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(does not necessarily represent the views of the Commission services)

Draft

GUIDANCE DOCUMENT ON

**Notification criteria for pesticide residue findings
to the Rapid Alert System for Food and Feed
(RASFF)**

1. PURPOSE OF THIS DOCUMENT

This document is meant to give guidance to the competent authorities in the Member States of the European Union and EEA countries on when and how to notify cases, where quantifiable residues of plant protection products are found, to the Rapid Alert System for Food and Feed.

Disclaimer: This document only gives guidance to Member States on how to make a decision on the issuing of rapid alert notifications. It remains the responsibility however of the Member State in question to obtain the latest scientific evidence for its decision.

2. THE RAPID ALERT SYSTEM FOR FOOD AND FEED (RASFF)

The RASFF is a system in which the Member States, EEA-EFTA countries and the Commission share information on food and feed which present a risk to the health of consumers. Current legal basis of RASFF is Article 50 of Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety¹.

The Rapid Alert System for Food and Feed is managed by DG Health and Consumer Protection of the European Commission.

Notifications received from the contact points are evaluated by the Commission services and classified into two categories:

- alert notifications

Alert notifications are sent when the food or feed presenting the risk is on the market and when immediate action is required. Alerts are triggered by the Member State that detects the problem and has initiated the relevant measures, such as withdrawal/recall. The notification aims at giving all the members of the network the information to verify whether the concerned product is on their market, so that they also can take the necessary measures. The Member States have their own mechanisms to carry out such actions, including the provision of detailed information through the media if necessary.

- information notifications

Information notifications concern a food or feed for which a risk has been identified, but for which the other members of the network do not have to take immediate action, because the product has not reached their market. These notifications mostly concern food and feed consignments that have been tested and rejected at the external borders of the EU, or for which the “best before“ date has been exceeded and which are therefore no longer likely to be consumed.

¹ OJ L31, 1.02.2002, p.1 Amended by Regulation (EC) No 1642/2003 (OJ L245, 29.9.2003, p.4)

3. NOTIFICATION OF PESTICIDE RESIDUES FINDINGS

3.1. Legal bases for MRLs – MRLs are not necessarily safety limits

Council Directives 76/895/EEC, 86/362/EEC, 86/363/EEC and 90/642/EEC provide for maximum residue levels for pesticides in and on, respectively, fruit and vegetables, cereals, foodstuffs of animal origin (due to pesticides in feed) and certain products of plant origin - including fruit and vegetables.

Article 7 of Council Directive 86/362/EC and Article 4 of Council Directive 90/642/EEC, as amended by Council Directive 97/41/EC, ask for action to be taken at Community level in the case of reported infringements without further specification.

No mention is made in the Directives about when and how a RASFF notification should be issued.

MRLs are often mistaken for toxicological safety limits. MRLs are safe limits that define the maximum expected levels of a pesticide on a food commodity after safe and authorized use of that pesticide. They serve both to prevent illegal and/or excessive use of a pesticide (e.g. to prevent damage to the environment or to the health of workers and bystanders) and to protect the health of consumers of the harvested products.

If an MRL is exceeded it takes an additional calculation to establish whether the toxicological limit is exceeded. MRLs must be toxicologically acceptable. However, in many cases they are much lower than the toxicological limit simply because no more is necessary to achieve adequate control of the pest.

An MRL is based upon residue levels from trials in which the pesticide was used on the crop at the correct application rate and waiting time. To check if this level is acceptable for consumer exposure, intake calculations for various consumer groups are made, both for acute and chronic intake. If the level is acceptable the MRL is set by the Commission. If not, the LOD (Limit of analytical determination) is applied.

MRLs are set for fresh products but apply also to processed and composite foodstuffs taking into account the relevant transfer factors. For example if there is an MRL for fresh pepper, this applies also to dried chilli peppers multiplied by a factor of up to 10 (depending on the studies available).

3.2. Situation of pesticide exposure – monitoring

The Community monitoring reports “Monitoring for pesticide residues in the EU and Norway – Report 1996” and “Monitoring for pesticide residues in products of plant origin in the EU and Norway – Report 1997, 1998 and

1999, 2000 and 2001” have been published². According to the reports, around 3 % of all samples analysed contained residue levels exceeding MRLs.

