



27 September 2007

Pesticide Residues Committee

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Pesticide Residues Monitoring Report

First Quarter Report 2007

Quarter Ended March 2007

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Summary Findings

This is our first quarterly report for 2007.

This quarter's programme surveyed 524 samples of 9 different foods: beef, chocolate, grapes, lettuce, milk, peppers, pork, speciality fruit and turkey.

The results show 6 samples contained residues above the maximum permitted levels. We have looked carefully at each of these findings including the risk assessments provided by PSD. In every case the presence of these residues would be unlikely to have had any adverse effect on the health of anyone who ate the food. The monitoring programme has detected an apparent illegal use of chlorothalonil on a UK sample of lettuce. PSD are investigating the finding.

In previous years the PSD has conducted risk assessments when: the residue found was above the MRL; there was no MRL; previous intake concerns had been identified; or where there was an apparent non-approved used use on UK produce. This year we have changed this, so that a screening assessment is now done for every residue sought in each commodity to determine whether any of the residue levels found could lead to intakes that exceed acute reference doses (or in some cases acceptable daily intakes). If the screening assessment identifies levels which could exceed these reference values then more detailed specific assessments are done and these are reported in full in our report. This has effectively increased the number of risk assessments so that now an assessment covers every residue found.

For our 2007 surveillance programme we are pleased to report that technological improvements have enabled us to expand the range of pesticides that we look for in our fruit and vegetables surveys to approximately 200 per survey. In 2006 the maximum number of pesticides that we looked for in any survey was 129. For this reason we may be finding more residues and multi-residues in single samples.

We continue to publish details of suppliers and retailers of the food sampled. We have asked suppliers and the authorities of the exporting countries for an explanation of our findings – any responses we received are at appendix D.

Thanks go to all of those individuals and organisations responsible for helping us put this report together. These include our Secretariat and scientists (both based at the Pesticides Safety Directorate), the shoppers and Defra officials who have collected the samples and laboratory staff across the UK who undertook the analysis.

Dr Ian Brown
OBE BSc (Agric) FRCP FFOM
Chairman Pesticide Residues Committee

Section I – Introduction

Background

Food safety is important. Modern food production processes have given us plentiful supplies of a wide range of good quality affordable produce.

In the food industry of today the production environment can be managed from the preparation of seeds used for crops, through to growth, harvesting and storage of the produce.

One of the ways the food industry controls the environment in which foodstuffs are produced is by applying pesticides. They help farmers and growers maximise the production of foodstuffs by, for example, preventing weeds inhibiting the growth of the crop, or insects destroying or infesting them. Pesticides can also be used to help protect seeds, or prolong the life of crops after they have been harvested. Biological and physical controls are also used to protect crops or as part of an integrated system.

As pesticides are used to control unwanted pests, weeds and diseases, they can potentially also harm people, wildlife and the environment. This is why the UK, in common with most other countries, imposes legally enforceable conditions as to how and when pesticides can be used. No pesticide can be supplied or used on a food or ornamental crop in the UK without the Government authorisation. To obtain this authorisation the manufacturer of the pesticide must show that it does not present a concern for people's health or the environment. Naturally derived and synthetic pesticides are subject to the same regulation.

Once the authorisation has been granted Government authorities carry out follow up checks to ensure that the authorisation is providing the necessary degree of protection to users, consumers and the environment and that those who use pesticides are complying with conditions specified within it.

The Government authority responsible for checking pesticide residues in foodstuffs is the Pesticides Safety Directorate. The Pesticide Residues Committee (PRC) oversees (and provides an independent check) on this work. We know that the use of pesticides on crops may lead to traces (residues) of these chemicals in food and we expect to find these in our monitoring programme.

The Pesticide Residues Committee (PRC)
The Pesticide Residues Committee (PRC) is an independent group of experts; our main function is to oversee Government's £2 million pesticide residues surveillance programme. Our Chairman, Dr Ian Brown, is a consultant occupational physician and toxicologist at Southampton University hospitals. The Committee also includes lay members and individuals from academic, food industry and consumer backgrounds. This broad range of expertise has enabled us to develop a rigorous monitoring programme that provides taxpayers with good value for money.

Information on the membership of the PRC is also available on the PRC's website: www.pesticides.gov.uk/prc.asp?id=823

Our role is to advise Ministers and the Chief Executives of the Pesticides Safety Directorate (PSD) and the Food Standards Agency (FSA) on:

- the planning of surveillance programmes for pesticide residues in the UK food supply and the evaluation of the results;
- procedures for sampling, sample processing, new methods of analysis, the assessment of variability of pesticide residues in food and related issues.

Surveillance programme

The pesticide residues surveillance programme is designed to enable us to check:

- that specified pesticide maximum residue levels are being respected;
- that users of pesticides are complying with conditions of use specified in the authorisation; and
- that dietary intakes of residues are within acceptable limits.

We do this by collecting samples of foodstuffs from a range of points in the supply chain (including supermarkets, corner shops, markets, distribution and supply depots). Each sample is then analysed in carefully selected certified laboratories for residues of, typically, up to several dozen different types of pesticides.

Each sample is tested for around 200 pesticides. This list is updated each calendar year which means that direct comparisons with previous surveys is not possible for new pesticides added to the list.

All EU countries monitor food for pesticide residues. To co-ordinate activities, each year the European Commission proposes a number of surveys to be carried out by all member states. The surveys are usually of fruit and vegetables. In 2007 EU surveys are of: apples, cabbages, leeks, lettuce, peaches and nectarines, strawberries, tomatoes, celery and rye/oats. The number of samples to be analysed is greater for the countries with larger populations (such as the UK). Results from EU surveys are published as a single report on the Commission's website (http://europa.eu.int/comm/food/fvo/specialreports/pesticides_index_en.htm).

The surveillance programme is organised on an annual basis, divided into four quarters. The programme ensures all the major components of our national diet are sampled (milk, bread, potatoes, fruit and vegetables, cereals and related products, and animal products). The programme is not designed to provide a representation of residues in our diet – it is carefully targeted and looks more at those commodities likely to contain residues. Some commodities are surveyed every year, whilst others are surveyed less frequently, for example once every three years; this is what we call the rolling programme.

The sampling and analysis is carried out in accordance with stringent international standards.

Reporting the results

Details of the surveillance programme are outlined in this report. It details the number and source of the foodstuffs analysed and any residues detected. We highlight and investigate findings of residues which:

- are in excess of statutory maximum residue levels (MRL) of a pesticide permitted in foods.
- are within the MRL or have no MRL but which result in intakes in excess of the Acute Reference Dose (ARfD) (e.g. as done for dithiocarbamates and phosmet). New ARfDs are established relatively early in the EC review programme of active substances as part of the consideration of human toxicological effects. MRLs for individual commodities are now established after a decision has been taken whether or not to include an active substance on the European 'positive list' of authorised substances (Annex I to Directive 91/414/EEC). There can be a time delay extending to many years between establishing the ARfD for an active substance and establishing corresponding, new MRLs in the legislation of member states. Updating of the toxicology database and establishment of a lower ARfD as part of that process may result in the subsequent need to reduce the MRL. Identifying and carrying out risk assessments on residues within the MRL but which give intakes above the ARfD allows us to keep track of the EC process and seek the early consideration of existing MRLs to reflect our concerns.
- occur in UK grown produce where there is no UK approval for use of that pesticide.
- for particular categories of pesticides have a similar mode of action, by publishing details of combined risk assessments.

A screening assessment is done for each residue and commodity combination to identify residue levels that would lead to intakes above the relevant reference doses. Detailed assessments are then produced for every case where the actual residue level found could lead to an intake above the reference dose. You can find more details of the risk assessments at **Section II**.

The Results

Beef

Introduction

Beef is monitored as part of the rolling programme.

Samples included joints, steaks and diced beef for casseroling, but not minced beef.

We last monitored beef in 2004 when no residues were detected.

Survey design

This is the first part of our survey. The second part will cover samples collected between July and September and will be published in our Quarter 3 2007 Report.

Samples were purchased across the UK from retail outlets by a market research company.

Further details

Full details of pesticides sought and residues detected are in Table 4 at page 32
Suppliers details are in the Brand Name Annex

Conclusions

PRC Conclusions

No residues were detected at or above the reporting limit.

Results

When samples were taken

Between January and March 2007

Number of samples

72 samples were tested for 11 pesticide residues

Origin of samples

58 samples came from the UK
4 samples were imported from outside the EU
10 samples came from the EU

Residues found

72 samples contained no residues from those sought
No samples contained residues above the reporting level
No samples contained residues above the MRL
5 samples were labelled as organic. None contained residues from those sought

Multiple residues

No samples contained residues of more than one pesticide

Risk assessments

Number of risk assessments

None required

Chocolate

Introduction

Chocolate is surveyed as part of the rolling programme.

This survey is of milk and plain chocolate without added ingredients.

We in the PRC have not surveyed this type of chocolate before. However our predecessors the Working Party On Pesticide Residues did sample milk and plain chocolate back in 1994, and continental chocolate in 1998.
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The PRC surveyed white chocolate in 2002. The results are published in our Q3 2002 report.

Survey design

This is the first part of our survey. The second part will cover samples collected between April and June and will be published in our quarter 2 2007 report.

Samples were purchased across the UK from retail outlets by a market research company.

Further details

Full details of pesticides sought and residues detected are in Table 5 at page 33
Suppliers details are in the Brand Name Annex

Conclusions

PRC Conclusions

None of the residues detected would be expected to have an effect on health.

PRC Comments
We found one organophosphus pesticide (pirimiphos-methyl) and one organochlorine pesticide (endosulfan).

Results

When samples were taken

Between January and February 2007

Number of samples

61 samples were tested for 27 pesticide residues

Origin of samples

15 samples came from the UK
42 samples came from the EU
4 samples were imported from outside the EU

The country of origin of these samples is the place where the chocolate bars were manufactured or packaged and not the place where the cocoa beans were grown.

Residues found

57 samples contained no residues from those sought
4 samples contained residues above the reporting level
No samples contained residues above the MRL.
3 samples were labelled as organic. None contained residues from those sought

Multiple residues

2 samples contained residues of 2 pesticides

Residues with no MRL	There are no MRL's for chocolate 2 pesticides with no MRL in chocolate were found. 3 samples contained endosulfan at levels ranging from 0.01 mg/kg to 0.03 mg/kg. 3 samples contained pirimiphos methyl at levels ranging from 0.01 mg/kg to 0.02 mg/kg

Risk assessments

Number of risk assessments	Screening assessments were done for all residues sought, and none of the residues found gave acute intakes above the ARfD or ADI.
Combined risk assessment	None required - no residues with similar toxicological modes of action were found in any samples.

Follow up action

Letters sent	The Secretariat have written to the suppliers of the samples containing residues – any comments received are at Appendix D.

Grapes

Introduction

Grapes are sampled regularly because they are widely consumed, and results from previous surveys have shown that they can contain a relatively wide range of residues. Grapes are treated frequently because they are susceptible to various insect and fungal attacks that can damage the crop and therefore its value.

Since 2003 the EC's Rapid Alert System for Food and Feed (RASFF) has regularly alerted member States to problems with pesticide residues in grapes. In response to these problems the Secretariat publishes results for grape monitoring on a monthly basis. All the results below have already been published on the PRC website.

Survey design

Grapes will be surveyed and reported on in every quarter of 2007. This is the first part of our survey, covering samples obtained in January to March.

Around half the samples for this survey are collected twice a month by the Rural Payments Agency's Horticultural Marketing Inspectors from a range of points in the supply chain; wholesale markets, retail depots, ports and import points. The rest of the samples are purchased from national retail outlets by a market research company.

Further details

Full details of pesticides sought and residues detected are in Table 6 at page 35
Risk assessments carried out by PSD are at page 24
Suppliers details are in the Brand Name Annex

Conclusions

PRC Conclusions

Based on the PSD risk assessment of all the residues detected an effect on health would be unlikely (see risk assessments in Section II).

Results

When samples were taken

Between January and March 2007

Number of samples

67 samples were tested for 189 pesticide residues

Origin of samples

67 samples were imported from outside the EU

Residues found

20 samples contained no residues from those sought
47 samples contained residues above the reporting level
2 samples contained residues above the MRL
No samples were labelled as organic.

Multiple residues

27 samples contained residues of more than one pesticide

- 8 samples contained 2 residues
- 6 samples contained 3 residues
- 5 samples contained 4 residues
- 4 samples contained 5 residues
- 1 samples contained 6 residues
- 1 samples contained 7 residues
- 2 samples contained 8 residues

Residues above the MRL

1 sample contained carbofuran at 0.03 mg/kg – the MRL is 0.02 *mg/kg.
1 sample contained methomyl at 0.1 mg/kg – the MRL is 0.05*mg/kg.

Risk assessments

Number of risk assessments

Screening assessments were done for all residues sought, and 5 detailed risk assessments were carried out by the PSD where the residues found gave acute intakes above the ARfD or ADI.

Captan

8 samples contained captan at levels ranging form 0.06 mg/kg to 2 mg/kg. At the time these samples were taken there was no MRL for captan in table grapes. From 11 May an MRL of 0.02*mg/kg applies.

The intakes for toddlers were 1.2 times the ARfD of 0.1 mg/kg bw/day. The findings that the EFSA ARfD are based on are: transient reductions in body weight and food consumption observed in a rat developmental study and the ARfD includes a 100 fold safety factor. In 2004, based on the same study the JMPR set an ARfD of 0.3 mg/kg for women of childbearing age only. Therefore, although the predicted intake for toddlers represents a reduction in the usual safety margin to 80, an effect on health would be unlikely.

Carbofuran

1 sample contained carbofuran at 0.03 mg/kg – the MRL is 0.02 *mg/kg. The highest intake was 1.8 times the ARfD for carbofuran (the residue was found as 3-hydroxy carbofuran and this metabolite has similar acute toxicity to carbofuran so use of the carbofuran ARfD is appropriate). The ARfD (0.001 mg/kg bw/day) is based on clinical signs of toxicity in dams in developmental toxicity studies in the rat and incorporates a standard 100 fold safety margin. The highest intake reduces the safety factor to 55. The JMPR, in 2002, set an ARfD of 0.009 mg/kg using a lower safety factor of 25, as the relevant toxic effects are dependent on the maximal concentration (they also used a dog study as the basis). Reducing the safety factor to 50 based on a NOAEL for cholingeric findings with a carbamate should be adequate to protect against adverse effects (If effects were produced they would be transient and probably mild). In conclusion, although the usual safety margin is reduced an effect on health is unlikely.

Cyprodinil

18 samples contained residues of cyprodinil at levels ranging from 0.02 mg/kg to 0.6 mg/kg, the MRL is 3 mg/kg. Assessment of mammalian toxicology data shows cyprodinil not to be acutely toxic. Although for the highest level found, some short-term intakes were above the ADI long term intakes were 9% or less of the ADI assuming unrealistically that all grapes eaten contained the highest residue found. Therefore, an effect on health would be unlikely.

Iprodione

26 samples contained residues of iprodione at levels ranging from 0.03 mg/kg to 1.2 mg/kg, the MRL is 10 mg/kg. Assessment of mammalian toxicology data shows

* **Maximum Residue Levels set at the LOD (LOD MRL):** These MRLs are set at a default level, i.e. at the limit of determination (LOD) where analytical methods can reasonably detect the presence of the pesticide. Either insufficient trials data are available on which to set a maximum residue level or there may be no use of the pesticide on that crop in the EU. However they may be permitted elsewhere.

	iprodione not to be acutely toxic. Although some short-term intakes were above the ADI long-term intakes were 9% or less of the ADI assuming unrealistically that all grapes eaten contained the highest residue found. Therefore, an effect on health would be unlikely.
Methomyl	1 sample contained methomyl at 0.1 mg/kg – the MRL is 0.05* mg/kg. Intakes for a number of the consumer groups exceed the acute reference dose of 0.0025 mg/kg bw/day. The intake of the critical group toddlers is 2.4 times the ARfD. The highest intake is sixteenth of the single dose (0.1 mg/kg bw) which was given to humans in a volunteer study which showed no adverse effects. At the next dose (0.2 mg/kg bw), a slight increase in salivation was observed. Based on the PSD risk assessment of the residues detected an effect on health would be unlikely.
Combined risk assessment	1 risk assessment was carried out for residues of more than one pesticide with the same toxicological mode of action.
Carbofuran and chlorpyrifos	1 sample contained residues of both carbofuran and chlorpyrifos. On carrying out a combined risk assessment, the intakes for carbofuran are up to 180% of the carbofuran acute reference dose and chlorpyrifos are up to 18% of the chlorpyrifos acute reference dose. The presence of chlorpyrifos in the sample does not significantly contribute to the overall combined intake when compared to carbofuran. For carbofuran, the acute intake for toddlers was 1.8 times the ARfD of 0.001 mg/kg bw/day, based on the highest residue found in grapes. The ARfD is based on clinical signs of toxicity in dams in developmental toxicity studies in the rat and incorporates a standard 100 fold safety margin. The highest intake reduces the safety factor to 55. The JMPR, in 2002, set an ARfD of 0.009 mg/kg using a lower safety factor of 25, as the relevant toxic effects are dependent on the maximal concentration (they also used a dog study as the basis). Reducing the safety factor to 50 based on a NOAEL for cholingeric findings with a carbamate should be adequate to protect against adverse effects (If effects were produced they would be transient and probably mild). In conclusion, although the usual safety margin is reduced an effect on health is unlikely. Therefore, no effect on health would be expected from the combined intake of carbofuran and chlorpyrifos in this sample.

