-01, CHLORANT19E_001 Method: 13294 Storage interval:6 months
USA, Ephrata (WA) 2017 (Dundale)	2 × 0.11	3	0.059	Dry seed	1	0.059, 0.054 (0.056)	48825-02, CHLORANT19E_001 Method: 13294 Storage interval:6 months
USA, Oregon City (OR) 2017	2 × 0.11	3	0.048	Dry seed	1	0.19, 0.16 (0.18)	48825-03, CHLORANT19E_001 Method: 13294

Location, Year (variety)	Application			Residues, mg/kg			Report/Trial No., Reference, analytical method, validation data, storage interval
	kg ai/ha	Inter- val days	kg ai/hL	Sample	DALA	Parent	
(Columbia Green Peas)							Storage interval:6 months
USA, Payette (ID) 2017 (Wando)	2 × 0.11	3	0.04	Dry seed	1	0.021, 0.026 (0.024)	48825-04, CHLORANT19E_001 Method: 13294 Storage interval:6 months
USA, Parkdale (OR) 2017 (Progress #9)	2 × 0.11	3	0.058	Dry seed	1	0.047, 0.061 (0.054)	48825-05, CHLORANT19E_001 Method: 13294 Storage interval:6 months

DALA: days after last application

Table 6 Residues of chlorantraniliprole following spray treatment on oil palms

Location, Year (variety)	Application				Residues, mg/kg			Report/Trial No., Reference, analytical method, validation data, storage interval
	kg ai/ha	Inter- val days	kg ai/hL	Growth stage	Sample	DALA	Parent	
Malaysia: 2×0.03 kg ai/ha, 14 day RTI, 1 day PHI								
Malaysia, Selangor 2015 (Temera DxP)	2 × 0.03	14	2 × 0.015	BBCH 61-85	Palm fruit	0 1 3 7 14 21	0.091 0.25 0.27 0.22 0.29 <u>0.38</u>	MRID50234701-S15-04277-01, CHLORANT19E_002 Method: DuPont 13261 Storage interval: 4 months
	2 × 0.06	14	2 × 0.03	BBCH 61-85	Palm fruit	0 1 3 7 14 21	0.3 0.36 0.2 0.12 0.35 0.33	
Malaysia, Melaka 2015 (DxP)	2 × 0.03	14	2 × 0.015	BBCH 61-85	Palm fruit	1	<u>0.18</u>	MRID50234701-S15-04277-02, CHLORANT19E_002 Method: DuPont 13261 Storage interval: 4 months
	2 × 0.06	14	2 × 0.03	BBCH 61-85	Palm fruit	1	0.23	
Malaysia, Sungkai 2015 (Young Gambi)	2 × 0.03	14	2 × 0.015	BBCH 61-85	Palm fruit	1	<u>0.2</u>	MRID50234701-S15-04277-03, CHLORANT19E_002 Method: DuPont 13261 Storage interval: 4 months
	2 × 0.064	14	2 × 0.03	BBCH 61-85	Palm fruit	1	0.29	
Malaysia, Slim River 2015 (DxP)	2 × 0.03	14	2 × 0.015	BBCH 61-85	Palm fruit	1	<u>0.19</u>	MRID50234701-S15-04277-04 CHLORANT19E_002 Method: DuPont 13261 Storage interval: 4 months
	2 × 0.062	14	2 × 0.03	BBCH 61-85	Palm fruit	1	0.52	

DALA: days after last application

**FATE OF RESIDUES DURING PROCESSING****Residues after processing**

The fate of Chlorantraniliprole during processing of raw agricultural commodity (RAC) was investigated in supervised field trials on oil palms.

In the study conducted by Petrova, D. (2017, CHLORANT19E\_002), oil palm fruits were processed into mesocarp oil and cake, kernels, kernel oil and kernel cake.

Processing to mesocarp cake and mesocarp oil: Spikelets were sterilised to gain sterilised fruits. To gain the mesocarp oil the sterilised fruits were pressed immediately after sterilization to receive raw mesocarp oil. After filtration/dehydration of the oil, fractions of samples were taken. The pressed fruits were separated into mesocarp cake and nuts.

Processing into kernels, kernel cake and kernel oil: After drying, an aliquot of the nuts were separated into kernels and shells. Sample fractions were taken from the dried kernels. The rest of the kernels were ground to raw kernel cake. An aliquot of the ground kernel was used for extraction to gain palm kernel oil and kernel cake after extraction.