3.3. How to evaluate the acute risk to consumers

To evaluate whether an observed violation of an MRL can lead to a risk to the consumer, it is necessary to estimate the actual risk to the most critical consumer group. Therefore we should combine the toxicity (the hazard) and the exposure.

Toxicity

ADI³ and ARfD⁴ are measures for the chronic and acute toxicity of a pesticide. These parameters are usually based on animal studies in which the highest dose (mg/kg body weight) of the chemical is established at which no effects can be observed (the NOAEL⁵). A safety factor of 100 is usually applied to obtain the ADI or the ARfD (in case of human studies a factor 10 is usually applied). The ADI is based on chronic or acute toxicity studies, the ARfD on acute studies only. These toxicological parameters are supposed to protect all consumer groups including infants and children. However, according to an opinion of the Scientific Committee on Plants ⁶, this may not apply to infants aged under 8 weeks. For these consumers a separate legal framework has been created⁷, which defines safe levels for instant and cereal based formulas intended for infants and young children, partly based on toxicity and exposure and, in absence of these data, on the precautionary principle, i.e. a level of 0.01 mg/kg or lower.

Lists of internationally accepted ADIs and ARfDs are published by the International Programme on Chemical Safety (IPCS)⁸ and are available on their website⁹.

² Available on the website of the Commission at the following address:
http://europa.eu.int/comm/food/fs/inspections/fnaoi/reports/annual_eu/index_en.html

³ Acceptable daily intake

⁴ Acute reference dose (in mg/kg bw)

⁵ No observed adverse effect level

⁶ <http://europa.eu.int/comm/food/fs/sc>

⁷ Commission Directive 96/5/EC of 16 February 1996 on processed cereal-based foods and baby foods for infants and young children (OJ L 49, 28.2.1996, p. 17) as last amended by Directive 2003/13/EC (OJ L 41, 14.02.2003, p. 33)

Commission Directive 91/321/EEC of 14 May 1991, on infant formulae and follow-on formulae (OJ L 175, 4.7.1991, p.35) as last amended by Directive 2003/14/EC (OJ L41, 14.02.2003, p. 37).

⁸ UNEP, ILO and WHO sponsored

⁹ <http://www.who.int/pcs/jmpr/jmpr.htm>

In the ECCO-peer review process ADIs and ARfDs for additional substances are defined based on new studies submitted to the Commission in the framework of the evaluations under Directive 91/414/EEC. When these studies are finalized and the substance is included into annex I of the Directive, ADIs and ARfDs can be found in document 3010, the status of the work for the existing active substances. This document can be found on the Commission website¹⁰. The document contains all available information on ADIs and ARfDs (also from other sources such as JMPR). It also mentions the number of Member States where a product is used and the Rapporteur Member State for the substance.

National evaluations by EU Member States may also result in the availability of such toxicological endpoints. In some cases national endpoints can be found on the Member States' websites (see Annex I).

All violations of an ARfD should be notified. Unfortunately not for all acutely toxic pesticides an ARfD is defined. When it is clear that a pesticide is acutely toxic, due to its classification as e.g. an organophosphate or a carbamate, the levels found are checked against the ADI. Although this approach generally leads to an overestimation, the finding must be notified to the RASFF when the ADI is exceeded. Some pesticides are not acutely toxic. These pesticides are listed in Annex V.

Exposure

Toxicity is not the only factor in determining the risk of a pesticide residue in food, it should be combined with the amount of the foodstuff that is expected to be consumed, resulting in the exposure.

For the acute exposure a deterministic approach was developed after a consultation by JMPR¹¹. The procedure for the acute intake calculations was defined primarily at the Geneva Consultation¹², followed by the International Conference in York¹³ and the *ad hoc* Expert Meeting held before the 1999 Session of the CCPR and refined at this meeting. Large-portion consumption data were provided by Australia, France, The Netherlands, Japan, the UK and the USA. Data on unit weights and edible portion percentages were provided by France, the UK and the USA. Body weights for adults and children aged 6

¹⁰ http://europa.eu.int/comm/food/fs/ph_ps/pro/eva/existing/exis02_en.pdf

¹¹ Pesticide Residues in food –2000. JMPR Report 2000. Dietary Risk Assessment for Pesticide Residues in Food. FAO Plant Production and Protection Paper 163, pp 13-16

¹² WHO 1997b. Food consumption and exposure assessment of chemicals. Report of a FAO/WHO Consultation. Geneva, Switzerland, 10-14 February 1997. World Health Organization, Geneva

¹³ PSD 1998. *Pesticide Residues Variability and Acute Dietary Risk Assessment*. York, UK, 1-3 December 1998. The Pesticides Safety Directorate, York.

and under were provided by Australia, France, The Netherlands, the UK and the USA.

