5.19 NOVALURON (217)

RESIDUE AND ANALYTICAL ASPECTS

Novaluron is an insecticide of the class diflubenzoylureas. It was evaluated for the first time by JMPR in 2005 (T, R). The compound was listed for additional MRLs by 2010 JMPR at the Forty-first Session of the CCPR.

The manufacturer has submitted supervised crop field trial studies to support additional MRLs for the following commodities: broccoli, cabbage, mustard greens, Swiss chard, tomato (increase MRL), cherry, peach, plum, blueberry, snap bean (common bean), dry bean, and sugar cane. The supervised crop field trials are supplemented by the relevant GAPs, analytical methods, storage stability data, processing studies, and a poultry feeding study.

Methods of analysis

The analytical methods used in the supervised trials are based on the two methods previously included in the JMPR Evaluation in 2005: GC/ECD or HPLC with UV detection. A variation of the GC method uses a mass selective detector (MSD). A variation of the HPLC method uses LC/MS/MS. Adequate method validation at 0.05 mg/kg was reported with each crop field trial study. Average method and concurrent recoveries were all within the range of 70–120%, with relative standard deviations (RSD) at or below 20%.

Stability of residues in stored analytical samples

From the JMPR Report (2005) it can be concluded that minimum storage stability intervals of 12 months for high water content samples, 5 months for high oil content samples, 8 months for acidic commodities, and 12 months for high starch commodities are indicated. Additionally, in some of the crop field trial studies reported a control sample was fortified and stored frozen with the treated field samples. The fortified control was analysed at the time of analysis of the field samples. The percentages remaining were in the 71–118% range. All crop field trial samples were analysed within periods of demonstrated frozen storage stability.

Results of supervised trials on crops

Stone fruits

In all trials, determinations were made on the fruit without pit and no data on pit weights were available to express results on a fruit with pit basis. The absence of pit would be anticipated to yield slightly exaggerated residue values.

Peaches

A report on peach supervised field trials from the US was available. The US GAP is 3 applications at 0.36 kg ai/ha of an EC formulation with an 8 day PHI. The ranked order of residues on peaches (without pit) (n = 15) at the maximum GAP were: 0.20, 0.25, 0.41, 0.42 (2), 0.49, <u>0.58</u> (2), 0.66, 0.70, 0.90, 0.92, 1.0 (2), 2.1 mg/kg

Plums

A report on plum supervised field trials form the US was available. The US GAP is 3 applications at 0.36 kg ai/ha with an EC formulation with an 8 day PHI. The ranked order of residues on plums (without pits) (n = 10) at the maximum GAP were: 0.08, 0.16, 0.26, 0.33, <u>0.35, 0.47,</u> 0.48, 0.62, 0.79, 0.80 mg/kg.

Cherries

A report on cherry supervised field trials form the US was available. The US GAP is 3 applications at 0.36 kg ai/ha with an EC formulation with an 8 day PHI. The ranked order of residues on cherries (without pits) (n = 7) at the maximum GAP were: 0.76, 0.97, 2.0, 2.2, 3.0, 3.9, 4.1 mg/kg.

The Meeting noted that the GAPs are identical for cherry, peach, and nectarine and that the US label specifies use on stone fruit. The Meeting decided to use the cherry supervised field trial data to estimate a maximum residue level of 7 mg/kg for stone fruit and an STMR of 2.2 mg/kg.

The value derived from use of the NAFTA calculator was 10 mg/kg based on a maximum residue level estimate for cherries (Lognormal 95/99 rule, 99th). However, small data sets may not produce reliable estimates via statistical procedures.

Berries and other small fruits

Blueberries

A report on blueberry supervised field trials in the US was received, where the GAP is 3 applications of an EC formulation at a maximum rate of 0.22 kg ai/ha/application and a PHI of 8 days. Nine trials complied with GAP, and the results in ranked order are: 0.99, 1.0, 1.1, 2.0, 2.1, 2.3, 3.5, 3.6, 3.8 mg/kg.

The Meeting estimated an STMR and maximum residue level of 2.1 and 7 mg/kg, respectively.

Use of the NAFTA statistical procedure yielded a maximum residue level estimate of 8, based on the 99th percentile of a log normal distribution. The mean plus 3 standard deviations was 6 mg/kg. The statistical calculation has limited utility with small data sets (n = 9).