Follow up action

Letters sent	The Secretariat have written to the suppliers of both samples containing residues above the MRL – any comments received are at Appendix D.
RASFFs issued	Alerts were issued by the EU for these samples through the EC's Rapid Alert System for Food and Feed (RASFF) (see glossary for more details). • 1 sample containing captan 2mg/kg • 1 sample containing carbofuran at 0.03 mg/kg – the MRL is 0.02 *mg/kg

* **Maximum Residue Levels set at the LOD (LOD MRL):** These MRLs are set at a default level, i.e. at the limit of determination (LOD) where analytical methods can reasonably detect the presence of the pesticide. Either insufficient trials data are available on which to set a maximum residue level or there may be no use of the pesticide on that crop in the EU. However they may be permitted elsewhere.

Lettuce

Introduction

In the 1990s the surveillance programme detected unapproved use of pesticides on UK lettuce. Since then lettuce has been sampled annually.

Survey design

These results are for the first part of the survey, the second and third parts will be published in our Q2 and Q4 2007 reports.
Samples were purchased across the UK from retail outlets by a market research company.

Further details

Full details of pesticides sought and residues detected are in Table 7 at page 41
Suppliers details are in the Brand Name Annex

Conclusions

PRC Conclusions

None of the residues detected would be expected to have an effect on health.

PRC Observations

One sample contained a residue above the MRL for chlorothalonil, a pesticide that is not approved for use on lettuce in the UK. This finding was investigated by PSD.

Results

When samples were taken

Between January and March 2007

Number of samples

36 samples were tested for 191 pesticide residues

Origin of samples

7 samples came from the UK
29 samples came from the EU

Residues found

14 samples contained no residues from those sought
22 samples contained residues above the reporting level
1 sample contained residues above the MRL
1 sample was labelled as organic. It contained no residues from those sought

Multiple residues

13 samples contained residues of more than one pesticide

- 2 samples contained 2 residues
- 6 samples contained 3 residues
- 3 samples contained 4 residues
- 2 samples contained 5 residues

Residues above the MRL

1 sample contained chlorothalonil at 0.03 mg/kg the MRL is 0.01*mg/kg.

Risk assessments

Number of risk assessments

Screening assessments were done for all residues sought, and none of the residues found gave acute intakes above the ARfD or ADI.

Combined risk assessment	None required - no residues with similar toxicological modes of action were found in any samples.

Follow up action

Non approved use	Chlorothalonil is not approved for use on lettuce in the UK and therefore this residue may arise from illegal use. PSD have undertaken an investigation.

Milk

Introduction

This survey is of whole and semi-skimmed cows' milk and goats' milk. Skimmed milk is not included in our surveys because of its very low fat content (typically around 0.1%). The pesticides sought are all fat-soluble, so would not be likely to be found in milk with such a low fat content.

Cows' milk has been tested every year since before 2000 when the PRC was formed. Residues have not been generally detected in cows' milk for many years, although dieldrin was detected in 1 sample at a very low level in quarter 3 of 2003.

This is the second year we have surveyed goats' milk. In 2006 no residues were detected.

Survey design

Milk will be sampled and reported on in every quarter of 2007.

Samples were purchased across the UK from retail outlets by a market research company.

Further details

Full details of pesticides sought and residues detected are in Table 8 at page 46
Suppliers details are in the Brand Name Annex

Conclusions

PRC Conclusions

No residues were detected at or above the reporting limit

Results

When samples were taken

Between January and March 2007

Number of samples

78 samples were tested for 13 pesticide residues

Origin of samples

Cows' milk
- 69 samples came from the UK

Goats' milk
- 9 samples came from the UK

Residues found

78 samples contained no residues from those sought
0 samples contained residues above the reporting level
No samples contained residues above the MRL
23 samples were labelled as organic. None contained residues from those sought

Multiple residues

No samples contained residues of more than one pesticide

Risk assessments

Number of risk assessments

None required

Peppers

Introduction

This survey is of the type of peppers also known as sweet peppers, bell peppers or capsicum, but excludes chilli peppers.

We monitored peppers in 2006 and in 2004, when we found a few residues above the MRL but no consistent issues. Before 2004, occasional unacceptably high residues of organophosphorus pesticides had been found.

In late December 2006 EU were told through the EC's Rapid Alert System for Food and Feed (RASFF) (see glossary for more details) that isofenphos-methyl had been found in peppers grown in the Almeria region of Spain and tested in Germany. Isofenphos-methyl has never been approved in any EU member State. Investigations by the Spanish authorities indicate the chemical was illegally imported.

After receiving that first alert other member States, including the UK, were able to look again at raw results for samples they had taken and tested during 2006. Although these samples had not originally been tested for isofenphos-methyl some laboratories who use the very latest analytical techniques could identify residues of isofenphos-methyl once they had been provided with technical information about this chemical. PSD arranged for a small number of Spanish samples received towards the end of 2006 to be screened for isofenphos-methyl in order to ascertain if the laboratory could use the new technology to detect the presence of the pesticide and whether UK imports contained this pesticide. These results were reported in our Quarter 4 2006 report.

In response to this situation, we are surveying peppers again this year. We are testing for a far wider range of pesticides than last year, including isophenfos-methyl.

Survey design

Samples will be taken and reported on in each quarter of 2007. However sampling will be targeted towards those times of year when Spanish peppers are on sale in the UK.

Some samples will be collected by the Rural Payments Agency's Horticultural Marketing Inspectors. They have been instructed to target Spanish produce from a range of points in the supply chain; wholesale markets, retail depots, ports and import points. The rest of the samples will be purchased from national retail outlets by a market research company.

Further details

Full details of pesticides sought and residues detected are in Table 9 at page 47
Risk assessments carried out by PSD are at page 25
Suppliers details are in the Brand Name Annex

Conclusions

PRC Conclusions

None of the residues detected would be expected to have an effect on health (see risk assessments in Section II).

PRC Observations

Two samples contained isofenphos-methyl. We have noted that both samples were taken at wholesale markets. We hope to explore the general issue of differences

between supermarket and other produce further in future surveys. .

We were aware that the major UK supermarkets took swift action in response to the news from Spain. Based on these findings it appears their actions were effective.

Results

When samples were taken	Between January and March 2007
Number of samples	43 samples were tested for up to 157 pesticide residues
Origin of samples	21 samples were imported from outside the EU (all from Israel) 22 samples came from the EU (all from Spain)
Residues found	18 samples contained no residues from those sought 25 samples contained residues above the reporting level 1 sample contained residues above the MRL 1 sample was labelled as organic. It did not contain residues from those sought
Multiple residues	15 samples contained residues of more than one pesticide • 2 samples contained 2 residues • 4 samples contained 3 residues • 4 samples contained 4 residues • 1 samples contained 5 residues • 1 samples contained 6 residues • 1 samples contained 7 residues • 2 samples contained 8 residues
Residues above the MRL	One sample contained methomyl at 0.12 mg/kg – the MRL is 0.05*mg/kg. An EC MRL of 0.2 mg/kg will apply from August 2007

Risk assessments

Number of risk assessments	Screening assessments were done for all residues sought, and none of the residues found gave intakes above the ARfD or ADI. However an ARfD is not available for isofenphos-methyl so further details of the risk assessment are included.
Isofenphos-methyl	2 samples contained isofenphos-methyl at 0.04 and 0.1 mg/kg. An acute reference dose for isofenphos-methyl is not available. However, an ARfD is available for isofenphos-ethyl (PSD, 2007 of 0.007 mg/kg bw/day based on published 1998 US EPA assessment). Based on other organophosphorus pesticides the methyl derivative tends to be less toxic than the ethyl, and therefore the assessment based on isofenphos-ethyl is expected to be suitable. All the intakes were below the ARfD for isofenphos-ethyl, therefore no effect on health would be expected.
Combined risk assessment	2 risk assessments were carried out for residues of more than one pesticide with the same toxicological mode of action.
Chlorpyrifos-methyl, isofenphos-methyl, malathion and pirimiphos-methyl	1 sample contained residues of chlorpyrifos-methyl, isofenphos-methyl, malathion and pirimiphos-methyl On carrying out a combined risk assessment, the intakes for chlorpyrifos-methyl are up to 2.3% of the chlorpyrifos-methyl acute reference dose (0.1 mg/kg body weight/day, EU 2005), the intakes of isofenphos-methyl are up to 24% of the isofenphos-ethyl acute reference dose (0.007 mg/kg body weight/day US EPA 1998 - no acute reference dose was available for isofenphos-methyl), the intakes of

* **Maximum Residue Levels set at the LOD (LOD MRL):** These MRLs are set at a default level, i.e. at the limit of determination (LOD) where analytical methods can reasonably detect the presence of the pesticide.

malathion are up to 0.02% of the malathion acute reference dose (1.5 mg/kg body weight/day, EFSA, 2006) and the intakes of pirimiphos-methyl are up to 2.3% of the pirimiphos-methyl acute reference dose (0.15 mg/kg body weight/day, EFSA 2005). Therefore, no effect on health would be expected from the combined intake of chlorpyrifos-methyl, isofenphos-methyl, malathion and pirimiphos-methyl in this sample.

Chlorpyrifos-methyl and malathion

1 sample contained residues of both chlorpyrifos-methyl and malathion.

Chlorpyrifos-methyl (0.38 mg/kg of commodity) and malathion (0.02 mg/kg of commodity) - On carrying out a combined risk assessment, the intakes for chlorpyrifos-methyl are up to 6.2% of the chlorpyrifos-methyl acute reference dose (0.1 mg/kg body weight/day, EU 2005) and the intakes of malathion are up to 0.02% of the malathion acute reference dose (1.5 mg/kg body weight/day, EFSA, 2006). Therefore, no effect on health would be expected from the combined intake of chlorpyrifos-methyl and malathion in this sample.

Follow up action

Letters sent

The Secretariat have written to the supplier of the sample with residues above the MRL – any comments received are at Appendix D.

Isophenfos-methyl

Isophenfos-methyl is not approved for any use anywhere in the EU. Alerts were issued by the EU for the two samples through the EC's Rapid Alert System for Food and Feed (RASFF) (see glossary for more details).

Pork

Introduction

Pork is monitored as part of the rolling programme.

Samples included chops, joints, steaks and diced pork but not minced pork.
We last monitored pork in 2003 when no residues were detected.

Survey design

This is the first part of our survey. The second part will cover samples collected between July and September and will be published in our Quarter 3 2007 Report.

Samples were purchased across the UK from retail outlets by a market research company.

Further details

Full details of pesticides sought and residues detected are in Table 10 at page 54
Suppliers details are in the Brand Name Annex

Conclusions

PRC Conclusions

None of the residues detected would be expected to have an effect on health.

PRC Observations
DDT was detected in one sample at 0.002 mg/kg – the MRL is 0.1 mg/kg.
DDT was banned across the EC by the 1980s and is banned or heavily restricted in many other countries. Residues of DDT take a long time to break down in the environment and can also build up in fatty tissues. All the DDT found was in the form of the breakdown product *pp*DDE, indicating that the residues have not arisen from recent use. We have informed the Veterinary Residue Committee of this finding.

Results

When samples were taken

Between January and March 2007

Number of samples

70 samples were tested for 11 pesticide residues

Origin of samples

46 samples came from the UK
24 samples came from the EU

Residues found

69 samples contained no residues from those sought
1 sample contained residues above the reporting level
No samples contained residues above the MRL
3 samples were labelled as organic. None contained residues from those sought

Multiple residues

No samples contained residues of more than one pesticide

Risk assessments

Number of risk assessments

Screening assessments were done for all residues sought, and none of the residues found gave acute intakes above the ARfD or ADI.

27 September 2007

Speciality Fruit

Introduction

This survey includes a wide range of speciality fruit. This quarter we are reporting on Asian pears, lychees, passion fruit, persimmons (including Sharon fruit), physalis (also known as cape gooseberries) and pomelos.

We tend to find residues for a number of pesticides in exotic fruits. Previous surveys have found a relatively high proportion contained residues above the MRL. The MRLs set in these crops are often set at the lowest level which can routinely be tested for (called the Limit of Determination or LOD) because producers have not supplied information to set a higher level. This is a particular issue with developing countries that grow these products for export.

Survey design

Speciality fruit will be surveyed and reported upon in quarter 1, 2 and 3 of 2007. This is the first part of our survey.

Further details

Full details of pesticides sought and residues detected are in Table 11 at page 55
Risk assessments carried out by PSD are at page 25
Suppliers details are in the Brand Name Annex

Conclusions

PRC Conclusions

Based on the PSD risk assessment of all the residues detected an effect on health would be unlikely (see risk assessments in Section II).

PRC Observations

Both samples with residues above an MRL were cases where the MRL is set at the LOD in the absence of data supporting a higher level.

Samples are selected at random in this survey. The higher proportion of samples of passionfruit and persimmon is a reflection of the wider availability of this fruit and not a result of targeting.

Results

When samples were taken

Between January and March 2007.

Number of samples

25 samples were tested for up to 157 pesticide residues

Origin of samples

Asian Pear
- 2 samples were imported from outside the EU

Lychees
- 4 samples were imported from outside the EU

Passion fruit
- 7 samples were imported from outside the EU

Persimmon
- 8 samples were imported from outside the EU

Physallis
- 1 sample was imported from outside the EU

Pomegranates
- 2 samples were imported from outside the EU

Pomelo

- 1 sample was imported from outside the EU

Residues found

19 samples contained no residues from those sought
6 samples contained residues above the reporting level
2 samples contained residues above the MRL
No samples were labelled as organic.

Multiple residues

3 samples contained residues of more than one pesticide

- 1 sample contained 3 residues
- 1 sample contained 4 residues
- 1 sample contained 5 residues

Residues above the MRL

2 pesticides with residues above the MRL in passionfruit were found:
2 samples contained cypermethrin at 0.08 and 0.09 mg/kg the MRL is 0.05* mg/kg.
1 sample contained thiabendazole at 0.08 mg/kg the MRL is 0.05*mg/kg.

Risk assessments

Number of risk assessments

Screening assessments were done for all residues sought, and 1 detailed risk assessment was carried out by the PSD where the residues found gave acute intakes above the ARfD or ADI.

Imazalil

1 sample of pomelo contained imazalil at 3.3 mg/kg the MRL is 5 mg/kg.

Intakes for all consumer groups that may contain females of childbearing age were above the ARfD of 0.05 mg/kg bw/day. The intake for the critical group (vegetarian) was 1.9 times the ARfD. The intake by vegetarians is around a fiftieth of the daily dose of 5 mg/kg bw/d given without any adverse effect. Therefore, although the ARfD's safety margin is reduced from 100, an effect on health would be unlikely.

The highest intake for 7-10 year olds was 3.2 times the ARfD. The ARfD is based on a NOAEL of 10 mg/kg for reduced body weight gain and food consumption in dams in a rabbit developmental study. An ARfD based on maternal toxicity in a developmental study with repeated dosing (13 days) is likely to be very protective for non-pregnant or nursing individuals. This intake was one thirtieth of the daily dose given which had no adverse effect on general toxicity (reductions in food consumption and body weight gain). Therefore, although the ARfD's safety margin is reduced from 100, an effect on health would be unlikely.

All these estimates assume that the peel of the fruit is consumed. If the peel is not consumed then data evaluated by the JMPR in 1977 established a processing factor of 0.05, to account for most residue being found in peel compared to the fruit pulp, and therefore the highest intake would be 0.01 mg/kg bw/day which is below both ARfDs and an effect on health would be unlikely.

Combined risk assessment

None required - no residues with similar toxicological modes of action were found in any samples.

Follow up action

Letters sent

The Secretariat have written to the supplier of the samples with residues above the MRL – any comments received are at Appendix D.

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* **Maximum Residue Levels set at the LOD (LOD MRL):** These MRLs are set at a default level, i.e. at the limit of determination (LOD) where analytical methods can reasonably detect the presence of the pesticide. Either insufficient trials data are available on which to set a maximum residue level or there may be no use of the pesticide on that crop in the EU. However they may be permitted elsewhere.

Turkey

Introduction

Turkey is monitored as part of the rolling programme.

Samples included joints, steaks, legs and sliced or diced turkey, but not minced turkey or whole birds (although these are not excluded from the survey).

We last monitored turkey in 2004 when no residues were detected.

Survey design

This is the first part of our survey. The second part will cover samples collected between October and December and will be published in our Quarter 4 2007 Report.