The model is intended for the calculation of the a priori risk at the moment of setting an MRL, using the results of supervised residue trials. It takes into account the variability of the residues among single units of the composite sample analysed. In many cases no data on variability are available in which case a default factor of 5 to 10 is applied. This means that if e.g. on a composite sample of 15 apples an average residue level of 1 mg/kg is determined, one single apple can contain 7 mg/kg.

To see if eating such an apple would lead to a risk to a consumer, the model can best be applied to the most critically exposed consumer. Generally, children from 1.5 to 6 years¹⁴ of age are considered as the most vulnerable group, because they tend to eat a large number of single units of one food commodity in one day. Therefore in the deterministic exposure approach used in several European countries, a high percentile of consumption (e.g. 97.5) by these children is used.

Models for the estimation of the short term intake are developed with a view to setting MRLs (see the JMPR report 2000 mentioned earlier). The input for these models are residue data of composite samples obtained from supervised residue trials (the trials submitted by applicants required for obtaining an MRL). The highest residue (HR) and the supervised trial median residue (STMR) are derived from the data.

For the purpose of evaluating the risk using monitoring data from one lot of contaminated food items the inputs are just the observed residue concentration. Therefore, the formulas in the JMPR model can be simplified.

PSTI	Predicted short term intake from sampling result
LP:	Highest large portion reported (97.5th percentile of consumption [eaters only]), in kg food/day (see for examples annex III)
OR:	Observed residue (in mg/kg) in composite sample of edible portion found (so there should be a correction for the peel if the peel is inedible). In case the commodity is only eaten after processing the observed residue in the raw commodity should be multiplied by a processing factor (see JMPR reports).
bw:	Body weight in kg, e.g. children of about 6 years 15 kg adults 60 kg
U:	Unit weight of the edible portion, in kg, see annex IV for examples
v:	Variability factor : if unit weight of whole portion > 0.25 kg, $v = 5$ if unit weight ≤ 0.25 kg, $v = 7$

¹⁴ E.g. the Models for British Toddlers (1.5-3 ys) and for 6-year-old German girls

Leafy vegetables if unit weight of whole portion ≤ 0.25 kg, $v = 10$
if unit weight ≤ 0.025 kg, $v = 1$

Case 1: no variability expected: unit weight < 0.025 kg or processed commodity

$$\text{PSTI} = \frac{\text{LP} * \text{OR}}{\text{bw}}$$

Case 2: variability expected: unit weight > 0.025 kg

2A Weight of the unit (e.g. an apple) is lower than large portion (e.g. 2 apples) (U < LP)

$$\text{PSTI} = \frac{(\text{U} * \text{OR} * v) + (\text{LP} - \text{U}) * \text{OR}}{\text{Bw}}$$

2B weight of unit (e.g one watermelon) is higher or equal to large portion (e.g. half a watermelon) (U \geq LP and U is replaced by LP)

$$\text{PSTI} = \frac{\text{LP} * \text{OR} * v}{\text{bw}}$$

Data and examples on the variables in the formulas can be found in the annexes to this document. In the near future the Commission will publish data for these variables including processing factors. Where for a commodity no consumption data can be found it should be left to the judgement of the expert who makes the assessment, to extrapolate from commodities for which a similar consumption pattern can be expected. Extrapolation for the variability factor can only be made for products with a similar morphology.

3.4. Proposal on when and how to notify foods with quantified pesticide residues

A notification should be issued when information arrives indicating that there is a possible risk for the consumer. To establish this, the key mentioned hereafter is developed for guidance on how to use the available information. In many cases the available information is not sufficient to allow precise judgement. Even if a consignment has already been consumed a notification should be issued to allow authorities to focus on consignments of the same origin as it is likely that similar lots are or will be put on the market..