Strawberry

A report on strawberry supervised field trials in the US and Canada was received, where the GAP 3 applications of an EC formulation with a maximum application rate of 0.087 kg ai/ha/application and a PHI of 1 day. Using the GAP of the US for both Canadian and US trials, 10 trials complied with GAP, and the results in ranked order are: 0.07, 0.11 (3), 0.12, 0.18 (2), 0.22, 0.26, 0.29 mg/kg. The Meeting estimated an STMR and maximum residue level of 0.l5 and 0.5 mg/kg, respectively.

Use of the NAFTA statistical procedure yielded a maximum residue level estimate of 0.45 mg/kg (0.5 mg/kg rounded up), based on the 99th percentile of a log normal distribution. The mean plus three standard deviations is 0.4 mg/kg.

Brassica vegetables

Broccoli

A report on supervised field trials on broccoli in the US was received. The US GAP is for a maximum of 3 applications of an EC formulation at 0.044–0.087 kg ai/ha/application with a seasonal rate maximum of 0.17 kg ai/ha and a PHI of 7 days. The trials were conducted as 3 applications at 0.056 kg ai/ha, which matches the seasonal maximum rate but is only 64% of the single application rate, i.e., 0.087 mg/kg. The retreatment interval was 5 to 8 days. The broccoli residue decline study indicates a slow loss of residue with a half-life of about 14 days. Therefore, an accumulation effect from the 3 applications can be anticipated and, as the trials match the seasonal maximum application rate, they may be considered as complying with maximum GAP. Six trials complied with GAP, and the residues in ranked order are: < 0.05 (2), 0.10, 0.11, 0.14, 0.38 mg/kg.

Cabbage

A report on supervised field trials on cabbage in the US was received. The US GAP is 3 applications of an EC formulation at 0.087 kg ai/ha/application and a PHI of 7 days. The trials were conducted as

3 applications at 0.056 kg ai/ha, which matches the seasonal maximum rate but is only 64% of the single application rate, i.e., 0.087 mg/kg. The retreatment interval was 5 to 8 days. The cabbage residue decline study indicates residues < LOQ at all time intervals. Based on the broccoli decline study, a slow loss of residue with a half-life of about 14 days might be expected. Therefore, an accumulation effect from the 3 applications can be anticipated and, as the trials match the seasonal maximum application rate, they may be considered as complying with maximum GAP. Six trials complied with GAP, and the residues in ranked order are: < 0.05 (3), 0.08, 0.19, 0.48 mg/kg.

The Meeting used the broccoli and cabbage data as mutual support for a brassica vegetable maximum residue estimate of 0.7 mg/kg (broccoli or cabbage) and an STMR estimate of 0.105 mg/kg (broccoli).

The NAFTA statistical procedure produced for broccoli a maximum residue level estimate of 0.6 mg/kg, based on the 99th percentile of a log normal distribution. The NAFTA statistical procedure produced for cabbage a maximum residue level estimate of 0.6 mg/kg, based on the UCL median 95th. Statistical procedures have limited utility with very small data sets (n = 6 each).

Fruiting vegetables, Cucurbits

Cucumber

A report on supervised field trials on cucumbers in the US was received, where the GAP for all cucurbits is 3 applications of an EC formulation at 0.087 kg ai/ha with a PHI of 1 day. Six trials complied with GAP, and the results in ranked order are: < 0.05 (6) mg/kg.

Melons

A report on supervised field trials on cantaloupe melons in the US was received, where the GAP for all cucurbits is 3 applications of an EC formulation at 0.087 kg ai/ha with a PHI of 1 day. Eight trials complied with GAP, and the results in ranked order are: < 0.05 (4), 0.05, 0.07, 0.08, 0.09 mg/kg.

Summer squash (zucchini)

A report on supervised field trials on summer squash in the US was received, where the GAP for all cucurbits is 3 applications of an EC formulation at 0.087 kg ai/ha with a PHI of 1 day. Seven trials complied with GAP, and the results in ranked order are: < 0.05 (6), 0.07 mg/kg.

The Meeting noted that residue levels from the same GAP are similar on cucumber, cantaloupe, and summer squash and decided to estimate an STMR of 0.05 and a maximum residue level of 0.2 mg/kg, respectively, for fruiting vegetables cucurbits.