Samples were purchased across the UK from retail outlets by a market research company.

Further details

Full details of pesticides sought and residues detected are in Table 12 at page 59
Suppliers details are in the Brand Name Annex

Conclusions

PRC Conclusions

No residues were detected at or above the reporting limit.

Results

When samples were taken

Between January and March 2007

Number of samples

72 samples were tested for up to 11 pesticide residues

Origin of samples

60 samples came from the UK
12 samples came from the EU

Residues found

72 samples contained no residues from those sought
0 samples contained residues above the reporting level
No samples contained residues above the MRL
3 samples were labelled as organic. None contained residues from those sought

Multiple residues

No samples contained residues of more than one pesticide

Risk assessments

Number of risk assessments

None required – no samples contained residues.

Supplier Details

Introduction
The following information is available on each sample collected this quarter:

- Date and place of collection
- Description (e.g. 'runner bean', organic milk);
- Country of origin or manufacture;
- Brand name and packer/manufacturer; and
- Residues detected (results shown in green indicate residues above the MRL).

The Government's 'brand naming' policy
The Government has decided that brand name information should be published as part of the Government food chemical surveillance programme. Brand names have been published for most pesticide residue surveys since 1998. Certain samples are excluded from the release of brand name information. These include samples taken as part of any pesticide residues enforcement programme and those taken as part of surveys to study individual people/farms (these are not covered by this monitoring programme). This policy was reviewed in 2000/1, when Ministers agreed to its continuation.

Where we find residues above an MRL or the presence of non-approved pesticides brand owners/retailers/ growers are notified of the result in advance of publication of reports and given four weeks to comment. Any responses we receive are included in Appendix D.

Interpreting brand name information
There is no ready definition of what constitutes a brand in all cases. For clearly branded produce like breakfast cereals or biscuits the "brand owner" is shown. In the case of "own brand" goods this may be one of the multiple retailers. For fruit and vegetables the retailer is generally shown. For meat, milk and most other animal products the retailer is also generally shown. Finally, for all commodities the country of origin is shown where this was displayed either on the produce or in the store.

Our programme samples produce in approximate proportion to the market share of the main retailers. This has been done to ensure we obtain an accurate representation of a sector (e.g. fruit and vegetables).

Individual programmes are not capable of generating statistically valid information on residues in particular crops from particular retailers. This would require the collection of a much larger number of samples: either substantially increasing costs or greatly reducing the range of different foods sampled in any one year. Therefore, results from an individual survey cannot be taken as a fair representation of the residues status of any particular brand.

However, we do collect samples from a variety of outlets in a range of locations, over a period of years. Successive programmes should therefore help generate information on the typical residues profile of particular types of produce and on major trends in the incidence and levels of pesticides. It should be noted that this quarterly report is not intended to give a comprehensive comparison with previous surveys of the same commodities.

A particular issue arises in relation to the country of origin of fruit and vegetables. The origins included in the reports are those recorded either on the produce or in the store. However, it is not uncommon for mixing to occur on shop shelves. We have responded by increasing the proportion of pre-packed goods sampled. However, pre-packed samples are not available for some produce in some stores and it could also introduce bias to surveys if loose produce were not sampled. Loose produce is therefore sampled but the origin of the sample should be interpreted with a degree of caution.

Section II
PSD assessment of risk

The surveillance programme is designed to enable the regulatory authorities to check that:

- specified pesticide MRLs are being respected;
- users of pesticides are complying with conditions of use specified in the authorisation;
- dietary intakes of residues are within acceptable limits.

Details of the number of samples complying with MRLs are detailed in Appendix A of this report. Assessments of dietary intakes are detailed in this section. MRLs are usually set well within safety limits and so residues in excess of an MRL do not necessarily result in exposure to pesticides which will harm the health of consumers.

When assessments are carried out

A screening assessment is done for each residue and commodity combination to identify residue levels that would lead to intakes above the relevant reference doses. Further information on this screening approach is available on request from PSD. Detailed assessments are then produced for every case where the actual residue level found could lead to an intake above the reference dose

Assessing Dietary intakes
Assessing the acceptability of dietary intakes is complicated. Consumer risk assessments are carried out for both short-term (peak) and long-term intakes. These assessments use information on food consumption collected in UK dietary surveys in conjunction with the residue levels we find. Occasionally, additional pesticide specific information on the losses of residues that occur during preparation and/or cooking of food is also used.

How the assessment is carried out
Short-term intakes (also called NESTIs) are calculated using consumption data for high-level consumers, based on single-day consumption values and the highest residue found in a food commodity multiplied by a variability factor to take account of the fact that residues may vary between individual items that make up the sample analysed. The estimated intake is compared to the Acute Reference Dose (ARfD). This is done for ten consumer groups; adults, infants, toddlers, 4-6 year olds, 7-10 year olds, 11-14 year olds, 15-18 year olds, vegetarians, elderly living in residential homes and elderly living in their own homes.

Long-term intakes (NEDI) are also calculated for high-level consumers, but in this case the consumption data are high-level long-term values rather than peak single-day events, and similarly the residue values used reflect long-term averages rather than occasional high values. Again these estimates are made for the ten consumer groups. In this case the estimated intake is compared to the Acceptable Daily Intake (ADI). In many cases the short-term intakes are lower than the ADI so it is not necessary to calculate the long-term intake.

The reference doses (ADI, ARfD) are set by the Advisory Committee on Pesticides (ACP), or agreed within the EC (an increasing proportion of UK pesticide authorisations are now carried out in accordance with harmonised EU processes). However, where neither the UK nor the EC has set a reference dose levels set by regulatory authorities in other countries may be used.

Although MRLs are not safety levels a tolerance would not be established if intakes of residues from commodities at the MRL would give rise to health concerns. In most cases residues present at the MRL result in intakes below the ARfD and the ADI. So even if the MRL is exceeded this does not always lead to an intake above the ARfD or ADI.

In all cases where MRLs are exceeded, or where for any reason there is potential concern about intakes (this would include intakes below an MRL leading to exceedances of the ARfD), a consumer risk assessment is carried out. This establishes whether the highest level of residues present could lead to the ARfD or ADI being exceeded by a ‘high-level’ consumer.

An estimated intake that exceeds the ADI or ARfD does not automatically result in concerns for consumer health, because a protective approach is used in setting the ADI and ARfD. In the unusual circumstance of an intake exceeding the ADI or ARfD, an evaluation of the toxicological data is made, and details of this assessment would be presented.

Most consumer intakes are for short-term exposure rather than chronic exposure. This is because in most cases the monitoring data show the majority of samples to contain residues below the reporting limit and so chronic exposure would not present a concern.

Acute (short-term) toxicity is not a concern for all pesticides (e.g. iprodione does not demonstrate any associated acute toxic effects in studies). In these cases the highest residues are compared to the ADI as a first step in the consumer risk assessment with a more refined long-term exposure assessment using average residue levels conducted if appropriate.

As the surveillance programme monitors residues in all types of food, from raw commodities (e.g. potatoes) to processed (e.g. wine), dried (e.g. dried fruit) and composite foods (e.g. fruit bread), consumer risk assessments are specifically tailored to address processed and mixed food products. MRLs are generally set for raw commodities, although when MRLs are established the assessment of dietary intakes takes into account the potential for residues to remain in processed foods produced from the raw agricultural commodities. MRLs have been set for processed infant foods, and in future may be extended to other processed food products.

Residues are usually reduced during food processing and occasionally may concentrate. The alteration of residues can be considered in consumer risk assessments, for example, in oil seed rape a fat-soluble pesticide may result in higher residues in the oil compared to residues in the raw seed. Consumption data are available for many major processed food items such as boiled potatoes, crisps, fruit juice, sugar, bread, and wine. Where such consumption data are not available, the intake estimates are based on the total consumption of the raw commodity, which would represent the worst-case (for example, breakfast cereals consumption would be based on total cereal products consumption). In the case of composite products a suitable worst-case alternative would be used, for example total bread consumption for fruit bread consumption.

The standard calculations of consumer exposure use realistic consumption data and residue levels. However, they will tend to overestimate intakes in most circumstances. This is due to the assumptions used; fruit and vegetables would contain high levels of residues in an individual unit and that these would be consumed by high-level consumers, i.e. at the 97.5th percentile. They do not take into account the possible range of residue levels and consumption distributions that occur in reality. These possible combinations of residues and consumption levels can be taken into account using modelling/simulation techniques to produce probability distributions of residue intake levels to indicate the range of consumer intakes, presented as a probabilistic assessment of consumer exposure (see below).

The consumer intake assessments focus on short-term (acute) dietary exposure as being of most relevance and most critical in assessing the risk to consumers. Chronic risk assessments have been carried out on a case-by-case basis, but are not routinely reported.

Consumer exposure estimates have been compared to the most appropriate ARfD where available and relevant. Where a specific ARfD has not been readily available, short-term exposure estimates have been compared to the ADI. We have used, wherever possible, peer-reviewed toxicological end points which have been established independently. However some reference doses used have been determined by PSD. They have not been independently peer-reviewed and should therefore be regarded as provisional.

Acute toxicology is not considered relevant for all pesticides, as some are not acutely toxic. In terms of the pesticides that have been found in fruit and vegetables through the surveillance programme an acute risk assessment would not be necessary on the following: tecnazene, maleic hydrazide, bitertanol, buprofezin, dicloran, diphenylamine, ethoxyquin, furalaxyl, imazalil, iprodione, kresoxim-methyl, myclobutanil, permethrin, pendimethalin, 2-phenylphenol, propargite, propyzamide, quintozene, thiabendazole, tolclofos-methyl and vinclozolin.

Long-term (chronic) exposure assessments will have been routinely compared to ADIs when pesticide registrations were issued, when MRLs were established and during any UK or EU reviews that have been carried out. Long-term exposure assessments are carried out using median residue levels, rather than using

the highest residues found. Therefore, long-term risk assessments would only need to be carried out where the PRC data indicated a high proportion of samples contained residues above the MRL (would result in a higher median residue level than that previously assessed), or where there is no MRL and acute toxicology is not considered relevant for the particular pesticide concerned.

Probabilistic Modelling
The standard calculations of consumer exposure use realistic consumption data and residue levels. However, they tend to overestimate intake in most circumstances. This is due to the assumptions used; fruit and vegetables would contain high levels of residue in an individual unit and that these would be consumed by high-level consumers i.e. at the 97.5th percentile. They do not take into account the possible range of residue levels and consumption distributions that may occur in reality. These possible combinations of residues and consumption levels can be taken into account using modelling/simulation techniques to produce probability distributions of residue intake levels to indicate the range of consumer intakes, presented as a probabilistic assessment of consumer exposure. Application of these techniques is a relatively new development in consumer risk assessment.

Multiple residues
The risk assessment process is not standing still. We are aware that some consumers are concerned by the 'cocktail effect'- the possible implications of residues of more than one chemical occurring in, say, a single portion of fruit or vegetables or the interaction between mixtures of pesticides and veterinary medicines at residue levels.

Where more than one pesticide residue is found in a sample, we produce a separate table which identifies each sample and what was found (see Appendix C). If more than one organophosphate/carbamate is found we will undertake an additional risk assessment. If the combination of pesticides found is either unusual or gives cause for concern then this will be detailed in the report.

The Food Standards Agency asked the Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment to assess these concerns. Their Report Risk Assessment of Mixtures of Pesticides and Veterinary Medicines was published in 2002. The Committee concluded that the probability of any health hazard from exposures to mixtures is likely to be small. Nonetheless, it identified areas of uncertainty in the risk assessment process and made recommendations for further work. These fell under the broad headings of regulatory, surveillance, research and public information issues. An action plan to take forward the recommendations has been published on the FSA website at:
http://www.food.gov.uk/safereating/pesticides/pestmixbranch/.

Scientific methodologies have yet to be developed to deal with mixtures from groups of pesticides identified by the Committee. However, the Advisory Committee on Pesticides (ACP) has developed an approach for the anticholinesterase compounds. They have also recommended an approach for assessing compounds that might have combined toxicity. This includes a consideration of the proportion of the respective reference doses taken up by the predicted exposures to each active substance. If this is only a small proportion (e.g. <50% if there are two components; <33% for 3 etc) then assuming simple additivity the risks would still be acceptable. However if exposures to each active substance represent a high proportion of the respective reference doses and the total exceeds 100% a more detailed consideration is needed.

We are keen to ensure our reports reflect consumer concerns. We therefore now regularly assess findings showing multiple residues of organophosphate and carbamate pesticides. Combined assessment is a new development in risk assessment. Further advances in risk assessment methodology will be taken into account in developing the approach to multiple risk assessments in future.

Assessment of Risk To Human Health

Table C: Short-term intake estimates

Crop	Pesticide	Highest residue (mg/kg)	Intake (mg/kg bw/day)		ARfD (mg/kg bw/day)	Source	Comment on risk assessment
			Adult	Critical group†			
Grapes	Captan	2	0.039	0.12 (toddler)	0.1	EFSA, 2006	The intakes for toddlers were 1.2 times the ARfD of 0.1 mg/kg bw/day. The findings that the EFSA ARfD are based on are transient reductions in body weight and food consumption observed in a rat developmental study and the ARfD includes a 100 fold safety factor. In 2004, based on the same study the JMPR set an ARfD of 0.3 mg/kg for women of childbearing age only. Therefore, although the predicted intake for toddlers represents a reduction in the usual safety margin to 80, an effect on health would be unlikely
Grapes	Carbofuran	0.03*	0.00059	0.0018 (toddler) 0.0015 (4-6 year old child) 0.0014 (7-10 year old) 0.0011 (11-14 year old)	0.001	EFSA, 2006 provisional	The highest intake was 1.8 times the ARfD for carbofuran (the residue was found as 3-hydroxy carbofuran and this metabolite has similar acute toxicity to carbofuran so use of the carbofuran ARfD is appropriate). The ARfD is based on clinical signs of toxicity in dams in developmental toxicity studies in the rat and incorporates a standard 100 fold safety margin. The highest intake reduces the safety factor to 55. The JMPR, in 2002, set an ARfD of 0.009 mg/kg using a lower safety factor of 25, as the relevant toxic effects are dependent on the maximal concentration (they also used a dog study as the basis). Reducing the safety factor to 50 based on a NOAEL for cholingeric findings with a carbamate should be adequate to protect against adverse effects (If effects were produced they would be transient and probably mild). In conclusion, although the usual safety margin is reduced an effect on health is unlikely.
Grapes	Cyprodinil	0.6	0.012	0.037 (Toddler) 0.0303 (4-6 year old)	Not required	EU 2006	Assessment of mammalian toxicology data shows cyprodinil not to be acutely toxic. Although some short-term intakes were above the ADI (0.03 mg/kg bw/day – EU 2006) long term intakes were 9% or less of the ADI assuming unrealistically that all

Crop	Pesticide	Highest residue (mg/kg)	Intake (mg/kg bw/day)		ARfD (mg/kg bw/day)	Source	Comment on risk assessment
			Adult	Critical group[†]			
							grapes eaten contained the highest residue found. Therefore, an effect on health would be unlikely.
Grapes	Iprodione	1.2	0.024	0.073 (Toddler) 0.061 (4-6 year old)	Not required	EU 2004	Assessment of mammalian toxicology data shows iprodione not to be acutely toxic. Although some short-term intakes were above the ADI (0.06 mg/kg bw/day – EU 2004) long-term intakes were 9% or less of the ADI assuming unrealistically that all grapes eaten contained the highest residue found. Therefore, an effect on health would be unlikely.
Grapes	Methomyl	0.1	0.002	0.0061 (toddler) 0.005 (4-6 year old) 0.0046 (7-10 year old) 0.0036 (11-14 year old) 0.0031 (vegetarian)	0.0025	EFSA, 2006	Intakes for a number of the consumer groups exceed the acute reference dose of 0.0025 mg/kg bw/day. The intake of the critical group toddlers is 2.4 times the ARfD. The highest intake is sixteenth of the single dose (0.1 mg/kg bw) which was given to humans in a volunteer study which showed no adverse effects. At the next dose (0.2 mg/kg bw), a slight increase in salivation was observed. Based on the PSD risk assessment of the residues detected an effect on health would be unlikely.
Peppers	Isofenphos-methyl	0.1	0.0013	0.0016 (7-10 year old)	Not available	-	An acute reference dose for isofenphos-methyl is not available. However, an ARfD is available for isofenphos-ethyl (PSD, 2007 of 0.007 mg/kg bw/day based on published 1998 US EPA assessment). Based on other organophosphorus pesticides the methyl derivative tends to be less toxic than the ethyl, and therefore the assessment based on isofenphos-ethyl is expected to be suitable. All the intakes were below the ARfD for isofenphos-ethyl, therefore no effect on health would be expected.
Pomelo[#]	Imazalil	3.3	0.072	0.095 (vegetarian) 0.093 (11-14 year old) 0.087 (15-18 year old)	0.05 pregnant & nursing females	EFSA, 2007	Intakes for all consumer groups that may contain females of childbearing age were above the ARfD of 0.05 mg/kg bw/day. The intake for the critical group (vegetarian) was 1.9 times the ARfD, which was based on a NOAEL of 5 mg/kg bw/d for foetal toxicity in a rabbit developmental study. An increased number of re-adsorptions occurred at the next dose. The intake by

Crop	Pesticide	Highest residue (mg/kg)	Intake (mg/kg bw/day)		ARfD (mg/kg bw/day)	Source	Comment on risk assessment
			Adult	**Critical group**[†]			
							vegetarians is one 52nd of the daily dose given without any adverse effect. Therefore, although the ARfD's safety margin is reduced from 100, an effect on health would be unlikely.
				0.32 (7-10 year old) 0.20 (toddler) 0.19 (4-6 year old)	0.1	EFSA, 2007	The highest intake for 7-10 year olds was 3.2 times the ARfD. The ARfD is based on a NOAEL of 10 mg/kg for reduced body weight gain and food consumption in dams in a rabbit developmental study. An ARfD based on maternal toxicity in a developmental study with repeated dosing (13 days) is likely to be very protective for non-pregnant or nursing individuals. This intake was one 31st of the daily dose given which had no adverse effect on general toxicity (reductions in food consumption and body weight gain). Therefore, although the ARfD's safety margin is reduced from 100, an effect on health would be unlikely.
							All these estimates assume that the peel of the fruit is consumed. If the peel is not consumed then data evaluated by the JMPR in 1977 established a processing factor of 0.05, to account for most residue being found in peel compared to the fruit pulp, and therefore the highest intake would be 0.01 mg/kg bw/day which is below both ARfDs and an effect on health would be unlikely.