In the following table the processing factors derived from the supervised field trial results (see section Residues from supervised field trials) are summarized:

Table 7 Processing factors for chlorantraniliprole in processed oil palm fruits based on supervised field trial data

Trial, Location	Application	Matrix	Chlorantraniliprole in mg/kg	PF
MRID50234701-S15-04277-01 Malaysia, Selangor	2 × 0.03 kg ai/ha, 14 d interval, 1 DALA	Oil palm fruits (RAC)	0.19 0.36	- 1.9
		Mesocarp oil	0.072	0.38
		Mesocarp cake	<0.01	<0.05
		Kernels	0.02	0.11
		Kernel oil	<0.01	<0.05
		Kernel cake		
	2 × 0.06, 14 d interval, 1 DALA	Oil palm fruits (RAC)	0.26 1.0	- 3.8
		Mesocarp oil	0.37	1.4
		Mesocarp cake	<0.01	<0.04
		Kernels	<0.01	<0.04
Kernel oil		<0.01	<0.04	
Kernel cake				
MRID50234701-S15-04277-02 Malaysia, Melaka	2 × 0.03 kg ai/ha, 14 d interval, 1 DALA	Oil palm fruits (RAC)	0.25 0.47	- 1.9
		Mesocarp oil	0.27	1.1
		Mesocarp cake	<0.01	<0.04
		Kernels	<0.01	<0.04
		Kernel oil	<0.01	<0.04
		Kernel cake		
	2 × 0.06 kg ai/ha, 14 d interval, 1 DALA	Oil palm fruits (RAC)	0.22 0.75	- 3.4
		Mesocarp oil	0.41	1.9
		Mesocarp cake	<0.01	<0.05
		Kernels	<0.01	<0.05
Kernel oil		<0.01	<0.05	
Kernel cake				
MRID50234701-S15-04277-03 Malaysia, Sungkai	2 × 0.03 kg ai/ha, 14 d interval, 1 DALA	Oil palm fruits (RAC)	0.21 0.34	- 1.6
		Mesocarp oil	0.18	0.86
		Mesocarp cake	<0.01	<0.05
		Kernels	<0.01	<0.05
		Kernel oil	<0.01	<0.05
		Kernel cake		

Trial, Location	Application	Matrix	Chlorantraniliprole in mg/kg	PF
	2 × 0.064 kg ai/ha, 14 d interval, 1 DALA	Oil palm fruits	0.32	-
		(RAC)	1.0	3.1
		Mesocarp oil	0.38	1.2
		Mesocarp cake	<0.01	<0.03
		Kernels	<0.01	<0.03
		Kernel oil	<0.01	<0.03
MRID50234701-S15-04277-04 Malaysia, Slim River	2 × 0.03 kg ai/ha, 14 d interval, 1 DALA	Oil palm fruits	0.19	-
		(RAC)	<0.01	<0.05
	Kernels			
	2 × 0.062 kg ai/ha, 14 d interval, 1 DALA	Oil palm fruits	0.52	-
		(RAC)	<0.01	<0.02
		Kernels		

In a second study residues of chlorantraniliprole in palm oil (mesocarp oil) and palm kernel oil were measured in one supervised field trial in Malaysia (Loong *et al.*, 2009, CHLORANT19E\_003). Oil palm trees were treated with two spray application up to two weeks before harvest involving application rates of 0.01 or 0.02 kg ai/ha. Samples of palm fruits were collected immediately after the last application and after up to 14 days.

The palm fruits were processed into crude palm oil (=mesocarp oil) and palm kernel oil after the processing scheme:

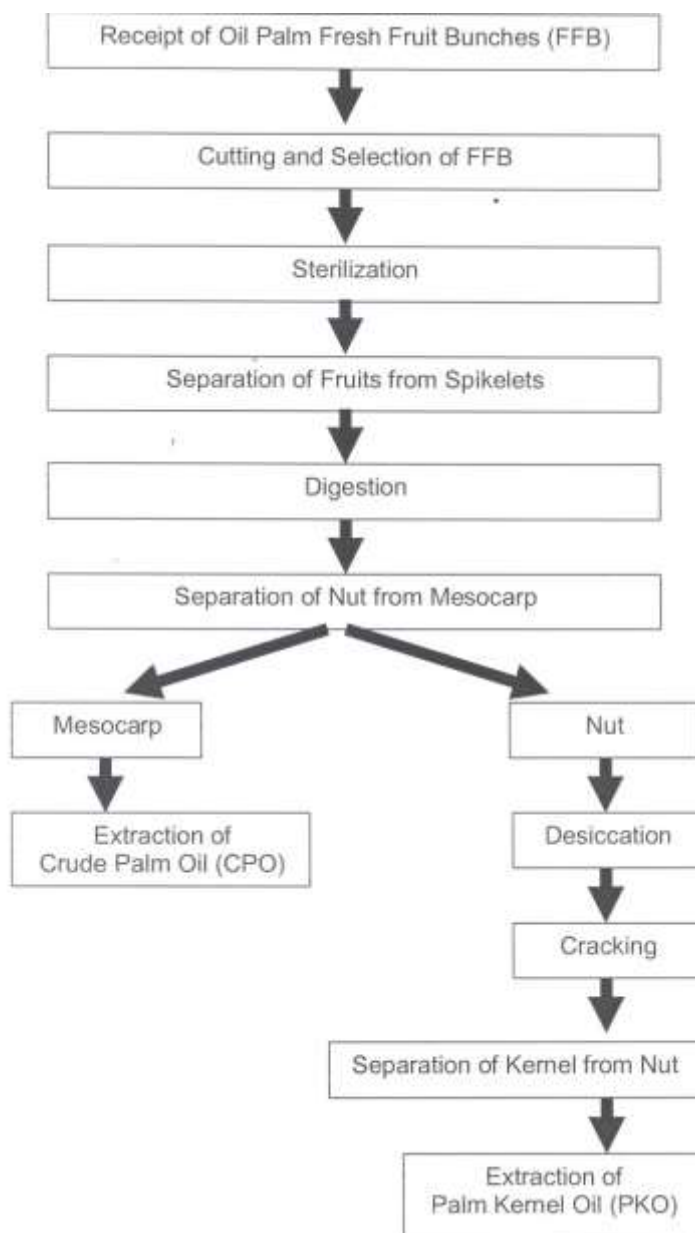


Figure 1 Process flow chart for palm oil

The digestion was conducted by a grinding machine at 15 rpm for 20 min, which mash the outer layers of the fruits but did not crack the nuts. The mashed mesocarp was pressed to gain the crude palm oil. The nuts were separated after the digestion, dried at  $90 \pm 5$  °C for 1 hour (“desiccation”), cracked and finally extracted after grinding by Soxhlet extraction.

All samples were analysed with a GC-ECD method supported with the concurrent recovery data (91–134%, 6% RSD).

In the following table the results from both plots are summarized. No raw palm fruits suitable as RAC were analysed, thus no processing factors can be derived from this study.

Table 8 Residues of chlorantraniliprole following spray treatment on oil palms

Location, Year (variety)	Application				Residues, mg/kg			Report/Trial No., Reference, analytical method, validation data, storage interval
	kg ai/ha	Inter- val days	kg ai/hL	Growth stage	Sample	DALA	Parent	
Malaysia, Sungkai 2009  (not stated)	2 × 0.01	14	2 × 0.005	Young mature up to fruiting stage	Crude	0	0.01	SIME DARBY-DP/2009/01, CHLORANT19E_003  Method: In-house GC-ECD method Storage interval: 2 months
					Palm oil (=mesocarp oil)	1 3 7 14 21	0.02 0.02 0.01 <0.01 0.02	
Palm kernel oil	0 1 3 7 14	<0.01 <0.01 <0.01 <0.01 <0.01						
2 × 0.02	14	2 × 0.01	Young mature up to fruiting stage	Crude	0	0.03		
Palm oil (=mesocarp oil)	1 3 7 14 21	0.05 0.13 0.03 0.05 0.03						
Palm kernel oil	0 1 3 7 14	<0.01 <0.01 <0.01 <0.01 <0.01						

DALA: days after last application

Table 9 Summary of processing factors

RAC	Processed commodity	Individual PF's	Median or best estimate PF
Oil palm fruits	Mesocarp oil	1.6, 1.9, <u>1.9</u> , <u>3.1</u> , 3.4, 3.8	2.5
	Mesocarp cake	0.38, 0.86, <u>1.1</u> , <u>1.2</u> , 1.4, 1.9	1.2
	Kernels	<0.02, <0.03, <0.04, < <u>0.04</u> , < <u>0.05</u> (4)	<0.04
	Kernel oil	<0.03, <0.04, < <u>0.04</u> , < <u>0.05</u> , <0.05, 0.11	<0.04
	Kernel cake	<0.03, <0.04, < <u>0.04</u> , < <u>0.05</u> (3)	<0.04

### APPRAISAL

Chlorantraniliprole is an insecticide that operates by a highly specific biochemical mode of action. It was first evaluated for residues and toxicological aspects by the 2008 JMPR. The 2008 JMPR established an ADI for chlorantraniliprole of 0–2 mg/kg bw and concluded that an ARfD was unnecessary.