The NAFTA statistical calculation procedure is not reliable for highly censored data sets. Using the data set with the lowest percentage of censored data (melons), a maximum residue level estimate of 0.11 mg/kg based on the mean plus 3×SD is suggested.

Fruiting vegetables, other than Cucurbits

Peppers

A report on supervised field trials on peppers in Canada and the US was received. The US GAP for all fruiting vegetables (non-cucurbit) is 3 applications of an EC formulation at 0.087 kg ai/ha with a PHI of 1 day. Twelve bell pepper trials and 4 non-bell pepper trials complied with the US GAP. The non-bell (< 0.05 (2), 0.20, 0.36 mg/kg) results were not from a different population than the bell pepper results, and the combined results (n = 16) in ranked order are: < 0.05 (5), 0.05 (2), 0.07 (2), 0.14, 0.20, 0.22, 0.28, 0.36, 0.37, 0.38 mg/kg.

Tomato

A report on supervised field trials on tomatoes in Canada and the US was received. The US GAP for all fruiting vegetables (non-cucurbit) is 3 applications of an EC formulation at 0.087 kg ai/ha with a

PHI of 1 day. The use for fruiting vegetables non-cucurbit is for fields (outside) only except tomato, where glasshouse use is also specified.

Four glasshouse trials complied with GAP, and the trial results in ranked order are: < 0.05, 0.06, 0.20, 0.47 mg/kg. Fourteen field trials in Canada and the US complied with the US GAP, and the trial results in ranked order are: < 0.05 (3), 0.06 (2), 0.08 (2), 0.10 (2), 0.13 (2), 0.23, 0.26, 0.28 mg/kg.

The glasshouse and field trial results do not appear to be from different populations and may be combined (n = 18) to yield in ranked order: < 0.05 (4), 0.06 (3), 0.08 (2), 0.10 (2), 0.13 (2), 0.20, 0.23, 0.26, 0.28, 0.47 mg/kg.

The Meeting noted that the GAP is identical for pepper and tomato and that the tomato and pepper residue data sets are not from different populations. The Meeting used the data sets for mutual support and based upon the tomato data set (with the highest residue) estimated an STMR of 0.10 and a maximum residue level of 0.7 mg/kg for fruiting vegetables other than cucurbits to replace the existing Codex MRL of 0.02 (*) mg/kg for tomato.

The NAFTA statistical procedure estimated a maximum residue level of 0.6 mg/kg for pepper based on the mean plus 3 standard deviations and a maximum residue level of 0.6 mg/kg for tomato, based on the 99th percentile of a log normal distribution. The mean plus 3 standard deviations was 0.6 mg/kg for pepper and 0.5 mg/kg for tomato. The Meeting considered 0.7 mg/kg a better estimate, given a highest residue of 0.48 mg/kg in a set of 18 values.

Leafy vegetables (including Brassica leafy)

Mustard greens

A report on supervised field trials on mustard greens in Canada and the US was received. The US GAP for all Brassica leafy vegetables is 3 applications of an EC formulation at 0.087 kg ai/ha with a PHI of 7 days. Eleven trials complied with the US GAP, and the results in ranked order are: 2.0, 2.1, 2.6, 3.0, 3.2, 3.6, 4.4, 5.0, 5.2, 10, 19 mg/kg. The Meeting estimates an STMR of 3.6 and a maximum residue level of 25 mg/kg, respectively.

The NAFTA statistical procedure yielded a maximum residue level estimate of 25 mg/kg, based on the 99th percentile of a log normal distribution. The mean plus 3 standard deviations is also 25 mg/kg.

Swiss chard

A report on supervised field trials on Swiss chard in the US was received. The US GAP for Swiss chard is 3 applications of an EC formulation at 0.087 kg ai/ha with a PHI of 1 day. Three trials complied with the US GAP, and residues in ranked order are: 2.3, 4.0, and 6.6 mg/kg.

The Meeting estimated an STMR of 4 and a maximum residue level of 15 mg/kg for Swiss chard. The Meeting noted that the number of trials was marginally acceptable, given that Swiss chard is not generally a major crop in production or in consumption.

The NAFTA statistical procedure yields a maximum residue estimate of 14 mg/kg, based on the 99th percentile of a log normal distribution. The mean plus 3 standard deviations is 11 mg/kg. Statistical procedures have no utility for very small data sets.