[†]Highest intake of all ten consumer groups, or intakes for all consumer groups that exceed the ARfD

*Detected as 3-hydroxy carbofuran

Acute risk assessments for samples containing more than one organophosphorus/carbamate

Crop/ Critical group	Pesticide	Residue mg/kg	Intake			ARfD	Source	Comment on risk assessment
			mg/kg bw	%ARfD				
Grape/ Toddler	Carbofuran	0.03	0.0018	180 }	Total 200	0.001	EFSA, 2006	The presence of chlopyrifos in the sample does not significantly contribute to the overall combined intake when compared to carbofuran. For carbofuran, the acute intake for toddlers was 1.8 times the ARfD of 0.001 mg/kg bw/day, based on the highest residue found in grapes. The ARfD is based on clinical signs of toxicity in dams in developmental toxicity studies in the rat and incorporates a standard 100 fold safety margin. The highest intake reduces the safety factor to 55. The JMPR, in 2002, set an ARfD of 0.009 mg/kg using a lower safety factor of 25, as the relevant toxic effects are dependent on the maximal concentration (they also used a dog study as the basis). Reducing the safety factor to 50 based on a NOAEL for cholingeric findings with a carbamate should be adequate to protect against adverse effects (If effects were produced they would be transient and probably mild). In conclusion, although the usual safety margin is reduced an effect on health is unlikely.. Therefore, no effect on health would be expected from the combined intake of carbofuran and chlorpyrifos in this sample.
	Chlorpyrifos	0.3	0.018	18 }		0.1	EU 2005	
Peppers/ Toddler	Chorpyrifos-methyl	0.14	0.0023	2.3 }	Total 29	0.1	EU 2005	Total is ≤100% no effect on health would be expected.
	Isofenphos-methyl	0.1	0.0013	24 }		0.007	PSD 2007	
	Malathion	0.02	0.0003	0.02 }		1.5	EFSA 2006	
	Pirimphos-methyl	0.21	0.0035	2.3 }		0.15	EFSA 2005	
Peppers/ Toddler	Chorpyrifos-methyl	0.38	0.0062	6.2 }	Total 6.2	0.1	EU 2005	Total is ≤100% no effect on health would be expected.
	Malathion	0.02	0.0003	0.02 }		1.5	EFSA 2006	
	Pirimphos-methyl	0.16	0.0026	1.8 }		0.15	EFSA 2005	

Acute risk assessments for samples containing captan and folpet

None

Index of Appendices

Appendix A
Summary of Results

Table 1: Fruits and Vegetables (number of samples)

Food	Analysed	With residues at or below the MRL	With residues above the MRL	With residues of non-approved pesticides (UK only)	With multiple residues	Organic samples tested	Organic samples with residues
Grapes	67	45	2	N/A	27	0	N/A
Lettuce	36	21	1	1	13	1	0
Peppers	43	24	1	N/A	15	1	0
Speciality fruit	25	4	2	N/A	3	0	N/A
Total	**171**	**94**	**6**	**1**	**58**	**2**	**0**

Table 2:All Other Samples (number of samples)

Food	Analysed	With residues at or below the MRL	With residues above the MRL	With residues of non-approved pesticides (UK only)	With multiple residues	Organic samples tested	Organic samples with residues
Beef	72	0	0	N/A	0	5	0
Chocolate	61	4	0	N/A	2	3	0
Milk	78	0	0	N/A	0	23	0
Pork	70	1	0	N/A	0	3	0
Turkey	72	0	0	N/A	0	3	0
Total	**353**	**5**	**0**	**N/A**	**2**	**37**	**0**

Maximum Residue Levels (MRLs) reflect levels of pesticides that could occur in produce, which has been treated in accordance with good agricultural practice. Where pesticides do not give rise to readily detectable residues, or are not approved for use on particular commodities, MRLs are set at the lowest level which can be identified in routine laboratory analysis. Thus, they provide a mechanism for statutory controls on pesticides in produce which is put into circulation and for monitoring correct use of these chemicals.

If no use of a pesticide on a crop is identified when MRLs are set the tolerance for that pesticide/crop combination is set at the limit of determination (effectively zero). Limit of determination MRL are marked by a '*' in Part 2.

MRLs are established under the Pesticides (Maximum Residue Levels in Crops, Food and Feeding Stuffs) (England and Wales) Regulations 1999 (as amended), the Pesticides (Maximum Residue Levels in Crops, Food and Feeding Stuffs) (Scotland) Regulations 2000 and the Pesticides (Maximum Residue Levels in Crops, Food and Feeding Stuffs) Regulations (Northern Ireland) 2002. These Regulations list all statutory MRLs established under UK national or EC procedures. Today, virtually all these MRLs are set under an ongoing EC programme and the Regulations are amended periodically as levels are set for increasing numbers of pesticides.

There are a number of pesticides which do not yet have statutory MRLs. In the absence of such MRLs we advise suppliers to adhere to any appropriate levels established by the Codex Alimentarius Commission (CAC) a United Nations body established to promote global trading standards. Codex MRLs are not statutory but have been risk-assessed when set and provide a suitable standard in the absence of a statutory MRL.

MRLs may be extended to composite and processed products but levels are not specifically laid down in legislation. They are derived by calculation on an individual basis.

Appendix B
Summary of MRL Exceedances

Table 3: MRL Exceedances

PRC Sample ID	Food	Country of Origin	Pesticide Detected	Residue Detected (mg/kg)	MRL (mg/kg)
Grapes					
6306/2007	Red Seedless Grapes	South Africa	methomyl	0.1	0.05*
6565/2007	White Seedless Grapes	Chile	carbofuran	0.03	0.02*
Lettuce					
6153/2007	Round Lettuce	UK	chlorothalonil	0.03	0.01*
Peppers					
5748/2007	Pepper	Spain	methomyl	0.12	0.05*
Speciality Fruit					
6390/2007	Passion fruit	Colombia	cypermethrin	0.09	0.05*
6411/2007	Passion fruit	Colombia	cypermethrin	0.08	0.05*
			thiabendazole	0.08	0.05*

*** Maximum Residue Levels set at the LOD (LOD MRL):** These MRLs are set at a default level, i.e. at the limit of determination (LOD) where analytical methods can reasonably detect the presence of the pesticide. Either insufficient trials data are available on which to set a maximum residue level or there may be no use of the pesticide on that crop in the EU. However they may be permitted elsewhere.

Appendix C:
Pesticides Sought and Found In Individual Foodstuffs

Table 4. Residues detected in retail samples of BEEF purchased between January and March 2007

Commodity/Pesticide	Concentration range (mg/kg)	Number of samples in range
BEEF, UK: 58 samples analysed		
None found	-	58
BEEF, Imported (Non-EC): 4 samples analysed		
None found	-	4
BEEF, Imported (EC): 10 samples analysed		
None found	-	10

Imported (EC) samples of beef were from Hungary (1), Ireland (9).
Imported (Non-EC) samples of beef were from Argentina (2), Australia (1), Brazil (1).
UK samples of beef (58).

No residues were found in any of the UK samples
No residues were found in any of the Imported (Non-EC) samples
No residues were found in any of the Imported (EC) samples

The following pesticide(s) were actively sought but not found at or above their reporting limits (in parentheses in mg/kg):

aldrin (0.002)
alpha-HCH (0.002)
beta-HCH (0.002)
chlordane (0.002)
DDT (0.002)
dieldrin (0.002)
endosulfan (0.002)
endrin (0.002)
heptachlor (0.002)
hexachlorobenzene (0.002)
lindane (0.002)

Table 5a. Residues detected in retail samples of CHOCOLATE purchased between January and February 2007

Commodity/Pesticide	Concentration range (mg/kg)	Number of samples in range
CHOCOLATE, UK: 15 samples analysed		
None found	-	15
CHOCOLATE, Imported (Non-EC): 4 samples analysed		
None found	-	4
CHOCOLATE, Imported (EC): 42 samples analysed		
endosulfan	<0.01 (i.e. not found)	39
(No MRL)	0.01 - 0.03	3
pirimiphos-methyl	<0.01 (i.e. not found)	39
(No MRL)	0.01 - 0.02	3

Imported (EC) samples of chocolate were from Belgium (8), France (25), Germany (8), Italy (1).
Imported (Non-EC) samples of chocolate were from Ecuador (1), Ghana (2), Peru (1).
UK samples of chocolate were (15).

Residues were distributed by country of origin, as follows:

endosulfan	Belgium (1), France (2)
pirimiphos-methyl	Belgium (1), France (2)

No residues were found in any of the UK samples
No residues were found in any of the Imported (Non-EC) samples
No residues were found in 38 of the 42 Imported (EC) samples

Table 5b. Residues detected in retail samples of CHOCOLATE purchased between January and February 2007 *continued*

Residues (1-2 compounds) were found in 4 of the 61 samples as follows:

Number of residues	PRC Sample ID	Residues found (mg/kg) ENSF	PIM	Country of origin
(1)	6048/2007	-	0.02	France
	6075/2007	0.01	-	France
(2)	6246/2007	0.01	0.01	Belgium
	5807/2007	0.03	0.01	France

The abbreviations used for the pesticide names are as follows:

ENSF	endosulfan	PIM	pirimiphos-methyl

Table 5c. Residues detected in retail samples of CHOCOLATE purchased between January and February 2007 *continued*

The following pesticide(s) were actively sought but not found at or above their reporting limits (in parentheses in mg/kg):

aldrin (0.01)
alpha-HCH (0.01)
beta-HCH (0.01)
bifenthrin (0.01)
bromophos (0.01)
bromophos-ethyl (0.01)
carbophenothion (0.01)
chlordane (0.01)
chlorfenvinphos (0.01)
chlorpyrifos (0.01)
chlorpyrifos-methyl (0.01)
DDT (0.01)
diazinon (0.01)
dieldrin (0.01)
endrin (0.01)
fenitrothion (0.01)
heptachlor (0.01)
hexachlorobenzene (0.01)
lindane (0.01)
malathion (0.01)
parathion (0.01)
parathion-methyl (0.01)
phosmet (0.01)
tecnazene (0.01)
tetrachlorvinphos (0.01)

Table 6a. Residues detected in samples of GRAPES obtained between January and March 2007

Commodity/Pesticide	Concentration range (mg/kg)	Number of samples in range
GRAPES, Imported (Non-EC): 67 samples analysed		
azoxystrobin	<0.02 (i.e. not found)	59
(MRL = 2)	0.03 - 0.2	8
captan	<0.05 (i.e. not found)	59
(No MRL)	0.06 - 2	8
carbaryl	<0.02 (i.e. not found)	66
(MRL = 0.05*)	0.04	1
carbofuran	<0.02 (i.e. not found)	66
(MRL = 0.02*)	0.03	1
chlorpyrifos	<0.02 (i.e. not found)	59
(MRL = 0.5)	0.03 - 0.3	8
cyprodinil	<0.02 (i.e. not found)	49
(MRL = 3)	0.02 - 0.6	18
famoxadone	<0.02 (i.e. not found)	62
(MRL = 2)	0.02 - 0.05	5
fenarimol	<0.02 (i.e. not found)	66
(MRL = 0.3)	0.02	1
fenhexamid	<0.02 (i.e. not found)	53
(MRL = 5)	0.03 - 1.2	14
fludioxonil	<0.02 (i.e. not found)	55
(MRL = 2)	0.03 - 0.4	12
imidacloprid	<0.02 (i.e. not found)	62
(CAC MRL = 1)	0.02 - 0.2	5
iprodione	<0.02 (i.e. not found)	41
(MRL = 10)	0.06 - 1.2	14
	0.03 - 0.6	12
kresoxim-methyl	<0.02 (i.e. not found)	66
(MRL = 1)	0.04	1
methomyl	<0.02 (i.e. not found)	66
(MRL = 0.05*)	0.1	1
omethoate	<0.02 (i.e. not found)	66
(No MRL)	0.02	1
procymidone	<0.02 (i.e. not found)	63
(MRL = 5)	0.1 - 0.3	4
pyrimethanil	<0.02 (i.e. not found)	66
(No MRL)	0.04	1
quinoxyfen	<0.02 (i.e. not found)	64

Commodity/Pesticide	Concentration range (mg/kg)	Number of samples in range
(No MRL)	0.02 - 0.03	3
tebuconazole	<0.02 (i.e. not found)	64
(CAC MRL = 2)	0.02 - 0.1	3
triadimenol	<0.02 (i.e. not found)	65
(CAC MRL = 2)	0.04, 0.05	2

NOTE: * Indicates MRL is set to the Limit Of Detection.

Imported (Non-EC) samples of grapes were from Argentina (2), Chile (20), Namibia (3), South Africa (41), USA (1).

Residues were distributed by country of origin, as follows:

azoxystrobin	Chile (3), South Africa (5)
captan	Argentina (1), Chile (7)
carbofuran	Chile (1)
carbaryl	Chile (1)
chlorpyrifos	Chile (8)
cyprodinil	Chile (12), South Africa (6)
famoxadone	South Africa (5)
fludioxonil	Chile (11), South Africa (1)
fenhexamid	Chile (9), South Africa (4), USA (1)
fenarimol	South Africa (1)
imidacloprid	Chile (3), South Africa (2)
iprodione	Chile (10), Namibia (1), South Africa (14), USA (1)
kresoxim-methyl	South Africa (1)
methomyl	South Africa (1)
omethoate	South Africa (1)
procymidone	South Africa (4)
pyrimethanil	South Africa (1)
quinoxyfen	Chile (3)
tebuconazole	Chile (3)
triadimenol	Chile (2)

No residues were found in 20 of the 67 Imported (Non-EC) samples

Table 6b. Residues detected in samples of GRAPES obtained between January and March 2007 *continued*

Residues (1-8 compounds) were found in 47 of the 67 samples as follows:

Number of residues	PRC Sample ID	Residues found (mg/kg)																				Country of origin
		AZOX	CAP	CBF	CBY	CPF	CYD	FAX	FLUD	FNHX	FNM	IMI	IPR	KREM	METH	OME	PCM	PYM	QINO	TBC	TRIA	
(1)	5252/2007	-	0.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Argentina
	5056/2007	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Chile
	6266/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.05	-	Chile
	6613/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	Chile
	5918/2007	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	Namibia
	5037/2007	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-	-	-	-	-	-	-	South Africa
	5057/2007	0.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	South Africa
	5128/2007	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	South Africa
	5129/2007	-	-	-	-	-	-	-	-	-	-	-	0.6	-	-	-	-	-	-	-	-	South Africa
	5188/2007	-	-	-	-	-	-	-	-	-	-	-	0.6	-	-	-	-	-	-	-	-	South Africa
	5207/2007	-	-	-	-	-	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	South Africa
	5218/2007	-	-	-	-	-	-	-	-	-	-	-	0.6	-	-	-	-	-	-	-	-	South Africa
	5222/2007	-	-	-	-	-	-	-	-	-	-	-	0.9	-	-	-	-	-	-	-	-	South Africa
	6005/2007	-	-	-	-	-	-	-	-	-	-	-	0.7	-	-	-	-	-	-	-	-	South Africa
	6059/2007	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	South Africa
	6258/2007	-	-	-	-	-	-	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	South Africa
	6267/2007	-	-	-	-	-	-	-	-	-	-	-	1.2	-	-	-	-	-	-	-	-	South Africa
	6334/2007	-	-	-	-	-	-	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	South Africa
	6563/2007	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	-	-	-	-	South Africa
	6629/2007	-	-	-	-	-	-	-	-	-	0.02	-	-	-	-	-	-	-	-	-	-	South Africa
(2)	6009/2007	-	0.06	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	Chile
	6570/2007	-	-	-	-	-	-	-	-	0.2	-	0.07	-	-	-	-	-	-	-	-	-	Chile
	6571/2007	-	-	-	-	0.1	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	Chile
	5051/2007	-	-	-	-	-	-	-	-	-	-	-	0.06	-	-	0.02	-	-	-	-	-	South Africa
	5072/2007	-	-	-	-	-	-	-	-	0.4	-	-	0.3	-	-	-	-	-	-	-	-	South Africa

