



**DUE DILIGENCE GUIDANCE ON THE
AGRICULTURAL USE OF PESTICIDES
FOR SUPPLIERS TO
CHILLED FOOD MANUFACTURERS**

First Edition

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DUE DILIGENCE GUIDANCE ON THE AGRICULTURAL USE OF PESTICIDES FOR SUPPLIERS TO CHILLED FOOD MANUFACTURERS

1. Introduction

This Guidance has been developed to assist UK chilled food manufacturers to meet legislative (see section 4) and commercial requirements. It sets out practical measures and systems to be followed by growers and other raw material suppliers in relation to the use and management of pesticides when supplying raw materials of plant origin (fresh, frozen and dehydrated – both organic and conventional) to members of the Chilled Food Association.

There is legislation for pesticide residues in meat, dairy and egg products (see SI 3483, as amended), which is not covered by this guidance.

It is a legal requirement in the UK that pesticides are handled, applied and stored in accordance with the conditions of approval, which are generally given via label instructions. Failure to comply with the instructions may lead to unacceptable risks to the operator, bystanders, consumers or damage to crops or the environment.

Non-compliance issues addressed include the presence of pesticide residues either in excess of those maxima prescribed (MRLs) or unapproved pesticide uses or pesticides whose uses are restricted by legislation or by the customer.

Causes for such pesticide non-compliances include:-

- The use of non-approved products and active ingredients
- Failure to follow approval details, as set out in the label recommendations, e.g. minimum harvest intervals
- Inadequate staff training
- Incorrect advice given/decisions taken
- Poor maintenance/calibration of equipment
- Atypical growing conditions
- Changes in MRL legislation

It should be noted that a review programme for the authorisation of pesticides registered within the EU is ongoing at the time of writing. The authorisation of all pesticides currently registered for use in the EU, but which have not yet undergone a full evaluation, will be offered for review, but the authorisation of those not supported is proposed to be revoked on 25 July 2003.

2. Definitions

Acceptable Daily Intake (ADI)

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. The ADI is expressed as mg of the chemical per kg body weight of the consumer per day.

Due Diligence

See section 4.

GAP (Good Agricultural Practice)

Adherence to the nationally authorised safe use of pesticides under actual conditions necessary for the effective and reliable control of pests (including weeds) and diseases.

LOD (Limit of Determination)

The lowest concentration of a pesticide residue that can be quantitatively measured using routine analysis.

MRL (Maximum Residue Level)

A MRL is the maximum concentration of pesticide (expressed as mg/kg) expected in a raw material if a pesticide has been applied in accordance with GAP.

Multi Residue Screen

Analysis of food materials for the presence of a wide range of pesticide residues. See section 7.

Pesticide

Any substance, preparation or organism prepared or used for destroying any pest and included in the Control of Pesticides Regulations 1986, 3 (1), as amended. A pesticide product consists of one or more active substances formulated with other materials. Formulated pesticides exist in many forms, such as solid granules, powders or liquids.

Primary Preparers

Those carrying out cleaning and trimming of raw materials for further processing.

Risk Assessment

The determination of the risk of a hazard presented by a material in terms of volume of finished product, the relative risks of pesticides applied, confidence in the supplier and their controls.

3. MRLs/Approval Status

A MRL is the maximum concentration of pesticide (expressed as mg/kg) expected in a raw material if a pesticide has been applied in accordance with GAP. Levels below MRLs indicate that Good Agricultural Practice is being followed. MRLs constitute a trading standard in produce treated with pesticides. MRLs are not safety limits.

MRLs are not and should not be used as an indication of whether a particular pesticide is approved for use on a particular commodity.

MRLs are now being set on a EU-wide basis, but currently national MRLs may differ between countries. They are based on the results of detailed supervised residue trials, which are used to determine the level of residues occurring at harvest etc. In setting MRLs for particular crop/pesticide combinations, care is taken to ensure that residues at the MRL will not result in the ADI being exceeded.

A MRL may be set at the LOD for one of three possible reasons:-

- i) A particular use of the pesticide is not supported in the EU, either because insufficient data have been provided to support approval or because approval has not been sought for the use.
- ii) The pesticide is not approved for the use because the consequential residues would pose an unacceptable risk to consumers.
- iii) Scientific data provided show that the approved use (i.e. GAP) leaves no determinable residues on the treated commodity at harvest. This could be in cases where for example the pesticide is used at early stages of growth as a pre-emergence herbicide, or as a seed treatment.