Legume vegetables

Common bean

A report on supervised field trials on snap beans (common bean, green bean) in Canada and the US was received. The US GAP for common bean is 3 applications of an EC formulation at 0.087 kg ai/ha with a PHI of 1 day. Fourteen trials complied with the US GAP, and the results in ranked order are: < 0.05, 0.10, 0.12 (2), 0.14, 0.16 (2), 0.17, 0.18 (3), 0.32, 0.40, 0.46 mg/kg.

The Meeting estimated an STMR of 0.165 and a maximum residue level of 0.7 kg/mg, respectively.

The NAFTA statistical procedure estimated a maximum residue level of 0.7 mg/kg, based on the 99th percentile of a log normal distribution. The mean plus 3 standard deviations is 0.60 mg/kg.

Pulses

Bean (dry)

A report on supervised field trials on dry beans in the US was received. The US GAP for dry bean is 3 applications of an EC formulation at 0.087 kg ai/ha with a PHI of 1 day. Thirteen trials complied with the US GAP, and the results in ranked order are: < 0.05 (10), 0.06, 0.08 (2) mg/kg.

The Meeting estimated an STMR and maximum residue level of 0.05 and 0.1 mg/kg, respectively.

Use of the NAFTA statistical procedure yielded a maximum residue level estimate of 0.15 mg/kg, based on the 99th percentile of a log normal distribution. MLE was used to fill-in the < LOQ values. The mean plus 3 standard deviations is also 0.15 mg/kg. Statistical procedures are not reliable for highly censored data sets, and attributing log normal behaviour to the LOQ data may not be appropriate.

Grasses for sugar

Sugar cane

A report on supervised field trials on sugar cane in the US was received. The US GAP for sugar cane is 5 applications of an EC formulation at 0.087 kg ai/ha with a PHI of 14 days. Seven trials comply with the US GAP, and the results in ranked order are: < 0.05, 0.07 (2), 0.08, 0.10, 0.29, 0.31 mg/kg.

The Meeting estimated an STMR of 0.08 and a maximum residue level of 0.5 mg/kg.

The NAFTA statistical procedure yielded a maximum residue level estimate of 0.6 mg/kg, based on the 99th percentile of a log normal distribution. The mean plus 3 standard deviations is 0.5 mg/kg. Statistical procedures are unreliable for small data sets.

Animal feed commodities

Bean forage (green)

A report on supervised field trials on snap beans (common bean, green bean) in Canada and the US was received. The US GAP for common bean is 3 applications of an EC formulation at 0.087 kg ai/ha with a PHI of 1 day. Two types of vine samples were collected at different locations, vine only and vine plus residual pods. Fourteen trials comply with the US GAP, and residue results in ranked order are: 3.1, 5.3, 5.8 (2), 6.6, 6.8, 7.4, 7.8, 8.6, 8.8, 10 (2), 13, 18 mg/kg.

The Meeting estimated an STMR of 8.2 and a highest residue of 18 mg/kg.

Processing studies

Processing studies were provided for plum, tomato, and sugar cane. However, no residues were found in either the sugar cane or processed commodities. The processing factors (transfer factors) and related STMR-Ps are summarized as follows:

Commodity	Number of Studies (n)	Median Novaluron Transfer Factors	Novaluron RAC-STMR (mg/kg)	Novaluron STMR-P (mg/kg)
Plum - dried	2	3.1	0.41	1.27
Tomato - puree	1	< 0.73	0.10	0.073
Tomato - paste	1	1.1	0.10	0.11

The Meeting calculated a maximum residue level of 7 mg/kg for dried plums based on a highest residue of 2.2 mg/kg for stone fruit and a processing factor of 3.1 for plums (2.2 mg/kg × 3.1 = 6.8 mg/kg). This estimate is not needed as the mrl estimate for stone fruit is 7 mg/kg, and 7 mg/kg is equal to or greater than the dried plum estimate.

Farm animal feeding studies

The 2005 JMPR evaluated a ruminant feeding study and derived maximum residue estimates for livestock commodities based on the feeding study, a poultry metabolism study, and the livestock feeding tables then in use. New livestock feeding tables have been adopted, based on the OECD work.

The new uses under consideration by the present JMPR have several livestock feed items: bean vines (green), sugarcane molasses and bagasse, bean seed, and cabbage heads.

