



**Assured Produce**

**Crop Specific Protocol**

**PEPPERS (CHILLI)**

**(CROP ID: 65)**



**January 2009**

<b>Acknowledgements</b> .....	3
<b>1. General introduction</b> .....	5
<b>2. Planning and records</b> .....	5
<b>3. Site selection</b> .....	5
<b>4. Site management</b> .....	6
<b>5. Variety selection</b> .....	6
5.1 Choice of variety or rootstock .....	6
5.2 Seed quality .....	6
5.3 Seed treatments and dressings .....	6
5.4 Plants and nursery stock .....	6
<b>6. Nutrition</b> .....	6
<b>7. Irrigation</b> .....	7
<b>8. Crop protection</b> .....	7
8.1 The basic approach to crop protection .....	7
8.2 Plant protection product choice .....	8
8.3 Advice on the use of pesticides .....	9
8.4 Application of pesticides .....	9
8.5 Records of application .....	9
8.6 Protective clothing/equipment .....	9
8.7 Pesticide storage .....	9
8.8 Empty pesticide containers .....	9
8.9 Pesticide residues in fresh produce .....	9
8.10 Pest, disease and weed control .....	10
<b>9. Harvesting and storage</b> .....	13
9.1 Hygiene .....	13
<b>10. Pollution control and waste management</b> .....	13
<b>11. Energy efficiency</b> .....	13
<b>12. Health and safety</b> .....	13
<b>13. Conservation</b> .....	14
<b>Appendix 1 Products currently approved for use on Protected Chilli Peppers</b> ....	15
<b>Appendix 2 Specific off-label approvals (SOLAs) for Peppers (Chilli)</b> .....	16
<b>Appendix 3 Control Points: Peppers (Chilli)</b> .....	17

## Acknowledgements

Assured Produce gratefully acknowledges the contribution of all consultees in the preparation of this protocol, particularly Debbie M Johnson.

## Preface

This crop specific protocol has been written to complement and avoid duplicating the generic principles of the scheme and appendices.

It is advisable to read the Assured Produce Generic Crop Protocol Standards and the Assured Produce Generic Protocol Guidance Notes (referred to in this document as the Generic Standards and Generic Guidance Notes) first before reading this crop specific protocol.

This protocol is designed to stimulate thought in the mind of the reader.

This crop specific protocol contains crop specific parameters and guidance, where applicable, for the requirements stated in the Generic Standards.

All statements in this protocol containing the words "**should/must**" (in bold type) will be verified during the Assured Produce assessment and their compliance will form a part of the certification/approval decision. The score required for these "**should/must**" control points can be found on the final page of this document and in the checklists produced by Assured Produce licensed certification bodies.

## Disclaimer and trade mark acknowledgement

Although every effort has been made to ensure accuracy, Assured Produce does not accept any responsibility for errors and omissions.

Trade names are only used in this protocol where use of that specific product is essential. All such products are annotated<sup>®</sup> and all trademark rights are hereby acknowledged.

### Notes:

Pesticides with 'Essential Use' derogations that expired 31 December 2007 can no longer be used or stored.

There may be other withdrawals or revocations. Products containing substances which have been revoked are shown on the PSD website (<http://www.pesticides.gov.uk>). Growers should check with their advisers, manufacturers, the Assured Produce website 'Newsflashes', the PSD website ([www.pesticides.gov.uk](http://www.pesticides.gov.uk))

Growers should comply with the 'Use up by' dates for all pesticide products. Growers should also be aware of and comply with changes on new product labels.

There may be changes for the following reasons:

- Pesticides with NPE formulations must have been used up by 31 August 2008. In many cases products will be replaced by new non-NPE formulations.
- At re-registration stage after Annex 1 listing there may be: reductions of dose rates; changes in timings and/or number of applications for some products.

In the following Appendices products and use by dates are only listed for SOLAs, and in some cases new product MAPP numbers may not be available yet.

For pesticides on-label, only active substances are shown.