If a pesticide residue is found and the (national or EU-) MRL is exceeded or if no MRL is fixed, different cases can be identified:

- Pesticides with acute toxicity, where an ARfD has been fixed by the European Community or by JMPR or by a national authority

- Pesticides with an acute toxicity, but where no ARfD has been set
- Pesticides without acute toxicity, where an ADI has been fixed by the European Community or by JMPR or by a national authority
- Pesticides without acute toxicity where no ADI has been fixed
- Pesticides which have been forbidden or of which uses have been withdrawn by Community legislation

3.4.1. Pesticides with acute toxicity, where an ARfD has been fixed

When dietary exposure to a pesticide based on consumption of a large portion of a single commodity exceeds the ARfD, this will be notified. The “International/National Estimates of Short Term Intake” can be calculated according to the procedure which has been recommended by JMPR (see par 3.3), using e.g. existing national diet data. In the absence of such national data, the data mentioned in Annex III should be used. The ARfD can be found in the annually published IPCS report. In addition there are European ARfDs (all available ADIs and ARfDs are in table 3010 on the SANCO internet site). For a risk assessment, based on a composite sample, the variability factor should be used (see annex II; JMPR recommends e.g. a default variability factor of 7 for medium sized crops if no specific data about the variability are available). If the specific variability factor is known, this one should be used. As discussion of this issue is ongoing at an international level, these procedures may be modified in the future.

The notification should contain information on the sampling method, in case this information is available

3.4.2. Pesticides with an acute toxicity, but where no ARfD has been set

If the MRL is exceeded or no MRL exists, the ADI can be taken as a default value for the ARfD in the intake calculation (see 3.4.1).

A finding must be notified when the level of pesticide residue found in a consignment could lead to an exposure close to or exceeding the ADI. In doing this assessment, particular attention must be paid to pesticides that have many uses on different crops and this must be taken into account. A notification must be made when the estimated intake is close to the ADI or if the calculation results in a NEDI¹⁵ > ADI, calculated with the average consumption according to the WHO European diet or the national diet for the food item in which the residue has been found in order to take into account the fact that residues of the same substance can be found on other foodstuffs.

¹⁵ National estimated daily intake

3.4.3. Pesticides without acute toxicity, where an ADI has been fixed

For a pesticide which has no acute toxicity, but for which an ADI has been fixed, a finding must be notified when the level of the pesticide residue found in a consignment could lead to a daily intake exceeding the ADI (expert judgement to be applied by the competent authority). Pesticides without acute toxicity, where an ADI has been fixed, are listed in Annex V.

3.4.4. Pesticides without acute toxicity where no ADI has been fixed; pesticides which have been forbidden or of which uses have been withdrawn by Community legislation

When no ADI is fixed this could mean two things:

(1) An ADI would be so high that exposure levels will always be lower than the ADI (e.g. water, sodium chloride). In this case, there is no need for a notification.

(2) The substance is so dangerous that no safe exposure level can be established (mutagenic, teratogenic substances e.g. nitrofen). In this case, there should always be a notification.

3.5. A key for deciding whether to issue a RASFF notification

1 a	The MRL (national, EU or CODEX) is exceeded ¹⁶ (for processed products e.g. dried chilli pepper the EU MRL applies after correction with a processing factor)	go to 2
1 b	The MRL is not exceeded	no notification ¹⁷
1 c	No MRL exists (no national EU or CODEX MRL); because the ADI is very high, no MRLs were necessary	no notification
1 d	No MRL exists (no national EU or CODEX MRL); no ADI is established because there is no safe level of exposure	notification
2 a	The pesticide is not acutely toxic (no ARfD necessary according to Annex V), but ADI is exceeded (expert judgement by the competent	notification

¹⁶ The uncertainty of the analytical method for the particular pesticides crop combination should be taken into account. In many cases a margin of about 50% is taken. This is a matter of expert judgement.

¹⁷ This is on the assumption that the MRL is safe and established using the correct methodology

	authority)	
2 b	The pesticide is acutely toxic and there is an ARfD <i>or</i> The pesticide is acutely toxic but the ARfD is missing and the ADI is taken as default ARfD	go to 3
3 a	The product is consumed only by adults	go to 4
3 b	The product is consumed also by children	go to 5
4	<i>Use model of Case 1 (Unit weight < 25 g e.g. rice) or Case 2 (Unit weight > 25 g e.g. apple, melon, take 60 kg for the bw and use the LP table for adults)</i>	
4 a	The intake is greater than the ARfD or the ADI when an ARfD is missing	notification
4 b	The intake is lower than the ARfD or the ADI when an ARfD is missing	no notification except in case 4c
4 c	The intake is lower than the ArfD but higher than the ADI (expert judgement by the competent authority)	notification
5	<i>Use model of Case 1 (Unit weight < 25 g e.g. rice) or Case 2 (Unit weight > 25 g e.g. apple, melon, take 15 kg for the bw and use the LP table for children)</i>	
5 a	The intake is greater than the ARfD or the ADI when an ARfD is missing	notification
5 b	The intake is lower than the ARfD or the ADI when an ARfD is missing	no notification except in case 5c
5 c	The intake is lower than the ARfD but higher than the ADI (expert judgement by the competent authority)	notification