The 2008 JMPR also recommended the following residue definition for Chlorantraniliprole:

Definition of the residue for compliance with the MRL and dietary risk assessment in plant and animal commodities: *Chlorantraniliprole*

*The residue is fat-soluble.*

Chlorantraniliprole was last evaluated in 2016 for additional maximum residue levels. At the Fiftieth Session of the CCPR (2018), chlorantraniliprole was listed for consideration of additional uses



by the 2019 Extra JMPR. The Meeting received information on registered use patterns, supervised residue trials on beans, peas and oil palm with product labels from Malaysia and the USA.

### ***Methods of analysis***

The current Meeting received additional concurrent recovery information for the analysis of chlorantraniliprole in plant matrices.

A minor modification of method 13261, which was previously evaluated by the 2008 JMPR, was additionally tested for dry peas, oil palm fruits, kernels and kernel oil as well as for the palm fruit mesocarb and mesocarb oil. The method involves analysis by LC-MS/MS techniques and was successfully validated at a LOQ of 0.01 mg/kg for all matrices investigated.

### ***Results of supervised residue trials on crops***

The Meeting received supervised trial data for applications of chlorantraniliprole on dry beans and peas as well as on oil palms conducted in the USA and Malaysia, respectively.

#### ***Dry beans (except dry soya beans) and dry peas***

Chlorantraniliprole is registered for use on legume vegetables (succulent and dried) in the USA with a maximum GAP involving two foliar sprays of 0.11 kg ai/ha each (3 day interval), a maximum seasonal rate of 0.23 kg ai/ha and a PHI of 1 day.

Corresponding supervised field trials conducted in the USA on dry beans and dry peas matching this GAP were submitted.

Residues of chlorantraniliprole in beans, dry were (n=5): 0.011, 0.013, 0.016, 0.025 and 0.051 mg/kg.

Residues of chlorantraniliprole in peas, dry were (n=5): 0.024, 0.036, 0.054, 0.056 and 0.18 mg/kg.

The Meeting noted that residues in both commodities are not significantly different, which was confirmed by the Mann-Whitney-U Test. Since dry beans and peas are both representative commodities for the sub-groups dry beans (VD 2065) and dry peas (VD 2066), the Meeting decided to combine the datasets for mutual support.

Combined residues of chlorantraniliprole in beans, dry and peas, dry were (n=10): 0.011, 0.013, 0.016, 0.024, 0.025, 0.036, 0.051, 0.054, 0.056 and 0.18 mg/kg.

The US GAP does not include treatment of soya beans, which are also covered in the Codex sub-groups dry beans (VD 2065). Therefore the Meeting decided to exclude soya beans from its recommendations.

The Meeting estimated a maximum residue level of 0.3 mg/kg and a STMR value of 0.0305 mg/kg for chlorantraniliprole in dry beans (VD 2065), except dry soya beans and in dry peas (VD 2066).

#### ***Palm fruit***

Chlorantraniliprole is registered for use on oil palms in Malaysia with two foliar sprays of 0.03 kg ai/ha each (14 day interval) and a PHI of 1 day. Four corresponding supervised field trial conducted in Malaysia were submitted.

Residues of chlorantraniliprole in palm fruits were (n=4): 0.18, 0.19, 0.2, 0.38 mg/kg.

The Meeting estimated a maximum residue level of 0.8 mg/kg and a STMR value of 0.195 mg/kg for chlorantraniliprole in palm fruits.

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

The fate of chlorantraniliprole residues has been examined under conditions simulating commercial processing of oil palm fruits.

Estimated processing factors for the commodities considered at this Meeting are summarized below.