Number of residues	PRC Sample ID	Residues found (mg/kg)																			Country of origin
		AZOX	CAP	CBF	CBY	CPF	CYD	FAX	FLUD	FNHX	FNM	IMI	IPR	KREM	METH	OME	PCM	PYM	QINO	TBC	TRIA	
	5221/2007	0.1	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	-	South Africa
	6333/2007	0.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	South Africa
	6060/2007	-	-	-	-	-	-	-	-	0.4	-	-	0.4	-	-	-	-	-	-	-	-	USA
(3)	5256/2007	-	-	-	-	-	0.4	-	0.2	-	-	-	0.03	-	-	-	-	-	-	-	-	Chile
	6345/2007	0.08	-	-	-	-	0.2	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	Chile
	6630/2007	-	-	-	-	0.03	-	-	-	0.6	-	-	0.1	-	-	-	-	-	-	-	-	Chile
	5882/2007	-	-	-	-	-	-	0.03	-	-	-	-	0.8	0.04	-	-	-	-	-	-	-	South Africa
	6286/2007	-	-	-	-	-	0.1	-	0.08	-	-	0.2	-	-	-	-	-	-	-	-	-	South Africa
	6346/2007	-	-	-	-	-	0.02	0.02	-	-	-	-	0.7	-	-	-	-	-	-	-	-	South Africa
(4)	5186/2007	-	-	-	-	0.04	0.4	-	0.2	-	-	-	0.04	-	-	-	-	-	-	-	-	Chile
	6305/2007	-	0.4	-	-	-	0.06	-	0.03	-	-	-	0.09	-	-	-	-	-	-	-	-	Chile
	6583/2007	-	0.4	-	-	0.1	0.6	-	0.3	-	-	-	-	-	-	-	-	-	-	-	-	Chile
	5892/2007	-	-	-	-	-	0.06	0.04	-	0.1	-	-	-	-	-	-	0.1	-	-	-	-	South Africa
	6034/2007	0.2	-	-	-	-	0.03	-	-	0.7	-	-	-	-	-	-	0.3	-	-	-	-	South Africa
(5)	5184/2007	-	-	-	-	0.03	0.09	-	0.03	-	-	-	0.2	-	-	-	-	-	-	-	0.04	Chile
	5195/2007	-	0.2	-	-	-	0.3	-	0.2	0.03	-	-	0.1	-	-	-	-	-	-	-	-	Chile
	6598/2007	-	-	-	0.04	-	0.6	-	0.4	0.7	-	-	0.2	-	-	-	-	-	-	-	-	Chile
	6599/2007	-	-	-	-	0.1	0.4	-	0.2	-	-	-	0.4	-	-	-	-	-	0.02	-	-	Chile
(6)	6306/2007	0.2	-	-	-	-	0.1	-	-	1.2	-	-	-	-	0.1	-	0.3	0.04	-	-	-	South Africa
(7)	6285/2007	0.03	0.1	-	-	-	0.04	-	-	0.04	-	0.1	0.2	-	-	-	-	-	0.03	-	-	Chile
(8)	5141/2007	0.1	0.3	-	-	0.04	0.3	-	0.1	0.2	-	-	-	-	-	-	-	-	0.02	0.02	-	Chile
	6565/2007	-	-	0.03	-	0.3	0.2	-	0.1	0.05	-	0.1	0.2	-	-	-	-	-	-	-	0.05	Chile

The abbreviations used for the pesticide names are as follows:

AZOX	azoxystrobin	CAP	captan	CBF	carbofuran
CBY	carbaryl	CPF	chlorpyrifos	CYD	cyprodinil
FAX	famoxadone	FLUD	fludioxonil	FNHX	fenhexamid
FNM	fenarimol	IMI	imidacloprid	IPR	iprodione
KREM	kresoxim-methyl	METH	methomyl	OME	omethoate
PCM	procymidone	PYM	pyrimethanil	QINO	quinoxyfen
TBC	tebuconazole	TRIA	triadimenol		

Table 6c. Residues detected in samples of GRAPES obtained between January and March 2007 *continued*

The following pesticide(s) were actively sought but not found at or above their reporting limits (in parentheses in mg/kg):

2-phenylphenol (0.02)
acephate (0.02)
acetamiprid (0.02)
acrinathrin (0.05)
aldicarb (0.02)
aldrin (0.02)
atrazine (0.02)
azinphos-methyl (0.02)
benalaxyl (0.02)
bendiocarb (0.02)
bifenthrin (0.02)
biphenyl (0.02)
bitertanol (0.02)
boscalid (0.02)
bromopropylate (0.02)
bupirimate (0.02)
buprofezin (0.02)
cadusafos (0.02)
carbendazim (0.02)
carbosulfan (0.01)
chlorfenvinphos (0.02)
chlorobenzilate (0.02)
chlorothalonil (0.01)
chlorotoluron (0.02)
chlorpropham (0.02)
chlorpyrifos-methyl (0.02)
chlorthal-dimethyl (0.02)
chlozolinate (0.02)
cyfluthrin (0.05)
cymoxanil (0.02)
cypermethrin (0.05)
cyproconazole (0.02)
DDT (0.02)
deltamethrin (0.05)
demeton-S-methyl (0.02)
diazinon (0.02)
dichlofluanid (0.02)
dichlorvos (0.02)
dicloran (0.02)
dicofol (0.05)
dicrotophos (0.02)
dieldrin (0.02)
diethofencarb (0.02)
difenoconazole (0.02)
diflubenzuron (0.02)
dimethoate (0.02)
dimethomorph (0.02)
dimoxystrobin (0.02)
diphenylamine (0.02)
disulfoton (0.02)
dithiocarbamates (0.05)
diuron (0.02)
dodine (0.02)
endosulfan (0.02)
EPN (0.02)
epoxiconazole (0.02)
ethiofencarb (0.02)
ethion (0.02)
ethofumesate (0.02)
ethoprophos (0.02)
etrimfos (0.02)
fenazaquin (0.02)
fenbuconazole (0.02)
fenitrothion (0.02)
fenoxycarb (0.02)
fenpropathrin (0.02)
fenpropimorph (0.02)
fenpyroximate (0.02)
fenthion (0.02)
fenvalerate (0.02)
fipronil (0.02)
flufenacet (0.02)
flusilazole (0.02)
folpet (0.05)
fonofos (0.02)
formothion (0.02)
fosthiazate (0.02)
furalaxyl (0.02)
furathiocarb (0.02)
heptenophos (0.02)
hexaconazole (0.02)
hexythiazox (0.02)
imazalil (0.02)
indoxacarb (0.02)
iprovalicarb (0.02)
isazophos (0.02)
isocarbophos (0.02)
isofenphos (0.02)
isofenphos-methyl (0.02)
lambda-cyhalothrin (0.02)
lindane (0.02)
malathion (0.02)
mecarbam (0.02)
mepanipyrim (0.02)
metalaxyl (0.02)
methacrifos (0.02)
methamidophos (0.01)
methidathion (0.02)
methiocarb (0.02)
methoxychlor (0.02)
metolcarb (0.02)
mevinphos (0.02)
monocrotophos (0.02)
myclobutanil (0.02)
oxadixyl (0.02)
oxamyl (0.02)
oxydemeton-methyl (0.02)
paclobutrazol (0.02)
parathion (0.02)
parathion-methyl (0.02)
penconazole (0.02)
pencycuron (0.02)
pendimethalin (0.02)
permethrin (0.02)
phenthoate (0.02)
phorate (0.02)
phosalone (0.02)
phosmet (0.02)
phosphamidon (0.02)
picoxystrobin (0.02)
piperonyl butoxide (0.02)
pirimicarb (0.02)
pirimiphos-ethyl (0.02)
pirimiphos-methyl (0.02)
prochloraz (0.02)
profenofos (0.02)
propamocarb (0.02)
propargite (0.02)
propham (0.02)
propiconazole (0.02)
propoxur (0.02)
propyzamide (0.02)
prothiofos (0.02)
pyraclostrobin (0.02)
pyrazophos (0.02)
pyrethrins (0.02)
pyridaben (0.02)
pyridaphenthion (0.02)
pyrifenox (0.02)
pyriproxifen (0.02)
quassia (0.02)
quinalphos (0.02)
quintozene (0.02)
rotenone (0.02)
simazine (0.02)
spinosad (0.02)
spiroxamine (0.02)
tau-fluvalinate (0.02)
tebufenozide (0.02)
tebufenpyrad (0.02)
tecnazene (0.02)
tefluthrin (0.02)
tetrachlorvinphos (0.02)
tetradifon (0.02)
tetramethrin (0.02)
tetreconazole (0.02)
thiabendazole (0.02)
thiacloprid (0.02)
thiamethoxam (0.02)
thiodicarb (0.02)
thiophanate-methyl
tolclofos-methyl (0.02)
tolylfluanid (0.02)
triadimefon (0.02)
triazamate (0.02)
triazophos (0.02)
trifloxystrobin (0.02)
trifluralin (0.02)
vinclozolin (0.02)
zoxamide (0.02)

Table 7a. Residues detected in retail samples of LETTUCE purchased between January and March 2007

Commodity/Pesticide	Concentration range (mg/kg)	Number of samples in range
LETTUCE, UK: 7 samples analysed		
boscalid	<0.02 (i.e. not found)	6
(MRL = 10)	0.2	1
chlorothalonil	<0.01 (i.e. not found)	6
(MRL = 0.01*)	0.03	1
cypermethrin	<0.05 (i.e. not found)	6
(MRL = 2)	0.1	1
dithiocarbamates	<0.05 (i.e. not found)	2
(MRL = 5)	0.4	1
fenhexamid	<0.02 (i.e. not found)	6
(MRL = 30)	0.3	1
iprodione	<0.02 (i.e. not found)	4
(MRL = 10)	0.08 - 0.3	3
propamocarb	<0.02 (i.e. not found)	6
(CAC MRL = 10)	0.6	1
propyzamide	<0.02 (i.e. not found)	6
(MRL = 1)	0.03	1
pyraclostrobin	<0.02 (i.e. not found)	6
(MRL = 2)	0.06	1
LETTUCE, Imported (EC): 29 samples analysed		
azoxystrobin	<0.02 (i.e. not found)	25
(MRL = 3)	0.03 - 0.3	4
chlorthal-dimethyl	<0.02 (i.e. not found)	26
(No MRL)	0.05 - 0.08	3
cyprodinil	<0.02 (i.e. not found)	27
(CAC MRL = 10)	0.02, 0.05	2
dimethomorph	<0.02 (i.e. not found)	26
(No MRL)	0.04 - 0.07	3
dithiocarbamates	<0.05 (i.e. not found)	12
(MRL = 5)	0.1 - 0.8	3
fludioxonil	<0.02 (i.e. not found)	28
(No MRL)	0.04	1
imidacloprid	<0.02 (i.e. not found)	20
(CAC MRL = 2)	0.02 - 0.2	9
iprodione	<0.02 (i.e. not found)	28
(MRL = 10)	0.04	1
metalaxyl	<0.02 (i.e. not found)	24

Commodity/Pesticide	Concentration range (mg/kg)	Number of samples in range
(MRL = 2)	0.02 - 0.05	5
procymidone	<0.02 (i.e. not found)	25
(MRL = 5)	0.03 - 0.2	4
propamocarb	<0.02 (i.e. not found)	26
(CAC MRL = 10)	0.2 - 1.4	3
tolylfluanid	<0.02 (i.e. not found)	25
(CAC MRL = 15)	0.03 - 0.2	4

NOTE: * Indicates MRL is set to the Limit Of Detection.

Imported (EC) samples of lettuce were from Spain (28), the Netherlands (1).
UK samples of lettuce were (7).

Residues were distributed by country of origin, as follows:

azoxystrobin	Spain (4)
boscalid	UK (1)
chlorthal-dimethyl	Spain (3)
chlorothalonil	UK (1)
cyprodinil	Spain (2)
cypermethrin	UK (1)
dimethomorph	Spain (2), the Netherlands (1)
dithiocarbamates	Spain (3), UK (1)
fludioxonil	Spain (1)
fenhexamid	UK (1)
imidacloprid	Spain (9)
iprodione	Spain (1), UK (3)
metalaxyl	Spain (4), the Netherlands (1)
propamocarb	Spain (3), UK (1)
procymidone	Spain (4)
propyzamide	UK (1)
pyraclostrobin	UK (1)
tolylfluanid	Spain (4)

No residues were found in 4 of the 7 UK samples
No residues were found in 10 of the 29 Imported (EC) samples

Table 7b. Residues detected in retail samples of LETTUCE purchased between January and March 2007 *continued*

Residues (1-5 compounds) were found in 22 of the 36 samples as follows:

Number of residues	PRC Sample ID	Residues found (mg/kg)																		Country of origin
		AZOX	BOS	CHL	CLN	CYD	CYP	DMR	DTC	FLUD	FNHX	IMI	IPR	MTX	PCB	PCM	PPZ	PYC	TOL	
(1)	6485/2007	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	UK
	5716/2007	-	-	-	-	-	-	-	-	-	-	-	-	0.05	-	-	-	-	-	Spain
	5745/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.03	Spain
	6083/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	Spain
	6106/2007	-	-	-	-	-	-	-	-	-	-	0.04	-	-	-	-	-	-	-	Spain
	6107/2007	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-	-	-	-	-	Spain
	6385/2007	-	-	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Spain
	6445/2007	-	-	-	-	-	-	-	-	-	-	0.09	-	-	-	-	-	-	-	Spain
	6486/2007	-	-	-	-	-	-	-	-	-	-	0.04	-	-	-	-	-	-	-	Spain
(2)	6426/2007	0.06	-	-	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	Spain
	6082/2007	-	-	-	-	-	-	0.04	-	-	-	-	-	0.05	-	-	-	-	-	the Netherlands
(3)	5715/2007	-	-	-	-	-	-	-	-	-	-	0.2	-	0.04	-	0.04	-	-	-	Spain
	5746/2007	0.3	-	-	-	-	-	0.06	0.8	-	-	-	-	-	-	-	-	-	-	Spain
	5766/2007	0.2	-	-	-	-	-	0.07	0.5	-	-	-	-	-	-	-	-	-	-	Spain
	5840/2007	-	-	-	-	-	-	-	-	-	-	0.02	-	0.02	-	0.05	-	-	-	Spain
	5841/2007	-	-	-	-	0.05	-	-	-	0.04	-	-	-	-	-	-	-	-	0.2	Spain
	6207/2007	0.03	-	-	-	-	-	-	-	-	-	-	0.04	-	1.4	-	-	-	-	Spain
(4)	6134/2007	-	-	-	-	-	-	-	0.1	-	-	0.03	-	0.05	-	0.03	-	-	-	Spain
	6154/2007	-	-	0.06	-	-	-	-	-	-	-	0.04	-	-	0.2	-	-	-	0.08	Spain
	6182/2007	-	-	0.08	-	-	-	-	-	-	-	0.04	-	-	0.4	-	-	-	0.06	Spain
(5)	6153/2007	-	0.2	-	0.03	-	-	-	0.4	-	-	-	0.08	-	-	-	-	0.06	-	UK
	6406/2007	-	-	-	-	-	0.1	-	-	-	0.3	-	0.3	-	0.6	-	0.03	-	-	UK

The abbreviations used for the pesticide names are as follows:

AZOX	azoxystrobin	BOS	boscalid	CHL	chlorthal-dimethyl
CLN	chlorothalonil	CYD	cyprodinil	CYP	cypermethrin
DMR	dimethomorph	DTC	dithiocarbamates	FLUD	fludioxonil
FNHX	fenhexamid	IMI	imidacloprid	IPR	iprodione
MTX	metalaxyl	PCB	propamocarb	PCM	procymidone
PPZ	propyzamide	PYC	pyraclostrobin	TOL	tolylfluanid

Table 7c. Residues detected in retail samples of LETTUCE purchased between January and March 2007 *continued*

The following pesticide(s) were actively sought but not found at or above their reporting limits (in parentheses in mg/kg):