ANNEX I: MEMBER STATES' INTERNET ADDRESSES FOR INFORMATION ON NATIONAL TOXICOLOGICAL EVALUATIONS, AND/OR MRLS

Austria - <http://www.bfl.at/> <http://www.lebensministerium.at>

Sweden - <http://www.slv.se/HeadMenu/livsmedelsverket.asp> <http://www.kemi.se>

Portugal - <http://www.dgpc.min-agricultura.pt/fitofarma.htm>

Germany - <http://www.bba.de>

Ireland: <http://www.pcs.agriculture.gov.ie>

Italy - <http://www.sanita.it/alimvet>

Netherlands <http://www.ctb-wageningen.nl/> <http://www.bib.wau.nl/gbk>

Finland - <http://www.mtt.fi/english>

France - <http://www.agriculture.gouv.fr/alimentation/modeact>
<http://www.agriculture.gouv.fr/alim/prot/e-phy.htm>

Greece - <http://www.minagric.gr/>
<http://www.minagric.gr/en/2.2.1.html>

United Kingdom - http://www.pesticides.gov.uk/legislation/MRLs_Legislation/mrl.htm

Belgium - <http://cmlag.fgov.be/> <http://www.fytoweb.fgov.be/>

Denmark - <http://www.mst.dk/> <http://www.fdir.dk/>

Spain - <http://www.mapya.es/productosfitos/menuconsultas.htm>

DG SANCO - http://europa.eu.int/comm/food/fs/ph_ps/pest/index_en.htm

Baby Food : http://europa.eu.int/comm/food/fs/sfp/df/df_df_en.html#infantchild

CODEX : http://apps.fao.org/CodexSystem/pestdes/pest_q-e.htm

OECD - <http://www.oecd.org>

US <http://www.epa.gov/>
<http://www.epa.gov/opprd001/tolerance/tisinfo/index.htm>

ANNEX II: GUIDANCE ON DEFAULT VARIABILITY FACTORS IF NO VARIABILITY FACTOR IS AVAILABLE FROM TRIALS DATA (SOURCE: JMPR; PSD)¹⁸

Commodity	Variability factor	Commodity	Variability factor	Commodity	Variability factor
<u>Citrus fruit</u>		Guava	7	<u>Cucurbits</u>	
Grapefruit	7	Kiwi fruit	7	Cucumber*	7
Lemon*	7	Pawpaw/ Papaya	7	Courgette/ Zucchini	7
Mandarins and other soft citrus	7	Pineapple*	7	Melons*	5
Oranges	7			Watermelon*	5
Limes*	7	<u>Root and tuber vegetables</u>		Marrow*	5
		Beetroot	7	Pumpkin*	5
<u>Pome fruit</u>		Carrot	7		
Apple	7	Celeriac*	7	<u>Brassica</u>	
Pear	7	Jerusalem artichoke	7	Broccoli	7
Quince	7	Potato	7	Cauliflower*	5
		Parsnip	7	Cabbage*	5
<u>Stone fruit</u>		Swede*	7	Chinese cabbage*	7
Apricot	7	Sweet potato	7	Kohlrabi	7
Peach	7	Turnip*	7		
Plum	7	Yam*	7	<u>Lettuce and leaf vegetables</u>	
Nectarine	7			Lettuce*	5
		<u>Bulb and stem vegetables</u>		Spinach	1
<u>Berries</u>		Onions	7	Chickory/ Witloof	7
Table grape(bunches)	5	Fennel bulb	7		
				<u>Stem vegetables</u>	
<u>Miscellaneous fruit</u>		<u>Fruiting vegetables</u>	7	Asparagus	1
Avocado	7	Tomato	7	Celery	7

¹⁸ The JMPR 2003 meeting argued that a default variability factor of 3 would be more appropriate. This recommendation has not yet been accepted at community level so far (December 2003)

Banana	7	Pepper, sweet	7	Globe artichoke	7
Fig	7	Pepper, Chilli	7	Leek	7
Mango	7	Aubergine*	7	Rhubarb	7

* A single portion of these commodities usually consist of less than one unit.