Any new standards have been prefixed in the text with **(NEW)**

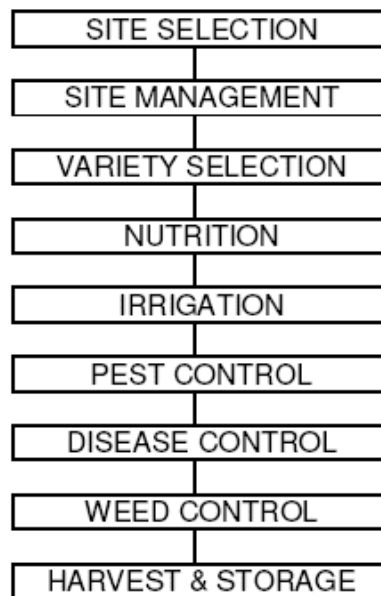
Changes in EC regulations

The Long Term Arrangements for Extension of Use have been withdrawn consequently a range of pesticides that did not necessarily include chillies on the label can no longer be used as they are not Crop Specific. Pesticides and chemicals for sweet peppers and capsicums are no longer available for chilli use. At this moment in time there is no possibility of gaining a Sola based on the existing pepper uses. PSD are required to undertake a consumer risk assessment for all edible crops even ones with small intakes such as chillies. In order to do this any use on an edible crop requires underlying residues information on which to base the risk assessment. There is no possibility of a SOLA without at least 2 trials on chillies

## 1. General introduction

Following a systematic approach will help growers to identify and manage the risks involved in crop production. This protocol is based on a typical crop production process. Using a flowchart approach, food safety, Health & Safety, environmental and quality hazards are identified. Appropriate controls may then be established to minimise risk. Food safety and Health & Safety issues always take precedence over quality and environmental controls.

The flow chart is structured as shown below. Note that the sectional layout of both this protocol and the crop specific protocols follow the same structure.



The contents of each crop specific protocol are reviewed annually by informed farmers and growers, food technologists, scientists, the relevant fresh produce association, processors and agronomic consultants. Updated editions are issued prior to the cropping season.

The review process considers both new developments and all relevant technology which has emerged throughout the course of the previous year and which have been found to be both workable by the grower and beneficial to the environment. As one aim of the Scheme is to transfer such information and technologies to growers, attention is drawn to those features of specific relevance to ICM by using *italic* script. In order that growers may be confident that they are working to a current document, each protocol is dated and numbered.

## 2. Planning and records

See Generic Standards and/or Generic Guidance Notes.

## 3. Site selection

See Generic Standards and/or Generic Guidance Notes.

## 4. Site management

### New Crop Establishment

For soil grown crops, the soil should be sterilised with steam, or other suitable sterilant, as and when necessary for control of weeds and root diseases. Annual treatment will generally be necessary to reduce the risk of root diseases.

Greenhouses should be washed down, old sticky traps, strings and irrigation tape removed and replaced.

As soon as the new crop arrives further sticky traps should be hung in each glasshouse and these should be assessed regularly to monitor the pest situation.

Trays containing the new season's plants must be placed only on a clean surface (e.g. new polythene, disinfected and rinsed concrete).

## 5. Variety selection

### 5.1 Choice of variety or rootstock

See Generic Standards and/or Generic Guidance Notes.

### 5.2 Seed quality

See Generic Standards and/or Generic Guidance Notes.

#### 5.2.1 Certified seed

Only certified seed should be used.

### 5.3 Seed treatments and dressings

See Generic Standards and/or Generic Guidance Notes.

### 5.4 Plants and nursery stock

#### Propagation

Growers must formalise the supply contract with their propagators, stipulating pesticides that can be used. Growers must visit the propagator to inspect his plants. Growers ensure the supplier adheres to the contractual requirements by requesting crop treatment records and making inspection visits. Plants should be carefully inspected on delivery and any concerns/complaints notified immediately to the propagator.

Specialist UK plant raisers have their own Code of Practice to ensure quality and health standards. Propagators must adhere to this Code.

## 6. Nutrition

See Generic Standards and/or Generic Guidance Notes.

Water and nutrients should be recirculated.

If they are not recirculated, steps must be taken to minimise nutrient run off into soil and water courses.

The volume of run off must be measured and samples analysed.

Nitrate levels should be minimised in applied nutrient solutions.

## 7. Irrigation

See Generic Standards and/or Generic Guidance Notes.

## 8. Crop protection

### 8.1 The basic approach to crop protection

#### Key principles of integrated crop management

1. Biological, environmental and cultural methods of pest and disease control must be used as the first line of defence.
2. Chemical pesticides are to be used only when biological controls are not available or shown not to be working.
3. The crops must be monitored at least weekly and records made of pest, disease and biological control organism levels.
4. Records must be kept of introduction of biological control agents.
5. Climate control computers should be used to ensure a suitable environment is maintained at all times.
6. Records must be kept of all pesticide applications.

#### Adaptation for new pests and diseases

The occurrence of a new disease or pest problem is largely unpredictable. It may arise, for example, when a previously non-indigenous disease or pest becomes established in the UK with a change in variety or cropping practice (e.g. switch from soil to substrate cropping) or when a pathogen/pest previously controlled by a particular pesticide develops resistance. In all these situations it may be necessary to implement additional pesticide treatments.