2-phenylphenol (0.02)
acephate (0.02)
acetamiprid (0.02)
acrinathrin (0.05)
aldicarb (0.02)
aldrin (0.02)
atrazine (0.02)
azinphos-methyl (0.02)
benalaxyl (0.02)
bendiocarb (0.02)
bifenthrin (0.02)
biphenyl (0.02)
bitertanol (0.02)
bromopropylate (0.02)
bupirimate (0.02)
buprofezin (0.02)
cadusafos (0.02)
captan (0.05)
carbaryl (0.02)
carbendazim (0.02)
carbofuran (0.01)
carbosulfan (0.01)
chlorfenvinphos (0.02)
chlorobenzilate (0.02)
chlorotoluron (0.02)
chlorpropham (0.02)
chlorpyrifos (0.02)
chlorpyrifos-methyl (0.02)
chlozolinate (0.02)
cyfluthrin (0.05)
cymoxanil (0.02)
cyproconazole (0.02)
DDT (0.02)
deltamethrin (0.05)
diazinon (0.02)
dichlofluanid (0.02)
dichlorvos (0.02)
dicloran (0.02)
dicofol (0.05)
dicrotophos (0.02)
dieldrin (0.02)
diethofencarb (0.02)
difenoconazole (0.02)
diflubenzuron (0.02)
dimethoate (0.02)
dimoxystrobin (0.02)
diphenylamine (0.02)
disulfoton (0.02)
diuron (0.02)
dodine (0.02)
endosulfan (0.02)
EPN (0.02)
epoxiconazole (0.02)
ethiofencarb (0.02)
ethion (0.02)
ethofumesate (0.02)
ethoprophos (0.02)
etrimfos (0.02)
famoxadone (0.02)
fenarimol (0.02)
fenazaquin (0.02)
fenbuconazole (0.02)
fenitrothion (0.02)
fenoxycarb (0.02)
fenpropathrin (0.02)
fenpropimorph (0.02)
fenpyroximate (0.02)
fenthion (0.02)
fenvalerate (0.02)
fipronil (0.02)
flufenacet (0.02)
flusilazole (0.02)
folpet (0.05)
fonofos (0.02)
formothion (0.02)
fosthiazate (0.02)
furalaxyl (0.02)
furathiocarb (0.02)
heptenophos (0.02)
hexaconazole (0.02)
hexythiazox (0.02)
imazalil (0.02)
indoxacarb (0.02)
inorganic bromide (20)
iprovalicarb (0.02)
isazophos (0.02)
isocarbophos (0.02)
isofenphos (0.02)
isofenphos-methyl (0.02)
kresoxim-methyl (0.02)
lambda-cyhalothrin (0.02)
lindane (0.02)
malathion (0.02)
mecarbam (0.02)
mepanipyrim (0.02)
methacrifos (0.02)
methamidophos (0.01)
methidathion (0.02)
methiocarb (0.02)
methomyl (0.02)
methoxychlor (0.02)
metolcarb (0.02)
mevinphos (0.02)
monocrotophos (0.02)
myclobutanil (0.02)
omethoate (0.02)
oxadixyl (0.02)
oxamyl (0.02)
oxydemeton-methyl (0.02)
paclobutrazol (0.02)
parathion (0.02)
parathion-methyl (0.02)
penconazole (0.02)
pencycuron (0.02)
pendimethalin (0.02)
permethrin (0.02)
phenthoate (0.02)
phorate (0.02)
phosalone (0.02)
phosmet (0.02)
phosphamidon (0.02)
picoxystrobin (0.02)
piperonyl butoxide (0.02)
pirimicarb (0.02)
pirimiphos-ethyl (0.02)
pirimiphos-methyl (0.02)
prochloraz (0.02)
profenofos (0.02)
propargite (0.02)
propham (0.02)
propiconazole (0.02)
propoxur (0.02)
prothiofos (0.02)
pymetrozine (0.02)
pyrazophos (0.02)
pyrethrins (0.02)
pyridaben (0.02)
pyridaphenthion (0.02)
pyrifenox (0.02)
pyrimethanil (0.02)
pyriproxifen (0.02)
quassia (0.02)
quinalphos (0.02)
quinoxyfen (0.02)
quintozene (0.02)
rotenone (0.02)
simazine (0.02)
spinosad (0.02)
spiroxamine (0.02)
tau-fluvalinate (0.02)
tebuconazole (0.02)
tebufenozide (0.02)
tebufenpyrad (0.02)
tecnazene (0.02)
tefluthrin (0.02)
tetrachlorvinphos (0.02)
tetradifon (0.02)
tetramethrin (0.02)
tetreconazole (0.02)
thiabendazole (0.02)
thiacloprid (0.02)
thiamethoxam (0.02)
thiodicarb (0.02)
thiophanate-methyl (0.02)
tolclofos-methyl (0.02)
triadimefon (0.02)
triadimenol (0.02)
triazamate (0.02)
triazophos (0.02)
trifloxystrobin (0.02)
trifluralin (0.02)
vinclozolin (0.02)
zoxamide (0.02)

Table 8. Residues detected in retail samples of MILK purchased between January and March 2007

Commodity/Pesticide	Concentration range (mg/kg)	Number of samples in range
MILK, COWS MILK UK: 69 samples analysed		
None found	-	69
MILK, GOATS MILK UK: 9 samples analysed		
None found	-	9

UK samples of milk were (78).

No residues were found in any of the UK cows milk samples
No residues were found in any of the UK goats milk samples

The following pesticide(s) were actively sought but not found at or above their reporting limits (in parentheses in mg/kg):

aldrin (0.002)
alpha-HCH (0.002)
beta-HCH (0.002)
bifenthrin (0.005)
chlordane (0.001)
DDT (0.002)
dicofol (0.002)
dieldrin (0.002)
endosulfan (0.002)
endrin (0.0008)
heptachlor (0.002)
hexachlorobenzene (0.002)
lindane (0.0004)

Table 9a. Residues detected in retail samples of PEPPERS purchased between January and March 2007

Commodity/Pesticide	Concentration range (mg/kg)	Number of samples in range
PEPPERS, Imported (Non-EC): 21 samples analysed		
azoxystrobin	<0.02 (i.e. not found)	20
(MRL = 2)	0.02	1
fenhexamid	<0.02 (i.e. not found)	19
(MRL = 2)	0.05, 0.15	2
imidacloprid	<0.02 (i.e. not found)	17
(CAC MRL = 1)	0.03 - 0.07	4
iprodione	<0.02 (i.e. not found)	20
(MRL = 5)	0.07	1
rotenone	<0.02 (i.e. not found)	20
(No MRL)	0.07	1
spinosad	<0.02 (i.e. not found)	20
(No MRL)	0.02	1
PEPPERS, Imported (EC): 22 samples analysed		
acrinathrin	<0.05 (i.e. not found)	21
(No MRL)	0.13	1
azoxystrobin	<0.02 (i.e. not found)	21
(MRL = 2)	0.43	1
bifenthrin	<0.02 (i.e. not found)	21
(MRL = 0.2)	0.1	1
biphenyl	<0.02 (i.e. not found)	20
(No MRL)	0.02, 0.07	2
chlorothalonil	<0.01 (i.e. not found)	21
(MRL = 2)	0.01	1
chlorpyrifos-methyl	<0.02 (i.e. not found)	19
(MRL = 0.5)	0.03 - 0.38	3
cypermethrin	<0.05 (i.e. not found)	19
(MRL = 0.5)	0.05 - 0.29	3
cyproconazole	<0.02 (i.e. not found)	21
(No MRL)	0.03	1
cyprodinil	<0.02 (i.e. not found)	20
(No MRL)	0.03, 0.05	2
endosulfan	<0.02 (i.e. not found)	21
(MRL = 1)	0.11	1
fludioxonil	<0.02 (i.e. not found)	17
(No MRL)	0.02 - 0.14	5
imazalil	<0.02 (i.e. not found)	20
(MRL = 0.02*)	0.02	2

Commodity/Pesticide	Concentration range (mg/kg)	Number of samples in range
imidacloprid	<0.02 (i.e. not found)	10
(CAC MRL = 1)	0.04 - 0.25	12
indoxacarb	<0.02 (i.e. not found)	21
(MRL = 0.02)	0.04	1
iprodione	<0.02 (i.e. not found)	19
(MRL = 5)	0.03 - 0.44	3
isofenphos-methyl	<0.02 (i.e. not found)	20
(No MRL)	0.04, 0.1	2
malathion	<0.02 (i.e. not found)	19
(MRL = 3)	0.02 - 0.04	3
metalaxyl	<0.02 (i.e. not found)	20
(MRL = 0.5)	0.07, 0.09	2
methomyl	<0.02 (i.e. not found)	20
(MRL = 0.05*)	0.02	1
	0.12	1
pirimiphos-methyl	<0.02 (i.e. not found)	20
(MRL = 1)	0.16, 0.21	2
procymidone	<0.02 (i.e. not found)	16
(MRL = 2)	0.02 - 0.76	6
pyridaben	<0.02 (i.e. not found)	21
(No MRL)	0.03	1
pyrimethanil	<0.02 (i.e. not found)	20
(No MRL)	0.08, 0.17	2
spinosad	<0.02 (i.e. not found)	21
(No MRL)	0.02	1
tebuconazole	<0.02 (i.e. not found)	21
(No MRL)	0.03	1
tetrachlorvinphos	<0.02 (i.e. not found)	21
(No MRL)	0.05	1
thiabendazole	<0.02 (i.e. not found)	20
(MRL = 0.05*)	0.02	2
triadimenol	<0.02 (i.e. not found)	20
(MRL = 0.5)	0.02, 0.04	2

NOTE: * Indicates MRL is set to the Limit Of Detection.

Imported (EC) samples of peppers were from Spain (22).
Imported (Non-EC) samples of peppers were from Israel (21).

Residues were distributed by country of origin, as follows:

acrinathrin	Spain (1)
azoxystrobin	Israel (1), Spain (1)
bifenthrin	Spain (1)
biphenyl	Spain (2)
chlorothalonil	Spain (1)
chlorpyrifos-methyl	Spain (3)
cyproconazole	Spain (1)
cyprodinil	Spain (2)
cypermethrin	Spain (3)
endosulfan	Spain (1)
fludioxonil	Spain (5)
fenhexamid	Israel (2)
indoxacarb	Spain (1)
imidacloprid	Israel (4), Spain (12)
imazalil	Spain (2)
iprodione	Israel (1), Spain (3)
isofenphos-methyl	Spain (2)
malathion	Spain (3)
methomyl	Spain (2)
metalaxyl	Spain (2)
procymidone	Spain (6)
pirimiphos-methyl	Spain (2)
pyridaben	Spain (1)
pyrimethanil	Spain (2)
rotenone	Israel (1)
spinosad	Israel (1), Spain (1)
tebuconazole	Spain (1)
thiabendazole	Spain (2)
tetrachlorvinphos	Spain (1)
triadimenol	Spain (2)

No residues were found in 15 of the 21 Imported (Non-EC) samples
No residues were found in 3 of the 22 Imported (EC) samples

Table 9b. Residues detected in retail samples of PEPPERS purchased between January and March 2007 *continued*

Residues (1-8 compounds) were found in 25 of the 43 samples as follows:

Number of residues	PRC Sample ID	A- I Residues found (mg/kg)																	Country of origin
		ACR	AZOX	BIF	BPY	CLN	CPFME	CPZ	CYD	CYP	ENSF	FLUD	FNHX	IDX	IMI	IMZ	IPR	ISFM	
(1)	5767/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	0.04	-	-	-	Israel
	6085/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	-	Israel
	6109/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	-	Israel
	6487/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	-	Israel
	5079/2007	-	-	-	-	-	-	0.03	-	-	-	-	-	-	-	-	-	-	Spain
	5082/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Spain
	5125/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.24	-	Spain
	5251/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	0.25	-	-	-	Spain
	5792/2007	-	0.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Spain
	6232/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Spain
(2)	5048/2007	-	-	-	-	-	-	-	0.05	-	-	0.14	-	-	-	-	-	-	Spain
	6137/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	0.05	-	-	-	Spain
(3)	6184/2007	-	0.02	-	-	-	-	-	-	-	-	-	0.15	-	-	-	0.07	-	Israel
	6244/2007	-	-	-	-	-	-	-	-	-	-	-	0.05	-	-	-	-	-	Israel
	5842/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	0.08	-	-	-	Spain
	6084/2007	-	-	-	-	0.01	-	-	-	-	-	-	-	-	0.04	-	0.03	-	Spain
(4)	5047/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	0.04	0.02	-	-	Spain
	5241/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	0.12	-	-	-	Spain
	5261/2007	-	-	-	0.07	-	0.03	-	-	-	-	-	-	-	0.04	-	-	-	Spain
	5748/2007	-	-	-	-	-	-	-	-	-	0.11	-	-	-	-	0.02	-	-	Spain
(5)	5156/2007	-	-	-	0.02	-	0.38	-	-	-	-	0.04	-	-	0.16	-	-	-	Spain

Number of residues	PRC Sample ID	A- I Residues found (mg/kg)																	Country of origin
		ACR	AZOX	BIF	BPY	CLN	CPFME	CPZ	CYD	CYP	ENSF	FLUD	FNHX	IDX	IMI	IMZ	IPR	ISFM	
(6)	5157/2007	-	-	-	-	-	-	-	0.03	0.05	-	0.06	-	-	0.14	-	-	0.04	Spain
(7)	5272/2007	-	-	0.1	-	-	-	-	-	-	-	0.02	-	-	0.17	-	-	-	Spain
(8)	5127/2007	0.13	-	-	-	-	-	-	-	0.29	-	-	-	0.04	0.09	-	0.44	-	Spain
	5242/2007	-	-	-	-	-	0.14	-	-	0.06	-	0.04	-	-	0.12	-	-	0.1	Spain

Number of residues	PRC Sample ID	M –Z Residues found (mg/kg)												Country of origin
		MAL	METH	MTX	PCM	PIM	PYB	PYM	ROT	SPN	TBC	TBZ	TCV	TRIA	
(1)	5767/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	Israel
	6085/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	Israel
	6109/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	Israel
	6487/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	Israel
	5079/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	Spain
	5082/2007	-	-	0.07	-	-	-	-	-	-	-	-	-	-	Spain
	5125/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	Spain
	5251/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	Spain
	5792/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	Spain
	6232/2007	-	-	0.09	-	-	-	-	-	-	-	-	-	-	Spain
(2)	5048/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	Spain
	6137/2007	-	-	-	0.08	-	-	-	-	-	-	-	-	-	Spain
(3)	6184/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	Israel
	6244/2007	-	-	-	-	-	-	-	0.07	0.02	-	-	-	-	Israel
	5842/2007	-	-	-	0.07	-	-	-	-	0.02	-	-	-	-	Spain
	6084/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	Spain

Number of residues	PRC Sample ID	M –Z Residues found (mg/kg)													Country of origin
		MAL	METH	MTX	PCM	PIM	PYB	PYM	ROT	SPN	TBC	TBZ	TCV	TRIA	
(4)	5047/2007	-	-	-	-	-	-	-	-	-	-	0.02	0.05	-	Spain
	5241/2007	-	0.02	-	0.02	-	-	0.08	-	-	-	-	-	-	Spain
	5261/2007	-	-	-	0.05	-	-	-	-	-	-	-	-	-	Spain
	5748/2007	-	0.12	-	-	-	-	-	-	-	-	0.02	-	-	Spain
(5)	5156/2007	0.02	-	-	-	-	-	-	-	-	-	-	-	-	Spain
(6)	5157/2007	-	-	-	-	-	-	-	-	-	-	-	-	0.02	Spain
(7)	5272/2007	0.04	-	-	0.14	-	-	-	-	-	0.03	-	-	0.04	Spain
(8)	5127/2007	-	-	-	0.76	0.16	-	0.17	-	-	-	-	-	-	Spain
	5242/2007	0.02	-	-	-	0.21	0.03	-	-	-	-	-	-	-	Spain

The abbreviations used for the pesticide names are as follows:

ACR	acrinathrin	AZOX	azoxystrobin	BIF	bifenthrin
BPY	biphenyl	CLN	chlorothalonil	CPFME	chlorpyrifos-methyl
CPZ	cyproconazole	CYD	cyprodinil	CYP	cypermethrin
ENSF	endosulfan	FLUD	fludioxonil	FNHX	fenhexamid
IDX	indoxacarb	IMI	imidacloprid	IMZ	imazalil
IPR	iprodione	ISFM	isofenphos-methyl	MAL	malathion
METH	methomyl	MTX	metalaxyl	PCM	procymidone
PIM	pirimiphos-methyl	PYB	pyridaben	PYM	pyrimethanil
ROT	rotenone	SPN	spinosad	TBC	tebuconazole
TBZ	thiabendazole	TCV	tetrachlorvinphos	TRIA	triadimenol

Table 9c. Residues detected in retail samples of PEPPERS purchased between January and March 2007 *continued*

The following pesticide(s) were actively sought but not found at or above their reporting limits (in parentheses in mg/kg):