ANNEX III: EXAMPLES OF CONSUMPTION DATA INCLUDING HIGH PERCENTILE CONSUMPTION (LARGE PORTION SIZES) BY ADULTS AND CHILDREN (SOURCE: UK TECHNICAL POLICY ON THE ESTIMATION OF ACUTE DIETARY INTAKES OF PESTICIDE RESIDUES, PSD, YORK, 1998; GEMS/FOOD)

Adults		97.5TH PERCENTILE	
FOOD GROUP	% Consumers	Random diary day I (g/per/day)	FOOD PORTION
Oranges	18.2	508	-
- Fruit	6.7	262	1½ , medium oranges
- Juice	12.8	500	3 average glasses
Mandarines	2.5	158	1½, medium mandarines
<u>Grapefruit</u>	2.7	212	1 medium grapefruit
Pears	3.9	274	2 medium pears
<u>Apples</u>	23.4	347	-
- Fruit	22.4	308	2¾ , medium apples
- Juice	1.5	452	3 average glasses
Cherries	0.3	247	½ Lb cherries
Plums	0.9	172	3 medium plums
Peaches	2.6	228	2 medium peaches
Nectarines	0.9	172	1 medium nectarine
<u>Apricots</u>	0.6	137	3½ medium apricots
<u>Grapes</u>	2.2	190	1/3 lb grapes
Strawberries	1.6	203	1/3 lb strawberries
Blackcurrants	1.4	70¹⁹	-
- Fruit	<0. 1	72²⁰	<¼ . lb blackcurrants
- Juice	1.4	57²¹	6½ average glasses
Bananas	9.8	227	2 medium bananas
<u>Pineapple</u>	1.9	277	2 slices of pineapples

¹⁹ Recently corrected by PSD by a factor 0.05

²⁰ Recently corrected by PSD by a factor 2

²¹ Recently corrected by PSD by a factor 0.05

Adults		97.5TH PERCENTILE	
FOOD GROUP	% Consumers	Random diary day I (g/per/day)	FOOD PORTION
Beetroot	3.5	117	3 small beetroots
<u>Parsnips</u>	1.0	202	1 ½ medium parsnips
Swede	1.4	334	1/3 medium swede
<u>Turnips</u>	0.9	216	2 medium turnips
Carrots	17.4	226	3 medium carrots
Onions	11.9	135	1 medium onion
Tomatoes	27.6	157	2 medium tomatoes
<u>Pepper</u>	2.3	89	½ medium pepper
Cucumber	13.1	84	1½ x 1" slice cucumber
Courgette	0.9	222	2 medium courgette
Melon	1.5	513	1 ½ slices of melon
Sweetcorn	2.9	307	1½ medium cob of corn
Broccoli	1.5	361	5 spears of broccoli
Cauliflower	6.4	579	¾ whole cauliflower
Brussels <u>Sprouts</u>	3.8	319	32 sprouts
Cabbage	8.1	318	½ medium cabbage
POTATOES			
<u>Chips</u>	31.9	548	2 ½ medium potatoes
Baked/Roasted	27.8	, 572,	2½ medium potatoes
Canned	0.8	214	1 medium potato
Boiled etc	73.7	622	3 medium potatoes
Dried	0.6	234	1 medium potato
<u>Crisps</u>	14.6	83	1 medium potato
ALL POTATOES	66.3	684	3 medium potatoes
Lettuce	18.3	93	1/6 medium lettuce
<u>Spinach</u>	0.3	266	3 average servings of spinach
Peas	19.1	437	1 lb of peas