In the first two of these examples the MRL is set at the LOD to help monitor that the pesticide is not used illegally on the commodity. In the last example the MRL is set at the LOD to indicate that the residues should not be detectable and to help ensure that the pesticide is used correctly on the commodity. Hence, an MRL set at the LOD does not necessarily mean that the pesticide use is illegal. See also the PSD website (link in section 10).

The reason for an MRL being set at the LOD may help in defining how to manage the use of these pesticides outside the EU.

Residues are controlled in practice by limiting the maximum individual dose, the maximum number and intervals of doses of a pesticide to a crop/surface area, and by specifying a minimum interval between the latest time of application and harvest or withdrawal from storage, etc.

Growers must always check before use that a product approved for use on a crop in previous years remains permitted in subsequent years.

The use of the CSL LIAISON (Live Interactive Agronomic Information Service On the Net) system is recommended to all growers and suppliers as a good source of up to date information on approved uses and MRLs. The system is accessible online at: www.csl.gov.uk/liaison.

4. Legal Position

A material grown anywhere in the world and supplied for the UK market must comply with UK MRL legislation, which is contained in:

- The Pesticides (Maximum Residue Levels in Crops, Food and Feeding Stuff) (England & Wales) Regulations 1999, SI No. 3483 – as amended
- The Pesticides (Maximum Residue Levels in Crops, Food and Feeding Stuff) (Scotland) Regulations 2000, SI No. 22 – as amended
- The Processed Cereal-based Foods and Baby Foods for Infants and Young Children Regulations 1997 SI No. 2042 – as amended

If there is no UK/EU MRL then the food safety requirements of the Food Safety Act 1990 apply. CODEX standards should be referred to where possible as an interpretation of meeting these requirements.

If it can be proven that foods exceed the specified MRL, companies have a provision for a due diligence defence via the relevant Acts of Parliament – the Food and Environmental Protection Act 1985, the Environmental Protection (Scotland) Act 1985 and the Food Safety Act 1990.

These require companies to prove they have:-

- Taken all reasonable precautions, and
- Exercised all due diligence

Where information showing compliance with EU MRLs is supplied to the company, that information can be relied on providing that the company

- Has no reason to suppose that the information is false or misleading, and
- Has have taken all steps which are reasonably open to it to ensure that no offence would be committed

A due diligence defence would require anyone selling or supplying produce or composite foods to be able to prove that they had exercised controls on pesticides usage on materials supplied to them.

This includes:-

- Recording of non-compliance hazards and their risks
- Taking reasonable precautions to prevent non-compliances arising
- Providing evidence that the supplier has adequately implemented these steps at all stages of the supply chain

It is for each step of the supply chain to prove that these measures are being implemented adequately before the material is put into circulation.

5. Appropriate Measures to Ensure Compliance with Legal and Other Requirements

5.1 Key Requirements

- Full compliance with UK/EU MRLs
- Full compliance with Codex MRLs where there is no EU/UK MRL
- GAP compliance demonstrated by Assured Produce (UK), EUREP GAP or other recognised independently audited assurance schemes
- Materials do not compromise country of origin legislation

The FPC document 'Overseas Agrochemical Approvals' (FPC, 1997b) gives guidance on how to deal with various levels of statutory control.

5.2 Key Elements of General Measures

In addition to the points listed above and below, one of the key requirements is for full traceability to be present to the source of food raw materials.

5.2.1. Growers

- a) Compliance with elements given in FPC, 1997a.
- b) Only use products approved in the country of origin for specific crops and at treatment rates and intervals complying with the approvals.
- c) Be aware of
 - Current MRL regulations in the country of primary or secondary import, and
 - All customer policy requirementsand take measures to ensure they are complied with.
- d) Be able to demonstrate:-
 - Risk assessments
 - Evidence of best practices
 - Crop protocols, production standards (e.g. Assured Produce, EUREP GAP)
 - Skills, training and technical support
 - Machinery maintenance and calibration
 - Full traceability
 - Full, readily available records of pesticides use, together with records of harvest outside harvest intervals
 - Product testing results supporting the above
- e) Growers must complete a Pesticide Warranty Statement (see FPC, 1997a) and provide a declared list of pesticides that are proposed to be used on the crops provided (see FPC, 1997a).

- f) Use accredited laboratories to carry out residue checking via a multi residue screen and for and for specific pesticide/product combinations that are know to be associated with residues problems, following either the FPC guidelines or the CCFRA approach to prioritisation.