2-phenylphenol (0.02)
acephate (0.02)
acetamiprid (0.02)
aldicarb (0.02)
aldrin (0.02)
atrazine (0.02)
azinphos-methyl (0.02)
benalaxyl (0.02)
bitertanol (0.02)
boscalid (0.02)
bromopropylate (0.02)
bupirimate (0.02)
buprofezin (0.02)
cadusafos (0.02)
captan (0.05)
carbaryl (0.02)
carbendazim (0.02)
carbofuran (0.01)
carbofuran (3-hydroxy) (0.01)
chlorfenvinphos (0.02)
chlorpropham (0.02)
chlorpyrifos (0.02)
chlorthal-dimethyl (0.02)
chlozolinate (0.02)
cyfluthrin (0.05)
DDT (0.02)
deltamethrin (0.05)
diazinon (0.02)
dichlofluanid (0.05)
dichlorvos (0.02)
dicloran (0.02)
dicofol (0.05)
dieldrin (0.02)
diethofencarb (0.02)
difenoconazole (0.02)
dimethoate (0.02)
dimethomorph (0.02)
dimoxystrobin (0.02)
diphenylamine (0.02)
dithiocarbamates (0.05)
ethion (0.02)
ethoprophos (0.02)
ethoxyquin (0.02)
etrimfos (0.02)
fenarimol (0.02)
fenazaquin (0.02)
fenbuconazole (0.02)
fenitrothion (0.02)
fenoxycarb (0.02)
fenpropathrin (0.02)
fenpropimorph (0.02)
fenpyroximate (0.02)
fenthion (0.02)
fenvalerate (0.02)
fipronil (0.02)
flusilazole (0.02)
folpet (0.02)
fonofos (0.02)
furalaxyl (0.02)
gamma-HCH (0.02)
heptenophos (0.02)
hexaconazole (0.02)
isazophos (0.02)
isocarbophos (0.02)
isofenphos-ethyl (0.02)
kresoxim-methyl (0.02)
lambda-cyhalothrin (0.02)
mecarbam (0.02)
mepanipyrim (0.02)
methacrifos (0.02)
methamidophos (0.01)
methidathion (0.02)
mevinphos (0.02)
monocrotophos (0.02)
myclobutanil (0.02)
omethoate (0.02)
oxadixyl (0.02)
oxamyl (0.02)
oxydemeton-methyl (0.02)
paclobutrazol (0.02)
parathion (0.02)
parathion-methyl (0.02)
penconazole (0.02)
pendimethalin (0.02)
permethrin (0.02)
phenthoate (0.02)
phosalone (0.02)
phosmet (0.02)
phosphamidon (0.02)
picoxystrobin (0.02)
piperonyl butoxide (0.02)
pirimicarb (0.02)
pirimiphos-ethyl (0.02)
prochloraz (0.02)
profenofos (0.02)
propamocarb (0.02)
propargite (0.02)
propiconazole (0.02)
propoxur (0.02)
propyzamide (0.02)
prothiofos (0.02)
pymetrozine (0.02)
pyraclostrobin (0.02)
pyrazophos (0.02)
pyrethrins (0.02)
pyridaphenthion (0.02)
pyrifenox (0.02)
pyriproxifen (0.02)
quassia (0.02)
quinalphos (0.02)
quinoxyfen (0.02)
quintozene (0.02)
simazine (0.02)
tau-fluvalinate (0.05)
tebufenpyrad (0.02)
tecnazene (0.02)
tefluthrin (0.02)
tetradifon (0.02)
tetreconazole (0.02)
thiacloprid (0.02)
tolclofos-methyl (0.02)
tolylfluanid (0.05)
triadimefon (0.02)
triazophos (0.02)
trifloxystrobin (0.02)
trifluralin (0.05)
vinclozolin (0.02)

Table 10a. Residues detected in retail samples of PORK purchased between January and March 2007

Commodity/Pesticide	Concentration range (mg/kg)	Number of samples in range
PORK, UK: 46 samples analysed		
DDT†	<0.002 (i.e. not found)	45
(MRL = 0.1)	0.002	1
PORK, Imported (EC): 24 samples analysed		
None found	-	24

† DDT found in the form of ppDDE

Imported (EC) samples of pork were from Belgium (1), Denmark (4), EC (2), France (6), Germany (3), Spain (1), Sweden (1), the Netherlands (6).
UK samples of pork were (46).

Residues were distributed by country of origin, as follows:
DDT UK (1)

No residues were found in 45 of the 46 UK samples
No residues were found in any of the Imported (EC) samples

Table 10b. Residues detected in retail samples of PORK purchased between January and March 2007 *continued*

Residue (1 compound) was found in 1 of the 70 samples as follows:

Number of residues	PRC Sample ID	Residues found (mg/kg) DDT	Country of origin
(1)	6415/2007	0.002	UK

The abbreviations used for the pesticide names are as follows:

DDT DDT

Table 10c. Residues detected in retail samples of PORK purchased between January and March 2007 *continued*

The following pesticide(s) were actively sought but not found at or above their reporting limits (in parentheses in mg/kg):

aldrin (0.002)
alpha-HCH (0.002)
beta-HCH (0.002)
chlordane (0.002)
dieldrin (0.002)
endosulfan (0.002)
endrin (0.002)
heptachlor (0.002)
hexachlorobenzene (0.002)
lindane (0.002)

Table 11a. Residues detected in retail samples of SPECIALITY FRUIT purchased between January and March 2007

Commodity/Pesticide	Concentration range (mg/kg)	Number of samples in range
SPECIALITY FRUIT, ASIAN PEAR Imported (Non-EC): 2 samples analysed		
carbendazim	<0.02 (i.e. not found)	1
(MRL = 0.2)	0.05	1
SPECIALITY FRUIT, LYCHEES Imported (Non-EC): 4 samples analysed		
None found	-	4
SPECIALITY FRUIT, PASSION FRUIT Imported (Non-EC): 7 samples analysed		
carbendazim	<0.02 (i.e. not found)	6
(MRL = 0.1*)	0.08	1
cypermethrin	<0.05 (i.e. not found)	5
(MRL = 0.05*)	0.08, 0.09	2
difenoconazole	<0.02 (i.e. not found)	6
(No MRL)	0.05	1
pyrimethanil	<0.02 (i.e. not found)	6
(No MRL)	0.04	1
tebuconazole	<0.02 (i.e. not found)	6
(No MRL)	0.04	1
thiabendazole	<0.02 (i.e. not found)	6
(MRL = 0.05*)	0.08	1
SPECIALITY FRUIT, PERSIMMON Imported (Non-EC): 8 samples analysed		
malathion	<0.02 (i.e. not found)	7
(No MRL)	0.07	1
thiacloprid	<0.02 (i.e. not found)	7
(No MRL)	0.02	1
SPECIALITY FRUIT, PHYSALLIS Imported (Non-EC): 1 samples analysed		
None found	-	1
SPECIALITY FRUIT, POMEGRANATES Imported (Non-EC): 2 samples analysed		
None found	-	2
SPECIALITY FRUIT, POMELO Imported (Non-EC): 1 samples analysed		
2-phenylphenol	<0.02 (i.e. not found)	0
(CAC MRL = 10)	0.2	1
bromopropylate	<0.02 (i.e. not found)	0
(MRL = 2)	0.5	1
imazalil	<0.02 (i.e. not found)	0
(MRL = 5)	3.3	1
imidacloprid	<0.02 (i.e. not found)	0

Commodity/Pesticide	Concentration range (mg/kg)	Number of samples in range
(CAC MRL = 1)	0.04	1
thiabendazole	<0.02 (i.e. not found)	0
(MRL = 5)	4.3	1

NOTE: * Indicates MRL is set to the Limit of Detection.

Imported (Non-EC) samples of speciality fruit were from China (2), Colombia (4), India (2), Israel (11), Madagascar (4), South Africa (2).

Residues were distributed by country of origin, as follows:

2-phenylphenol	Israel (1)
bromopropylate	Israel (1)
carbendazim	China (1), Colombia (1)
cypermethrin	Colombia (2)
difenoconazole	Colombia (1)
imidacloprid	Israel (1)
imazalil	Israel (1)
malathion	Israel (1)
pyrimethanil	Colombia (1)
tebuconazole	Colombia (1)
thiabendazole	Colombia (1), Israel (1)
thiacloprid	Israel (1)

No residues were found in 1 of the 2 Imported (Non-EC) asian pear samples
No residues were found in any of the Imported (Non-EC) lychees samples
No residues were found in 5 of the 7 Imported (Non-EC) passion fruit samples
No residues were found in 6 of the 8 Imported (Non-EC) persimmon samples
No residues were found in any of the Imported (Non-EC) physallis samples
No residues were found in any of the Imported (Non-EC) pomegranates samples
Residues were found in all of the 1 Imported (Non-EC) pomelo samples

Table 11b. Residues detected in retail samples of SPECIALITY FRUIT purchased between January and March 2007 *continued*

Residues (1-5 compounds) were found in 6 of the 25 samples as follows:

Number of residues	PRC Sample ID	Type of SPECIALITY FRUIT	Residues found (mg/kg)												Country of origin
			2PP	BPP	CBZ	CYP	DIFC	IMI	IMZ	MAL	PYM	TBC	TBZ	THC	
(1)	5769/2007	ASIAN PEAR	-	-	0.05	-	-	-	-	-	-	-	-	-	China
	5749/2007	PERSIMMON	-	-	-	-	-	-	-	-	-	-	-	0.02	Israel
	6449/2007	PERSIMMON	-	-	-	-	-	-	-	0.07	-	-	-	-	Israel
(3)	6390/2007	PASSION FRUIT	-	-	0.08	0.09	-	-	-	-	0.04	-	-	-	Colombia
(4)	6411/2007	PASSION FRUIT	-	-	-	0.08	0.05	-	-	-	-	0.04	0.08	-	Colombia
(5)	5719/2007	POMELO	0.2	0.5	-	-	-	0.04	3.3	-	-	-	4.3	-	Israel

The abbreviations used for the pesticide names are as follows:

2PP	2-phenylphenol	BPP	bromopropylate	CBZ	carbendazim
CYP	cypermethrin	DIFC	difenoconazole	IMI	imidacloprid
IMZ	imazalil	MAL	malathion	PYM	pyrimethanil
TBC	tebuconazole	TBZ	thiabendazole	THC	thiacloprid

Table 11c. Residues detected in retail samples of SPECIALITY FRUIT purchased between January and March 2007 *continued*

The following pesticide(s) were actively sought but not found at or above their reporting limits (in parentheses in mg/kg):

acephate (0.02)
acetamiprid (0.02)
acrinathrin (0.05)
aldicarb (0.02)
aldrin (0.02)
atrazine (0.02)
azinphos-methyl (0.02)
azoxystrobin (0.02)
benalaxyl (0.02)
bifenthrin (0.02)
biphenyl (0.02)
bitertanol (0.02)
boscalid (0.02)
bupirimate (0.02)
buprofezin (0.02)
cadusafos (0.02)
captan (0.05)
carbaryl (0.02)
carbofuran (0.01)
carbofuran (3-hydroxy) (0.01)
chlorfenvinphos (0.02)
chlorothalonil (0.01)
chlorpropham (0.02)
chlorpyrifos (0.02)
chlorpyrifos-methyl (0.02)
chlorthal-dimethyl (0.02)
chlozolinate (0.02)
cyfluthrin (0.05)
cyproconazole (0.02)
cyprodinil (0.02)
DDT (0.02)
deltamethrin (0.05)
diazinon (0.02)
dichlofluanid (0.05)
dichlorvos (0.02)
dicloran (0.02)
dicofol (0.05)
dieldrin (0.02)
diethofencarb (0.02)
dimethoate (0.02)
dimethomorph (0.02)
dimoxystrobin (0.02)
diphenylamine (0.02)
dithiocarbamates (0.05)
endosulfan (0.02)
ethion (0.02)
ethoprophos (0.02)
ethoxyquin (0.02)
etrimfos (0.02)
fenarimol (0.02)
fenazaquin (0.02)
fenbuconazole (0.02)
fenhexamid (0.02)
fenitrothion (0.02)
fenoxycarb (0.02)
fenpropathrin (0.02)
fenpropimorph (0.02)
fenpyroximate (0.02)
fenthion (0.02)
fenvalerate (0.02)
fipronil (0.02)
fludioxonil (0.02)
flusilazole (0.02)
folpet (0.02)
fonofos (0.02)
furalaxyl (0.02)
gamma-HCH (0.02)
heptenophos (0.02)
hexaconazole (0.02)
indoxacarb (0.02)
iprodione (0.02)
isazophos (0.02)
isocarbophos (0.02)
isofenphos-ethyl (0.02)
isofenphos-methyl (0.02)
kresoxim-methyl (0.02)
lambda-cyhalothrin (0.02)
mecarbam (0.02)
mepanipyrim (0.02)
metalaxyl (0.02)
methacrifos (0.02)
methamidophos (0.01)
methidathion (0.02)
methomyl (0.02)
mevinphos (0.02)
monocrotophos (0.02)
myclobutanil (0.02)
omethoate (0.02)
oxadixyl (0.02)
oxamyl (0.02)
oxydemeton-methyl (0.02)
paclobutrazol (0.02)
parathion (0.02)
parathion-methyl (0.02)
penconazole (0.02)
pendimethalin (0.02)
permethrin (0.02)
phenthoate (0.02)
phosalone (0.02)
phosmet (0.02)
phosphamidon (0.02)
picoxystrobin (0.02)
piperonyl butoxide (0.02)
pirimicarb (0.02)
pirimiphos-ethyl (0.02)
pirimiphos-methyl (0.02)
prochloraz (0.02)
procymidone (0.02)
profenofos (0.02)
propamocarb (0.02)
propargite (0.02)
propiconazole (0.02)
propoxur (0.02)
propyzamide (0.02)
prothiofos (0.02)
pymetrozine (0.02)
pyraclostrobin (0.02)
pyrazophos (0.02)
pyrethrins (0.02)
pyridaben (0.02)
pyridaphenthion (0.02)
pyrifenox (0.02)
pyriproxifen (0.02)
quassia (0.02)
quinalphos (0.02)
quinoxyfen (0.02)
quintozene (0.02)
rotenone (0.02)
simazine (0.02)
spinosad (0.02)
tau-fluvalinate (0.05)
tebufenpyrad (0.02)
tecnazene (0.02)
tefluthrin (0.02)
tetrachlorvinphos (0.02)
tetradifon (0.02)
tetreconazole (0.02)
tolclofos-methyl (0.02)
tolylfluanid (0.05)
triadimefon (0.02)
triadimenol (0.02)
triazophos (0.02)
trifloxystrobin (0.02)
trifluralin (0.05)
vinclozolin (0.02)

Table 12. Residues detected in retail samples of TURKEY purchased between January and March 2007

Commodity/Pesticide	Concentration range (mg/kg)	Number of samples in range
TURKEY, UK: 60 samples analysed		
None found	-	60
TURKEY, Imported (EC): 12 samples analysed		
None found	-	12

Imported (EC) samples of turkey were from Germany (7), Hungary (1), Ireland (4).
UK samples of turkey were (60).

No residues were found in any of the UK samples
No residues were found in any of the Imported (EC) samples

The following pesticide(s) were actively sought but not found at or above their reporting limits (in parentheses in mg/kg):

aldrin (0.002)
alpha-HCH (0.002)
beta-HCH (0.002)
chlordane (0.002)
DDT (0.002)
dieldrin (0.002)
endosulfan (0.002)
endrin (0.002)
heptachlor (0.002)
hexachlorobenzene (0.002)
lindane (0.002)

Appendix D
Additional Action Taken

Action taken by PSD

PSD wrote to:

- the suppliers of all samples containing residues above the MRL
- the authorities of the exporting countries of all samples containing residues above the MRL
- the suppliers of UK samples that contained residues of a pesticide not approved for use on that crop in the UK
- the manufacturers of chocolate samples containing residues for their information
- the suppliers of samples containing DDT, for their information.

Recipients of the letters are given 4 weeks to provide a statement for inclusion in the report. The PRC reviews any replies received.

Comments received

Cypermethrin in passion fruit

"The importer of this product has traced the pack back to the grower and field of origin. The growers spray records confirm that cypermethrin was not applied to the crop and is not on his proposed pesticide use form which was submitted to the supplier.

One possible explanation of this residue is spray drift from other crops grown in neighbouring fields. The grower will now add a solid barrier to the existing separation zone and hedge.

Although this residue did not present a safety risk we continue to work closely with our suppliers to ensure full compliance."