Adults		97.5TH PERCENTILE	
FOOD GROUP	% Consumers	Random diary day I (g/per/day)	FOOD PORTION
Runner Beans	3.9	2(7	½ lb or beans
Celery	3.1	118	4 sticks of celery
Leeks	0.5	248	1¾ stems of leeks
Mushrooms	5.4	153	7 medium mushrooms
Children (Toddlers)		97.5TH PERCENTILE	
FOOD GROUP	% Consumers	Random diary day I (g/per/day)	FOOD PORTION
<u>Oranges</u>	18.0 -	1171	
- Fruit	3.9	453	3 medium oranges
- Juice	15.0	1171	7 ½ average glasses
Mandarines	7.5	345	3½ , medium mandarines
<u>Grapefruit</u>	0.1	449	3 medium grapefruit
Pears	3.3	566	3 ¾ medium pears
<u>Apples</u>	23.5	735 -	
- Fruit	19.2	458	4 medium apples
- Juice	5.9	1345	8 average glasses
Cherries	0.2	102	¼ lb cherries
Plums	0.7	228	4 medium plums
Peaches	1.4	286	2 ½ medium peaches
Nectarines	1.0	370	2½ medium nectarines
<u>Apricots</u>	0.4	235	6 medium apricots
<u>Grapes</u>	7.5	396	¾ lb grapes
Strawberries	1.4	268	½ lb strawberries
Blackct.trrant	9.6 -	1822	
-Fruit	<u>0.1</u>	17	<Ylb blackcurrants
- Juice	9.5	1827	11 average glasses
Bananas	19.2	361	3 ½ medium bananas
<u>Pineapple</u>	1.0	176	1 slice of pineapple
Beetroot	1.4	101	3 small beetroots
<u>Parsnips</u>	0.7	185	1 ½ medium parsnip
Swede	0.9	248	½ medium Swede

Children (Toddlers)		97.5TH PERCENTILE	
FOOD GROUP	% Consumers	Random diary day I (g/per/day)	FOOD PORTION
<u>Turnips</u>	0.4	150	1 ½ ,medium turnip
Carrots	14.6	250	3 medium carrots
Onions	3.6	102	¾ medium onion
Tomatoes	7.9	209	2 ½ ,medium tomatoes
<u>Pepper</u>	0.7	127	¾ medium pepper
Cucumber	7.2	175	3 x 1" slices cucumber
<u>Courgette</u>	0.4	150	1 medium courgette
Melon	0.8	578	1 ¾ slices of melon
Sweetcorn	4.8	269	1¼ medium cob of corn -
Brocoli	3.5	217	3 spears of brocolli
Cauliflower	2.8	400	½ medium cauliflower
Brussels <u>Sprouts</u>	1.6	239	24 brussels sprouts
Cabbage	3.2	214	½ medium cabbage
POTATOES			
<u>Chips</u>	15.8	591	2 ¾ medium potatoes
Baked/Roasted	6.5	600	2 ¾ medium potatoes
Canned	0.4	115	½ medium potato
Boiled etc	26.6	541	2 ½ , medium potatoes
Dried	0.7	344	1½ medium potatoes
<u>Crisps</u>	22.0	116	½ medium potato
ALL	60.0	602	2 ¾ medium potato
Lettuce	3.2	58	1/8 medium lettuce
<u>Spinach</u>	0.1	79	1 ave serving of spinach
Peas	1.3.9	409	¾ lb of peas
Runner Beans	1.4	161	1/3 lb of beans
<u>Celery</u>	0.7	54	1 ¾ sticks of celery
Leeks	0.2	63	½ stem of leek
Mushrooms	2.1	<u>116</u>	6 medium mushrooms

97.5th PERCENTILE CONSUMPTION DATA FOR VARIOUS COMODITIES

Hazard Exposure Assessment -Children (Ages 6 and under)-European Type Diet

CODE	COMMODITY	Children	Country
CF 1210	Wheat germ	0.53	USA
CF 1211	Wheat flour	10.23	Australia
CF 1212	Wheat wholemeal	4.91	USA
CF 1250	Rye flour	1.18	USA
CF 1251	Rye wholemeal	0.68	USA
CF 1255	Maize flour	3.15	Australia
CM 649	Rice, husked	12.50	France
CM 654	Wheat bran, unprocessed	1.98	USA
CM 1205	Rice, polished	9.40	France
CM 1206	Rice bran, unprocessed	0.21	USA
CP 179	Wheat products	9.44	France
CP 1211	White bread	10.17	Australia
CP 1212	Wholemeal bread	16.67	France
DF 14	Dried prunes	8.95	Australia
DF 167	Dried fruits	5.67	France
DF 247	Peach, dried	1.82	USA
DF 269	raisins)	2.50	France
DF 295	Dates, dried or candied	3.30	Australia
DF 297	Figs, dried or candied	2.50	France
DF 5263	Raisins	3.95	USA
DH 170	Dried herbs	1.67	France
DM 305	Olives, processed	2.78	France
DM 659	Sugar cane molasses	8.85	Australia
DM 1215	Cocoa butter	0.62	USA
DT 1114	Tea, green, black	12.50	France
FB 18	Berries and other small fruits	11.51	Australia
FB 20	Blueberries	7.77	France
FB 21	Currants, red, black, white	30.75	Australia
FB 264	lackberries	2.67	France
FIB 265	Cranberry	6.78	USA
FB 266	Drewberries	4.00	Australia
FB 267	Elderberries	0.52	Netherlands