5.2.2 **Primary Preparers, Produce Marketing Organisations, Agents**

Key requirements including for those supplying part-processed produce:-

- a) Be aware of requirements placed on growers (see section 5.2.1)
- b) Have and be able to provide evidence of compliance with legal and customer requirements
- c) Have systems in place to ensure that growers are using the correct chemicals in the correct quantities
- d) Suppliers must complete a Pesticide Warranty Statement and provide a declared list of pesticides proposed to be used on the crops supplied.
- e) Ensure that pesticides proposed to be used are legal in the destination country of marketing.
- f) Check the level of compliance of growers against GAP, e.g. calibration of sprayers
 - Check through using EUREP GAP or other European accredited approaches
 - Auditing growers and primary preparers requires auditors to have received specialist training on pesticides and company requirements.

Auditors should have an agronomy background or be supported by specialist resources such as specialist analytical laboratories.

- g) Use accredited laboratories to carry out residue checking via a multi residue screen and for specific/known problem materials and pesticides as an addition to sampling done by suppliers/growers. Local grower/agronomy expertise should be consulted to identify potential/known issues.

Data resulting from testing should be used to carry out a risk assessment to identify appropriate ongoing testing (see FPC, 1997a).

- h) Be able to demonstrate
 - Full traceability
 - Full, readily available records of pesticides use, together with the permissible pre-harvest interval
 - Product testing results

5.2.3 Final Preparers of Ready to Eat or Ready to Cook Produce

Suggested requirements on UK users as part of a potential due diligence defence include:

- a) Risk assessment (in-house if expertise exists) of suppliers and products, including in terms of volumes used and end use, in order to develop a schedule for controls as well as residue analysis. An approach is given by the FPC (FPC, 1997a), and an electronic guide to the statistical approach to assessing testing is available from CCFRA (CCFRA, 2001). Information for risk assessments can be gained from systems such as CSL's RAPPORT system and surveillance data.

It should be noted that multi residue screening will not cover all residues of interest and which may require additional testing, dependent on risk assessment.

Residue screening should be carried out by accredited laboratories to monitor controls in the field and assist in demonstrating due diligence. Suppliers should also carry out their own testing. However, this does not replace the need for the final preparer to have testing carried out since PSD and retailers sample material. Therefore users should have their own data to justify their own risk assessments. In order to monitor quality, sampling from bulk product arriving at the factory should be carried out. Sampling should be on the basis of risk assessment, e.g. frequency being on the basis of risk in terms of volume of finished product, confidence in the supplier and their controls.

There is a need to ensure that the monitoring programme used is appropriate to the pesticides being used and of any particular issue known.

See section 8 for points to consider when selecting a laboratory for residue analysis.

- b) Ensuring that systems are in place to ensure controls are in place in the field and that full traceability is present (see section 5.2.1).
- c) Final preparers should have a pesticide policy (for example see FPC, 1997a and customer guidelines).
- d) The pesticide policy could include the requirement that information provided by suppliers should be checked to ensure that:-
 - i) No crop protection product listed is on Statutory (e.g. Council Directive 79/117/EEC of 21 December 1978 prohibiting the placing on the market and use of plant protection products containing certain active substances', as amended) or customer banned or restricted lists
 - ii) All crop protection products are approved in the country of origin for specific use
 - iii) No crop protection product is used that has the MRL set at LOD under EU legislation, until a full risk assessment has been carried out to assess the risk of illegal residues being present when the foodstuff is marketed

- e) Use only approved audited suppliers in order to ensure that procedures in place earlier in the supply chain are sufficient. Audits can be carried out by purchasing companies. However, audit by third party accreditation bodies or via membership of recognised assurance schemes will provide additional assurance. Where internal auditing systems are used auditors used must be competent. Auditors of growers and primary preparers must have received specialist training on pesticides and company requirements and should have an agronomy background or be supported by specialist resources such as a specialist laboratory.
- f) For product obtained from new suppliers on the spot market, see section 6 (spot buying protocol for non-standard/non-approved suppliers).

5.2.4 Producers of Composite Products

Suggested key requirements on UK producers of composite products (i.e. produce with other ingredients) as part of a potential due diligence defence include:

- a) Risk assessment of each ingredient, based on confidence in the supplier and the country from which it is supplied, quantities of ingredient used and product end use. For ingredients imported from third countries, a high level of expertise is recommended for the risk assessment, which may be internal or external.
- b) Supplier approval against requirements in section 5.2.3, particularly in assessment of expertise and traceability.
- c) Communication of customer policies and requirements to suppliers.
- d) Evidence of compliance and, if indicated by risk assessment, multi residue screening or testing by accredited laboratories.
- e) Suppliers must complete a Pesticide Warranty Statement against both legislative and customer requirements and provide a declared list of pesticides that could be used on the crops from which supplied ingredient is derived (see FPC, 1997a and CCFRA, 2001).