The Meeting estimated the dietary burden of novaluron in farm animals on the basis of the diets listed in Appendix IX of the FAO Manual (2009 Edition). Calculation from highest residues, STMR (some bulk blended commodities), and STMR-P values provides the levels in feed suitable for estimating MRLs, while calculation from STMR and STMR-P values for feed is suitable for estimating STMR values for animal commodities. The percentage dry matter is assumed to be 100% when the highest residue levels and STMRs are expressed on a dry weight basis.

Estimated maximum and mean dietary burdens of farm animals

Dietary burden calculations for beef cattle, dairy cattle, chicken broilers, and laying poultry are provided in Annex 6 of the 2010 JMPR Report. The calculations were made according to the animal diets from the US/CAN, EU, and Australia in Appendix IX of the FAO Manual (2009 Edition). Bean forage makes a considerable contribution to the diet of cattle in Australia and to a lesser extent in Europe. Preliminary IEDI calculations with bean forage included in the diets of Australian and European cattle indicate that the ADI may be exceeded in at least one region. Therefore a tiered approach was adopted, and bean forage (green) was not included in the livestock diet for Australia or the European Union because novaluron is not registered for use on beans in Australia or in European Union member states, and forages are not generally in international trade (JMPR Report 2009, General Consideration 2.2). Thus, no residue of novaluron is anticipated on bean forage in Australia or in European Union member states.

Commodity	Level	Animal Dietary Burden, Novaluron, ppm of dry matter diet.			
		US/CAN	EU	Australia	Japan
Beef cattle	Max	1.54	3.03 [a]	2.44	0.0
	Mean	0.44	2.53 [c]	2.44	0.0
Dairy cattle	Max	1.20	1.86 [b]	1.27	0.0
	Mean	1.20	1.36 [d]	1.27	0.0
Poultry – broiler	Max	0.0092	0.174 [e]	0.044	0.0
	Mean	0.0092	0.049 [f]	0.044	0.0
Poultry – layer	Max	0.0092	0.014	0.044 [g]	0.0
	Mean	0.0092	0.014	0.044 [h]	0.0

[a] Highest maximum beef or dairy cattle dietary burden suitable for MRL estimates for mammalian tissues

[b] Highest maximum dairy cattle dietary burden suitable for MRL estimates for mammalian milk

[c] Highest mean beef or dairy cattle dietary burden suitable for STMR estimates for mammalian tissues.

[d] Highest mean dairy cattle dietary burden suitable for STMR estimates for milk.

[e] Highest maximum poultry dietary burden suitable for MRL estimates for poultry tissues.

[f] Highest mean poultry dietary burden suitable for STMR estimates for poultry tissues.

[g] Highest maximum poultry dietary burden suitable for MRL estimates for poultry eggs.

[h] Highest mean poultry dietary burden suitable for STMR estimates for poultry eggs.

A cow feeding study was reviewed by the 2005 JMPR. In the table below, dietary burdens are shown in round brackets (), feeding levels and residue concentrations from the feeding study are shown in square brackets [], and estimated concentrations related to the dietary burdens are shown without brackets.

Cattle Dietary Burden (ppm)						
Feeding Level [ppm]	Cream	Milk	Muscle	Liver	Kidney	Fat
MAXIMUM RESIDUE LEVEL	Mean	Mean	Highest	Highest	Highest	Highest
MAXIMUM RESIDUE LEVEL beef cattle (3.03) [2.6]			0.10 [0.09]	0.16 [0.14]	0.16 [0.14]	2.6 [2.25]
MAXIMUM RESIDUE LEVEL dairy cattle (1.86) [2.6]	2.0 [2.8]	0.093 [0.13]	0.064 [0.09]	0.10 [0.14]	0.10 [0.14]	1.6 [2.25]
STMR	Mean	Mean	Mean	Mean	Mean	Mean
STMR beef cattle (2.53) [2.6]			0.078 [0.08]	0.13 [0.13]	0.13 [0.13]	1.7 [1.73]
STMR dairy Cattle (1.36) [0.35/2.6]	2.6 [0.68/2.80]	0.13 [0.04/0.13]	0.08 [0.04/0.08]	0.13 [0.05/0.13]	0.13 [0.04/0.13]	1.7 [0.45/1.73]

The data from the lactating dairy cow feeding study were used to support mammalian (except marine) milk and meat maximum residue levels.