**97.5th PERCENTILE CONSUMPTION FIGURES FOR VARIOUS
COMODITIES**

Hazard Exposure Assessment - Mean Body Weight and Age Distribution

COUNTRY	WEIGHT		AGE	
	Men/Women	Children	Men/Women	Children
<u>Japan</u>	Not given	Not given	General	6 and.under
Australia	70.0 kg	19.0 kg		6 and.under
France	62.3 kg	17.8 kg	General	6 and.under
USA	70 / 60 kg	16.0 kg	General	1-6 yrs
Netherlands	63 +/- 23	17 +/- 5	General	6 and.under
UNK	70.1 kg	14.5 kg	16-64 yrs	- 1.5 - 4.5 yrs

ANNEX IV: UNIT WEIGHTS (SOURCE: UK TECHNICAL POLICY ON THE ESTIMATION OF ACUTE DIETARY INTAKES OF PESTICIDE RESIDUES, PSD, YORK, 1998)

Commodity	Size	(g)	Commodity	Size	(g)
Orange**	1 medium	160	Onions	1 medium	150
Mandarine**	1 medium	100	Tomatoes	1 medium	85
Grapefruit**	1 medium	160	Pepper	1 medium	160
Pears	1 medium	150	Cucumber	1" slice	60
Apples	1 medium	112	Courgette	1 medium	114
Cherries* *	1 lb	415	Melon	slice	322
Plums**	1 medium	55	Sweetcorn	med cob	215
Peaches**	1 medium	110	Broccoli	spear	74
Nectarines**	1 medium	149	Cauliflower*	1 medium	780
Apricots**	1 medium	39	Brussels	sprout	10
Grapes	1 lb	500	Cabbage	1 medium	540
Strawberries	1 lb	500	Potato	' 1 medium	216
Bananas**	1 medium	100	Lettuce*	1 medium	558
Pineapple	1 slice	150	Spinach	1 ave	90
Beetroot	1 small	35	Peas	1 lb	500
Parsnips	1 medium	125	Runnerbeans	1 lb	500
Swede*	1 medium	500	Celery	1 stick	30
Turnips	1 medium	110	Leeks	1 stem	140
Carrots	1 medium	80	Mushrooms	1 medium	20
Blackcurrnt	1 lb	500	Fruit juices	1 ave glass	160

Factors have been applied to convert edible portions into whole foods.

* Average weights from supermarket data
 ** Data based on edible portions

ANNEX V: PESTICIDES FOR WHICH NO ARFD IS NECESSARY ACCORDING TO ECCO-PEER REVIEW OR JMPR EVALUATIONS.

Acibenzolar-S-methyl	Ethoxyquin	Piperonyl butoxide
Amitrole (aminotriazole)	Fenhexamid	Prohexadione calcium
Azimsulfuron	Ferric phosphate	Propargite
Azoxystrobin	Florasulam	Propyzamide
Bitertanol	Flupyrsulfuron methyl	Prosulfuron
Chlorpyrifos-methyl	Fluroxypyr	Pyridate
Cinidon ethyl	Glyphosate (incl trimesium aka sulfosate)	Pyriproxyfen
Clethodim	Imazalil (aka enilconazole)	Quintozene
Cyhalofop-butyl	Iprovalicarb	Spinosad
2,4-D	Isoproturon	Spiroxamine
DDT	Kresoxim-methyl	Sulfosulfuron
Diflubenzuron	Metalaxyl-M	Thiabendazole
Diphenylamine	Methoprene	Thifensulfuron (aka thiameturon)
Diquat (dibromide)	Metsulfuron	Thiophanate-methyl
Ethofumesate	2-Phenylphenol (incl. sodium salt; aka sodium 2-phenylphenate)	Triasulfuron