6. Spot Buying

Spot buying must only be used for essential short term supply cover. All regular supply should fall under the normal regime previously described and a list of approved suppliers must be maintained.

The procedure for using suppliers for spot purchases is as follows:

The buying company's Quality Assurance Manager (or other authorised manager) must be:

- Supplied with either a signed undertaking and/or a copy of the actual pesticide applications to the produce, preferably backed up with residue analysis results
- Satisfied as to the credibility of the supplier, his control systems and traceability

The procurement person must ensure that:

- The terms of payment and method of return/payment are satisfactory and clearly defined; and
- Transport and delivery arrangements are satisfactory

Wherever multi residue screening is applied possible representative samples should be obtained prior to despatch of commercial loads.

7. Incident Management

Exceedances of MRLs can be found by a number of parties including:

- a) Government
- b) Customer (food manufacturer and/or retailer)
- c) User (food manufacturer)

The EU Rapid Alert System provides a means for an EU Member State to alert all EU Member States of adverse findings via the European Commission.

In the case of an alert at either EU, national or company level the procedure outlined below should be followed:

1. Food manufacturer liaison with suppliers, customers and relevant experts.
2. Food manufacturer to carry out a risk assessment on the amount of pesticide present in final foodstuffs, backed up by expert advice if required to ensure that a sound risk assessment is carried out.
3. If it is assessed that there is a significant risk of there being a health hazard in the final product, the food manufacturer to liaise with customers and relevant authorities on recall of final product

If any form of public recall is involved, the extent of the problem must be made clear. E.g:

- Restricted to a particular batch/size/distribution area;
- Reassure that all other batches/sizes/products are safe;
- Number of packages involved;
- Speed and efficiency of recall; and
- Cause of fault being investigated

Full traceability is therefore paramount.

4. Outputs should be determined in terms of corrective actions in the field/supply chain.

Corrective actions should involve the consideration of:-

- i) What to do to re-establish control – action required of growers, agents, PMOs, primary preparers to re-gain control and prevent reoccurrence
- ii) What to do with product and raw material held in stock in the supply chain that might be out of specification
- iii) When the action taken should be completed, i.e. the timescale for the action
- iv) Who has responsibility for the action

8. Points to Consider When Selecting a Laboratory for Residue Analysis

There is a range of analytical laboratories available to use with widely differing services and costs. When selecting a laboratory consider the following:

- a) Accreditation: Some accreditation is for laboratory practice in general, others for specific tests. Look for the percentage of tests in the multi residue screen that are accredited.
- b) Standard screen: Check that the key residues are being looked for; almost certainly they are not all covered. Common exceptions are inorganic bromine and dithiocarbamates.
- c) Where specific active ingredients are not covered in the multi residue screen consider the cost of adding these at high risk periods.
- d) Shop around: multi residue screens vary from 60–200 active ingredients, depending on the laboratory. Bigger is not always best.
- e) Turn around time: ideally seek 5 working days maximum
- f) Cost: Ways of reducing cost include sending samples only on one agreed day a month, working in concert with other laboratory customers to co-ordinate sampling
- g) Other key indicators to discuss before contracting a laboratory are:–
 - i. Method of confirmation: how does the laboratory confirm residues found? As with microbiological testing there are false positives.
 - ii. How long are samples retained?
 - iii. How often is machinery calibrated? On some equipment calibration may be required for each batch tested
 - iv. Level of staff retention
 - v. Staff skills base: in addition to considering the quality of the management of the laboratory, consider the technical skills of the operatives, as these are critical.
 - vi. Recommendations from other laboratory users