Raw commodity	Processed commodity	Chlorantraniliprole			
		Individual processing factors	Mean or best estimate processing factor	STMR-P in mg/kg	Maximum residue level in mg/kg
Oil palm fruit (STMR: 0.195 mg/kg, maximum residue level: 0.8 mg/kg)	Mesocarp oil (= Palm oil)	1.6, 1.9, 1.9, 3.1, 3.4, 3.8	2.6	0.507	2
	Kernel oil (=Palm kernel oil, crude)	<0.03, <0.04, <0.04, <0.05, <0.05, 0.11	<0.05	0.0098	Not necessary
	Kernel cake (=Palm, kernel meal)	<0.03, <0.04, <0.04, <0.05(3)	<0.04	0.0078	Not necessary

For palm oil, crude (=mesocarp oil) the Meeting estimated a maximum residue level of 2 mg/kg and a STMR-P of 0.507 mg/kg, based on a mean processing factor of 2.6.

For palm kernel oil and palm kernel cake the Meeting estimated STMR-P values of 0.0098 mg/kg and 0.0078 mg/kg, respectively. No specific maximum residue levels are required since no accumulation of residues was observed.

### *Residues in animal commodities*

The Meeting recalculated the livestock dietary burden based on the uses considered by the current and previous Meetings on the basis of diets listed in the 2016 edition of the FAO Manual Appendix IX (OECD Feedstuff Table). The maximum and mean dietary burdens for cattle of up to 36 ppm and 18 ppm, respectively, calculated by the 2016 Meeting are not changed by the addition of dry beans, except soya bean and dry peas (Median: 0.0305 mg/kg); and palm kernel cake (Median-P: 0.0078 mg/kg). The Meeting confirms its previous recommendations for animal commodities.

## RECOMMENDATIONS

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

Definition of the residue for compliance with the MRL and dietary risk assessment for plant and animal commodities: *Chlorantraniliprole*

The residue is fat-soluble.

CCN	Commodity	Recommended Maximum residue level (mg/kg)		STMR or STMR-P mg/kg
		New	Previous	
VD 2065	Dry beans, Subgroup of (includes all commodities in this subgroup) (except soya beans)	0.3		0.0305
VD 2066	Dry peas, Subgroup of (includes all commodities in this subgroup)	0.3		0.0305
SO 3160	Palm fruit (African oil palm)	0.8		0.195
OC 0695	Palm oil, crude	2		0.507
OC1240	Palm kernel oil, crude			0.0098

Additional values used in estimating livestock dietary burdens.

Codex classification	Commodity	Median residue (-P) (mg/kg)	Highest residue (-P) (mg/kg)
	Palm, kernel meal	0.0078	

## DIETARY RISK ASSESSMENT

### *Long-term dietary exposure*

The ADI for chlorantraniliprole is 0–2 mg/kg bw. The International Estimated Daily Intakes (IEDIs) for chlorantraniliprole were estimated for the 17 GEMS/Food Consumption Cluster Diets using the STMR or STMR-P values estimated by the JMPR. The results are shown in Annex 3 of the 2019 Extra JMPR Report.

The IEDIs ranged from 0–1% of the maximum ADI. The Meeting concluded that long-term dietary exposure to residues of chlorantraniliprole from uses considered by the JMPR is unlikely to present a public health concern.

### *Acute dietary exposure*

The 2008 JMPR decided that an ARfD for chlorantraniliprole was unnecessary. The Meeting therefore concluded that the acute dietary exposure to residues of chlorantraniliprole from the uses considered is unlikely to present a public health concern.

## REFERENCES

Code	Author	Year	Title, Institute, Report reference
CHLORANT19E_001	Dorsey, S.	2018	Magnitude of chlorantraniliprole residues in dried, shelled peas and beans following foliar applications of Chlorantraniliprole (DPX-E2Y45) 20 SC [200 g/L (w/v); 18.4% (w/w)] - U.S., 2017; Analytical Bio-Chemistry Laboratories, Inc.; 48825; GLP: yes, unpublished
CHLORANT19E_002	Petrova, D.	2017	Determination of residues of chlorantraniliprole after two applications of Altacor 35 WG in oil palm trees at 4 sites in Malaysia in 2015; DuPont Malaysia; MRID 50234701; GLP: yes; unpublished
CHLORANT19E_003	Loong, L.K.; Siran, Y.M.; Keong, N.C.	2009	Foliar Applications of PREVATHON 5SC (Chlorantraniliprole) on Oil Palms and Sampling of Fresh Fruit Bunches for Residue Study on crude palm oil & palm kernel oil; DuPont Malaysia; SIME DARBY-DP/2009/01; GLP: yes; unpublished