The Meeting estimated the following STMR values: milk 0.13; cream, 2.6 mg/kg; muscle 0.08; edible offal 0.13; fat 1.7 mg/kg. These levels replace previous estimates.

The Meeting estimated the following maximum residue levels for mammalian commodities (except marine): milk 0.2 mg/kg; milk fat 5 mg/kg; meat (fat) 3 mg/kg; edible offal 0.2 mg/kg. The milk fat estimate assumes that cream contains 50% milk fat. However, as these estimates are lower than previous recommendations, which are now CXLs, the Meeting confirmed the previous recommendations: milk 0.4 mg/kg; milk fat 7 mg/kg; meat (fat) 10 mg/kg; edible offal 0.7 mg/kg. The Meeting noted that the decrease in estimates results from the new OECD animal dietary burden diets adopted by the JMPR. For example consumption of cotton gin trash has dropped from 20% to 5%, and consumption of wet apple pomace has dropped from 40% to 20%.

A poultry feeding study was made available to the Meeting. Groups of laying hens were orally dosed with novaluron at levels of 0, 0.12, 0.36, and 1.2 mg/kg for 56 days. Maximum residues at the 0.12 ppm feeding level were 0.080 mg/kg in eggs (day 47), 0.014 mg/kg in muscle, 0.034 mg/kg in liver, 0.039 mg/kg in kidney, and 0.323 mg/kg in fat (abdominal). Average residues were 0.070 mg/kg in eggs (day 47), 0.012 mg/kg in muscle, 0.033 mg/kg in liver, 0.036 mg/kg in kidney,

and 0.307 mg/kg in fat (abdominal). At the 0.36 ppm feeding level, the maximum and average residues in egg were 0.18 mg/kg and 0.174 mg/kg (day 47), respectively.

In the table below, dietary burdens are shown in round brackets (), feeding levels and residue concentrations from the feeding study are shown in square brackets [], and estimated concentrations related to the dietary burdens are shown without brackets.

Poultry Dietary Burden (ppm)					
Feeding Level [ppm]	Egg	Muscle	Liver	Kidney	Fat
MAXIMUM RESIDUE LEVEL	Mean	Highest	Highest		Highest
MAXIMUM RESIDUE LEVEL Broiler (0.044) [0.12]		0.0044 [0.012]	0.012 [0.033]	0.013 [0.036]	0.11 [0.307]
MAXIMUM RESIDUE LEVEL Laying (0.174) [0.12]	0.10 [0.0703]	0.021 [0.014]	0.049 [0.034]	0.056 [0.039]	0.47 [0.323]
STMR	Mean	Mean	Mean		Mean
STMR Broiler (0.044) [0.12]		0.0044 [0.012]	0.012 [0.033]	0.013 [0.036]	0.11 [0.307]
STMR Laying (0.049) [0.12]	0.029 [0.0703]	0.0048 [0.012]	0.013 [0.033]	0.015 [0.036]	0.13 [0.307]

The data from the laying hen feeding study were used to support poultry egg and meat maximum residue levels.

The Meeting estimated the following STMR values: eggs, 0.029 mg/kg; fat, 0.13 mg/kg; muscle, 0.005 mg/kg ; edible offal, 0.015 mg/kg . These replace previous STMR estimates.

The Meeting estimated the following maximum residue levels for poultry commodities: eggs, 0.1 mg/kg; meat (fat), 0.5 mg/kg; edible offal, 0.1 mg/kg. These estimates replace previous recommendations: eggs 0.01 (*) mg/kg; poultry meat (fat) 0.01 (*) mg/kg; poultry, edible offal of 0.01 (*) mg/kg.

DIETARY RISK ASSESSMENT

Long-term intake

The International Estimated Daily Intakes (IEDIs) of novaluron were calculated for the 13 GEMS/Food Consumption Cluster Diets using STMRs and STMR-Ps estimated by the current Meeting (Annex 3). The ADI is 0–0.01mg/kg bw and the calculated IEDIs were 7–50% of the maximum ADI. The Meeting concluded that the long-term intake of residues of novaluron resulting from the uses considered by the current JMPR is unlikely to present a public health concern.

Short-term intake

The2005 JMPR decided that an ARfD was unnecessary. The Meeting therefore concluded that the short-term intake of novaluron residues is unlikely to present a public health concern.