9. Summary Matrix of Action Points at Different Parts of the Supply Chain

	Key Action Points	Document Section
Grower	<ul style="list-style-type: none"> • Demonstrate <ul style="list-style-type: none"> ○ Risk Assessments ○ Evidence of best practice ○ Full traceability ○ Full, readily available records of all pesticides' use, with records of harvest outside harvest intervals • Provide a Pesticide Warranty Statement and declare the list of pesticides that could be used on the crop • Use accredited laboratories to carry out multi residue screen analysis and for specific relevant pesticides 	5.2.1
PMO, Agent, Primary Preparer	<ul style="list-style-type: none"> • Be aware of requirements placed on growers (above) • Check the level of growers' GAP compliance Demonstrate full traceability • Have and be able to rapidly provide evidence of compliance with legal and customer requirements • Ensure that pesticides proposed to be used on crops are legal in the destination country of marketing • Use accredited laboratories to carry out multi residue screening and for specific relevant pesticides • Provide a Pesticide Warranty Statement and declare the list of pesticides that could be used on the crop 	5.2.2
Final Preparers of Ready to Eat or Ready to Cook Produce	<ul style="list-style-type: none"> • Risk assess suppliers and products • Only use approved audited suppliers • Use accredited laboratories to carry out multi residue screen analysis and for specific relevant pesticides • Have systems in place to ensure that controls are applied in the field and that full traceability is present • Spot buying: <ul style="list-style-type: none"> ○ Require compliance with requirements as for other suppliers ○ Wherever possible, obtain representative samples prior to the despatch of commercial loads 	5.2.3
Producers of Composite Products	<ul style="list-style-type: none"> • Requirements as in 5.2.3 • Obtain evidence of compliance and, if indicated by risk assessment, multi residue screening or testing by accredited laboratories. • Obtain a Pesticide Warranty Statement from suppliers v. legislative and customer requirements, inc. a declared list of pesticides that could be used on the crops from which supplied ingredient is derived. 	5.2.4

10. References and Further Reading

CCFRA, 2001	'Prioritisation for Pesticide Residue Analysis: A Practical Guide', Guideline No. 32, Campden & Chorleywood Food Research Association, Chipping Campden, UK.
FPC, 1997a	'The Control of Pesticides, A Code of Practice', 3rd Edition, Fresh Produce Consortium, Peterborough, UK
FPC, 1997b	'Overseas Agrochemical Approvals', Fresh Produce Consortium, Peterborough, UK
Pesticides Safety Directorate	'Maximum Levels For Pesticide Residues In Food – Explanatory Note On Levels Set At The Limit Of Determination' www.pesticides.gov.uk/legislation/MRLs_Legislation/LODleaflet.html
Stationery Office	The Control of Pesticides Regulations, 1986, SI No. 1510 – as amended
Stationery Office	The Processed Cereal-based Foods and Baby Foods for Infants and Young Children Regulations, 1997, SI No. 2042 – as amended
Stationery Office	The Pesticides (Maximum Residue Levels in Crops, Food and Feeding Stuff) (England & Wales) Regulations, 1999, SI No. 3483 – as amended
Stationery Office	The Pesticides (Maximum Residue Levels in Crops, Food and Feeding Stuff) (Scotland) Regulations 2000, SI No. 22 – as amended
European Commission	Council Directive 79/117/EEC of 21 December 1978 prohibiting the placing on the market and use of plant protection products containing certain active substances – as amended

11. Useful Contacts

It is recommended that each company maintains an up to date crisis contact list to include the following key organisations:-

Campden & Chorleywood Food RA (CCFRA)

Chipping Campden

GL55 6LD

www.campden.co.uk

T: +44 (0) 1386 842000

F: +44 (0) 1486 842100

Central Science Laboratory (CSL)

Sand Hutton

York

YO41 1LZ

www.csl.gov.uk

T: +44 (0) 1904 462000

F: +44 (0) 1904 462111

Chilled Food Association (CFA)

P O Box 14811

London

NW10 9ZR

www.chilledfood.org

T: +44 (0) 20 8451 0503

F: +44 (0) 20 8459 8061

Crop Protection Association UK Ltd

4 Lincoln Court

Lincoln Road

Peterborough

PE1 2RP

www.cropprotection.org.uk

T: +44 (0) 1733 349225

F: +44 (0) 1733 562523

Fresh Produce Consortium (FPC)

Minerva House

Minerva Business Park

Lynch Wood

Peterborough

PE2 6FT

www.freshproduce.org.uk

T: +44 (0) 1733 237117

F: +44 (0) 1733 237118

Leatherhead Food International

Randalls Road

Leatherhead

KT22 7RY

www.leatherheadfood.com

T: +44 (0) 1372 376761

F: +44 (0) 1372 386228

National Farmers Union (NFU)

Agriculture House

164 Shaftesbury Avenue

London

WC2H 8HL

www.nfu.org.uk

T: +44 (0) 20 7331 7200

F: +44 (0) 20 7331 7313

Pesticides Safety Directorate (PSD)

Pesticides Safety Directorate

Mallard House

King's Pool

3 Peasholme Green

York

YO1 7PX

www.pesticides.gov.uk

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F: +44 (0) 1904 455733

12. Guidance Working Group Membership

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Mrs Louise McLellan	Kerry Foods
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National Farmers Union
Pesticides Safety Directorate

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