Appendix E
Pesticides analysed as multi-component analytes and their reporting limits

To find the limit present of most pesticides that are sought in the PRC programme it is usually necessary to only look for the named pesticide itself. However, some pesticides degrade or break down into other products in the food. To gain a full picture of the total residue present it is necessary to analyse both the residue found as the original pesticide (known as the 'parent') and the break-down products. Pesticides which fall into this category are said to have multi-component analytes. MRLs will have been set based on the total pesticide present, and therefore residues found are reported as a total of the components found above the individual analyte reporting limits. The following table presents the reporting limits for the different components of the pesticides that we looked for (see Appendix C) which have multi-component analytes:

Pesticide	Individual Analyte Components	Reporting Limits (mg/kg)*	Remarks
aldicarb	aldicarb aldicarb sulphoxide aldicarb sulphone	0.02 0.02 0.02 0.02 (common moiety method)	Aldicarb is often determined as multi-component analytes as the three separate components. On some occasions an alternative (common moiety) analytical method that analyses all three components together as a single analyte is used.
carbofuran	carbofuran carbofuran (3-hydroxy)	0.01 0.01	
chlordane	chlordane (cis) chlordane (trans) oxychlordane	0.002 or 0.02 each analyte (animal products except milk) 0.001 each analyte (milk) 0.01 each analyte (cream, infant food) 0.0025 each analyte (infant formula)	
DDT	o,p'-DDT p,p'-DDD p,p'-DDE p,p'-DDT o,p'-DDT p,p'-DDD p,p'-DDE p,p'-DDT	0.05 each analyte (fruit and vegetables and fruit juice) 0.002 or 0.02 each analyte (animal products) 0.01 each analyte (cream, infant formula)	
dieldrin	aldrin dieldrin	0.05 each analyte (swede) 0.002 or 0.02 each analyte (animal products) 0.01 each analyte (cream, infant food) 0.001 each analyte (infant formula)	
dimethoate & omethoate	dimethoate omethoate	0.02 each analyte (fruit and vegetables)	Dimethoate is metabolised to omethoate, although as both are pesticides in their own right they are reported separately. The residue definition for dimethoate (and omethoate) is: dimethoate (sum of dimethoate and omethoate expressed as dimethoate).

disulfoton	disulfoton disulfoton sulphone disulfoton sulfoxide	0.01 0.01 0.01	
endosulfan	endosulfan I endosulfan II endosulfan sulphate	0.05 each analyte (fruit and vegetables, fruit juice) 0.002 or 0.02 each analyte (animal products) 0.01 each analyte (cream, infant food, infant formula)	
fenamiphos	fenamiphos fenamiphos sulphone fenamiphos sulfoxide	0.01 0.01 0.01	
heptachlor	heptachlor heptachlor epoxide (trans)	0.002 or 0.02 each analyte (animal products) 0.01 each analyte (cream, infant food) 0.001 each analyte (infant formula)	
oxydemeton-methyl	oxydemeton-methyl demeton-S-methylsulfone	0.01 each analyte (infant food)	Demeton-s-methyl is metabolised to oxydemeton-methyl and demeton-S-methylsulfone, although as both are pesticides in their own right they are reported separately. The residue definition for oxydemeton-methyl is: sum of oxydemeton methyl and demeton-S-methylsulfone expressed as oxydemeton methyl
phorate	phorate phorate sulphone phorate sulfoxide	0.01 each analyte (swede) 0.01 each analyte (infant formula)	
quintozene	quintozene pentachloroanaline	0.02 each analyte (lettuce & fruit juice)	
triadimefon & triadimenol	Triadimefon and triadimenol	0.05 0.05	Triadimefon is metabolised to triadimenol, although as both are pesticides in their own right they are reported separately. The residue definition for triadimefon and triadimenol is: triadimefon and triadimenol (sum of triadimefon and triadimenol)

* An exception to these Reporting Limits is for infant foods where all individual analytes for multi-component pesticides have an RL of 0.01 mg/kg

For animal products, the 10 x lower Reporting Limits applies if the result is being expressed on a whole product basis (this usually applies when a food item contains <10% fat)

Glossary

This is a 'standard' glossary which defines the key terms used in the PRC reports. Not all the terms listed here are used in this particular report.

Acceptable Daily Intake (ADI): This is the amount of a chemical which can be consumed every day for a lifetime in the practical certainty, on the basis of all known facts, that no harm will result. It is expressed in milligrams of the chemical per kilogram of body weight of the consumer. The starting point for the derivation of the ADI is usually the 'no observed adverse effect level' (NOAEL) that has been observed in animal studies for toxicity. This is then divided by an uncertainty factor (most often 100) to allow for the possibility that animals may be less sensitive than humans and also to account for possible variation in sensitivity between individuals. The studies from which NOAELs and hence ADIs are derived take into account any impurities in the pesticide active substance as manufactured, and also any toxic breakdown products of the pesticide.

Acute Reference Dose (ARfD): The definition of the ARfD is similar to that of the ADI, but it relates to the amount of a chemical that can be taken in at one meal or on one day without appreciable health risk to the consumer. It is normally derived by applying an appropriate uncertainty factor to the lowest NOAEL in studies that assess acute toxicity or developmental toxicity.

Analyte: This is the name for the substance that the PRC surveys look for and measure if present; it could be a pesticide itself or a product from a pesticide when it is degraded, or metabolised.

COLEACP (Europe-Africa-Caribbean-Pacific Liaison Committee): It aims to promote the competitive export of fresh fruit, vegetables, flowers and ornamental plants from the ACP. Its specialised information and advisory services are open to all ACP companies in the horticultural export sector and are financed by the European Commission. It has two overriding objectives to enable ACP companies to comply with European food safety and traceability requirements and to consolidate the position of small-scale producers in the ACP horticultural export sector.

Cryogenic Milling: Processing of commodities at very low temperatures can be achieved by milling/grinding pre-frozen samples in the presence of dry ice, a procedure known as 'cryogenic milling'.

Good Agricultural Practice in the Use of Pesticides (GAP): The nationally authorised safe uses of pesticides under conditions necessary for effective and reliable pest control (the way products should be used according to the statutory conditions of approval which are stated on the label). GAP encompasses a range of pesticide applications up to the highest authorised rates of use, applied in a manner which leaves a residue which is the smallest practicable. Authorised safe uses are determined at the national level and include nationally registered recommended uses, which take into account public and occupational health and environmental safety considerations. Actual conditions include any stage in the production, storage, transport, distribution and processing of food commodities and animal feed.

High-level Consumer: A term used in UK risk assessment calculations to describe the amount of food consumed by a person. In line with internationally agreed approaches, the PRC uses the 97.5th percentile value, which is generally about three times the average amount consumed. This takes account of different eating patterns that may occur throughout the population.

Import Tolerance: an MRL set for imported products where the use of the active substance in a plant protection product on a commodity is not authorised in the European Community (EC) or an existing EC MRL is not sufficient to meet the needs of international trade. All import tolerances are assessed for consumer safety.

Imported: The tables in the reports record whether the sample was of UK origin, or imported. This can mean different things depending on the commodity. See also 'Origin'. The PRC report the country from where the produce has been imported only if this is clear from the packaging or labelling.

JMPR: Joint FAO/WHO Meeting on Pesticide Residues, which conducts scientific evaluations of pesticide residues in food.

Limit of Determination (LOD): The limit of determination is the lowest concentration of a pesticide residue or contaminant that can be routinely identified and quantitatively measured in a specified food, agricultural commodity or animal feed with an acceptable degree of certainty by the method of analysis.

Maximum Residue Level (MRL): The maximum concentration of a pesticide residue (expressed as mg/kg) legally permitted in or on food commodities and animal feeds. MRLs are based on good agricultural practice data and residues in foods derived from commodities that comply with the respective MRLs are intended to be toxicologically acceptable.

MRLs are intended primarily as a check that GAP is being followed and to assist international trade in produce treated with pesticides. **MRLs are not in themselves 'safety limits'**, and exposure to residues in excess of an MRL does not automatically imply a hazard to health.

The MRLs applicable in the UK are now largely set under EC legislation.

Website link: www.pesticides.gov.uk/food_industry.asp?id=548

Maximum Residue Limits (CODEX or CAC): In cases where there are no UK or EC MRLs, the acceptability of residues may be judged against Codex Maximum Residue Limits. Although not embodied in UK statute, Codex limits are taken as presumptive standards. These limits give an indication of the likely highest residue that should occur in edible crops. These are based on worldwide uses and the residues trials data to support those uses, at the time of evaluation (date of setting the limits is specified and thus the Maximum Residue Limit applicable up to that year, but will not take into account subsequent approved uses.)

There are occasions where the MRL that has been set by Codex may not reflect current UK Good Agricultural Practice (e.g. the Codex MRLs for dithiocarbamates and propamocarb on lettuce). In such circumstances it is possible to exceed the Codex MRL through a UK approved use. This factor needs to be taken into account when assessing results.

Maximum Residue Levels set at the LOD (LOD MRL): For some pesticides and commodities, insufficient trials data are available on which to set a maximum residue level or there may be no use of the pesticide on that crop. In these cases, the MRL may be set at a default level, i.e. at the limit of determination (LOD) where analytical methods can reasonably detect the presence of the pesticide. **These MRLs are not based on Good Agricultural Practice (GAP).**

MRL exceedances: When a residue is found at a level higher than that set for the MRL.

MRL Exceedances and Relationship with the Acceptable Daily Intake (ADI): Before permitting any use of a pesticide, a detailed assessment is made to ensure that residues in foods derived from commodities comply with MRLs and will not give rise to unacceptable risks to consumers. MRLs do take account of consumer safety aspects and, in effect, are set at levels below safety limits. However, MRLs must not be confused with safety limits, which are expressed in terms of the acceptable daily intake (ADI) of a particular pesticide residue from all sources. The ADI (expressed as mg/kg bw/day) is the amount of chemical that can be consumed every day of an individual's entire lifetime in the practical certainty, on the basis of all known facts, that no harm will result. See ADI for further information.

Whenever unexpectedly high or unusual residues occur during monitoring, the risk to consumers, from exposure to residues at the highest levels found, is assessed by comparison of predicted intakes with the ADI or ARfD as appropriate.

No MRL: For certain pesticides, an MRL may not have been set.

UKT MRL: For certain pesticide a temporary national MRL has been set. UKT MRLs are worked out by PSD. The level indicates the amount of residue expected when the pesticide is applied in accordance with good agricultural practice (GAP). The UK has a number of UKT MRLs, these take precedence over provisional EC levels.

Extraneous Residue Limit (ERL): An ERL refers to a pesticide residue or a contaminant arising from environmental sources (including former agricultural uses) other than the use of a pesticide or a contaminant substance directly or indirectly on the commodity. It is the maximum concentration of a pesticide residue or contaminant that is recommended by the Codex Alimentarius Commission (CAC) to be legally permitted or recognised as acceptable in or on a food, agricultural commodity or animal feed.

Metabolite: A degradation or conversion product from a pesticide when it is metabolised.

NEDI: National Estimate of Daily Intake. An estimate of intake of pesticide in the diet over the long-term to compare to the ADI. The NEDI is based on median or mean residue levels and a high level consumption (97.5^{th} percentile value) for the daily amounts of the food item consumed over the long term. For further details on the calculation of NEDIs please refer to section 3 of the data requirements handbook: http://www.pesticides.gov.uk/applicant_guide.asp

NESTI: National Estimate of Short Term Intake. An estimate of peak intake of pesticide in the diet to compare to the ARfD. The NESTI is based on the highest residue found multiplied by a variability factor (see glossary description) and a high level consumption (97.5^{th} percentile value) for the amount of the food item consumed over a single day. For further details on the calculation of NESTIs please refer to section 3 of the data requirements handbook:
http://www.pesticides.gov.uk/applicant_guide.asp

No Observed Adverse Effect Level (NOAEL): The highest level of continual exposure to a chemical which causes no significant adverse effect on morphology, biochemistry, functional capacity, growth, development or life span of individuals of the target species which may be animal or human.

Origin: The brand name annex reports the origins of the samples tested. This can mean different things depending on the commodity. For example, butter is often labelled as 'UK origin'; however, the majority of it comes in bulk from New Zealand and is split into smaller blocks and packaged in the UK. Lettuce is a fresh produce and 'UK origin' usually means that it has been grown and packaged in the UK. Processed commodities such as cereal bars often contain multiple raw ingredients, each of which may come from a different source/origin. Therefore, the origin of the produce usually reflects the place where it was manufactured. The PRC report the origin as stated on the packaging or labelling of the commodity concerned, unless other more accurate information is available to indicate that the origin is from elsewhere. Some products are listed as 'unknown origin' because the labelling does not give this information.

Permitted Level (PL): The permitted levels (expressed as mg/kg), in specific commodities, of some substances which can be classified as pesticides but are controlled under the Miscellaneous Food Additives Regulations 1995 (S.I. 1995 No. 3187).

Pesticide: A pesticide is any substance, preparation or organism prepared or used for destroying any pest. The majority of pesticides sought by the PRC in its monitoring are those used to control pests in agricultural crops, although non-agricultural products may be included where there is a specific reason for doing so, e.g. where there are implications in terms of possible intakes of residues.

Probabilistic Modelling: The usual estimates of consumer exposure use single high values for both consumption amounts and residue levels. Whilst these are based on realistic UK dietary survey data and residue levels, they tend to overestimate most representative intakes. This is because they do not take into account actual variations in both amounts consumed and residue levels. Probabilistic modelling is a technique that considers all the possible different combinations of consumption and residue levels. This provides information on the probability of particular intakes occurring.

Rapid Alert System for Food and Feed (RASFF): The European Commission operates an EU rapid alert system for food, which was set up in 1992. This provides the competent authorities in the Member States of the European Union with the means of notifying cases where high residues of pesticides have been found in imported samples. Since its introduction this system has proved a successful method for disseminating information between Members States allowing swift action where necessary. PSD notify the Food Standards Agency of any residues where the predicted intakes are above the ARfD. RASFFs are only raised when a potential consumer risk has been identified. In general, for intakes exceeding the ARfD by more than 1.1 times, the FSA will raise a RASFF. If a significant consumer health concern has been identified, then a product withdrawal/recall is effected and the FSA will also issue a food alert.

Relationship between GAP and MRLs: The MRL can be defined as the maximum concentration of a pesticide residue (expressed as mg/kg) likely to occur in or on food commodities and animal feeds, after the use of the pesticide according to the GAP.

Reporting Limit: The reporting limit is the lowest calibrated level employed during analysis to detect residues. The reporting limit may vary slightly from laboratory to laboratory depending on the equipment available and operating procedures used.

'None were Detected above the Set RL': This term is used in the Brand Name Annex, where no residues were found above their reporting limit.

Residue: Residues may be present in vegetable and animal products following the application(s) of a pesticide(s). They may not only include the pesticide that was applied but other degradation or reaction products and metabolites that may be of toxicological significance. The levels or amounts of residues present are expressed in milligrams of the chemical in a kilogram of crop/food/commodity (mg/kg), or parts per million.

Risk Assessment: A risk assessment is carried out when residues are found in foods to determine whether, at the levels found, they present a concern for consumer health or not. Consumer risk assessments are routinely conducted as part of the approval process for pesticides and are based on residue trials. Approval of a pesticide is only recommended when the consumer risk is acceptable.

Sample: The nature of all samples is as designated in the EC's 'sampling' Directive – 2002/63/EC. Examples are: apple – at least 10 apples weighing at least 1 kg; grapes – at least 5 bunches, weighing at least 2 kg.

Specific Off-Label Approval (SOLA): For many reasons, label recommendations of approved pesticides do not cover the control of every problem which may arise. This is particularly true for crops that are grown on a comparatively small scale in the UK as well as for sporadic pests and diseases. It is for this reason that the extrapolations presented in the Long Term Arrangements for Extension of Use have been developed. If these do not address particular needs growers or their representatives may apply to PSD for a specific off-label approval (SOLA).

Technical Exceedances: When an MRL has been set at the LOD because there have been no data to support a higher level. In the context of this report, 'technical exceedances' always relate to produce from third countries.

Variability Factor: A value that describes the variation in residue levels between the highest unit level and the average level in samples made up of many units. Internationally this is agreed to be the 97.5th percentile unit residue level divided by the average of the sum. The variability factor multiplied by the measured residue level from a composite sample (i.e. a sample made up by mixing several units before analysis) gives an estimate of the likely higher residue levels that may have occurred in individual units. These estimated higher levels are used in short-term risk assessments involving fruit and vegetables where consumers eat only a portion of a single item, e.g. melon, or a small number of units e.g. apples and potatoes.

Ware: Ware potatoes, sometimes referred to as main crop potatoes, are harvested between August and November, and are available throughout the period August to June because they are stored under controlled temperature after October.

Our next quarterly report is due to be published in December 2007

Quarter 2 of 2007 will look at residues in:

Apple juice		
Apples	Cabbage	Celery
Chocolate	Grapes	Kiwi Fruit
Leeks	Tomatoes	Farmed fish
Lettuce	Milk	Raspberries and blackberries
Peaches and Nectarines	Pears	Yogurt
Potatoes	Soft citrus	Speciality Fruit
Strawberries	Sweet Potatoes	Sunflower and Pumpkin seeds

Our annual report for 2006 was published on 10 September 2007.
http://www.pesticides.gov.uk/prc.asp?id=1937

For further details on information contained in this report, previous surveys or information concerning pesticide residues in food

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