A proposed schedule for controlling 'new' pest or disease problems, in order of priority, is described below:

The key objective is that the organism is controlled by means of a change in glasshouse environment, crop culture, biological or other non-chemical method. In some situations however, it is possible that additional use of pesticides may be necessary, at least in the short term or until a suitable alternate variety with genetic resistance is available. Such new varieties should be incorporated into the cropping programme, as they become available, providing they meet the end-market specifications.

The 'new' pest or disease situation may be controlled with the biological control measures.

If none of these pesticides provide effective control, advice should be sought on a suitable alternative product, currently approved for use on the appropriate protected crop under Control of Pesticides Regulations (1986).

### **8.1.1 Non-chemical methods**

See Generic Standards and/or Generic Guidance Notes.

### **8.1.2 Integrated crop management**

#### **8.1.2.1 Training**

#### **Pest and disease identification**

Staff working regularly on protected crops should be able to recognise the following pests and diseases:

Powdery mildew  
Downy mildew  
*Botrytis* (grey mould) on leaves, stems and fruit  
Black stem rot (*Didymella syn. Mycosphaeralla*)  
*Penicillium* stem rot  
*Pythium* root and stem base rot  
Various relevant virus diseases  
Glasshouse whitefly  
Spider mites and other mites  
Caterpillar damage  
Leaf miner damage  
Thrips

Staff should know who to report to when the above pests and diseases, or other problems regularly found on a particular nursery, are first detected during the season. Managers and supervisors should appreciate the relative risk to their crops from the relevant pests and diseases.

#### **In service training**

Training in identification of pests and diseases, their damage and their biological controls and an appreciation of the objectives of this protocol must be given to each new member of staff.

All staff working on the nursery, both regular and casual, should be instructed as necessary to satisfy COSHH requirements with respect to pesticide treatments, and to satisfy the requirements of the General Food Hygiene Regulations.

### **8.1.3 Regular crop inspections**

#### **Monitoring**

Monitoring of diseases is of vital importance. It is essential that all crops are walked at least once a week and records kept of each inspection. All nursery staff should be alert to fresh pest or disease symptoms or signs of imbalance with biological control mechanisms.

## **8.2 Plant protection product choice**

See Generic Standards and/or Generic Guidance Notes.

#### **Approved uses not included on the product label**

In some circumstances product labels do not include all of the approved uses and growers and advisers wishing to check the approval notice of a particular product should note that this information is available from

[www.pesticides.gov.uk/psddatabases.asp](http://www.pesticides.gov.uk/psddatabases.asp)

A search on the database for a product name should yield a results page. A click on the product name should link to a summary of the approval information. At the bottom of the summary are links to available notices which will give the statutory conditions of use.

In the case of products with older approval an electronic approval may not be available. In these cases growers should contact the PSD Information Services Branch for details of the approved conditions of use.

Contact details are: [p.s.d.information@psd.defra.gsi.gov.uk](mailto:p.s.d.information@psd.defra.gsi.gov.uk) tel. 01904 455775

### 8.3 Advice on the use of pesticides

See Generic Standards and/or Generic Guidance Notes.

### 8.4 Application of pesticides

See Generic Standards and/or Generic Guidance Notes.

### 8.5 Records of application

See Generic Standards and/or Generic Guidance Notes.

### 8.6 Protective clothing/equipment

See Generic Standards and/or Generic Guidance Notes.

### 8.7 Pesticide storage

See Generic Standards and/or Generic Guidance Notes.

### 8.8 Empty pesticide containers

See Generic Standards and/or Generic Guidance Notes.

### 8.9 Pesticide residues in fresh produce

See Generic Standards and/or Generic Guidance Notes.

**See Generic Protocol Guidance Notes 8.9 for further background and generic advice.**

*Assured produce is aware that a key area in the production of fresh produce which requires continued attention by growers and their advisers is that of keeping pesticide residues to a minimum. This issue is not just one of meeting the MRL trading standard but ensuring that any individual or multi residues are kept as low as possible below this level.*

**The key targets are -**

- **optimising late applications of fungicides and insecticides to the edible part of the crop.**
- **optimising the use of post harvest treatments.**
- **ensuring minimum harvest intervals are followed.**

- **ensuring that application equipment is applying products correctly.**

Currently there are no residue issues associated with this crop but awareness needs to be maintained for any future issues.

## **8.10 Pest, disease and weed control**

### **8.10.1 Specific hygiene measures**

#### **Previous cropping**

A high volume insecticide spray should be applied to the remnants of the previous crop at the last practical opportunity using a short persistence synthetic pyrethroid insecticide

At the end of cropping, fog or fumigate the crop with a suitable disinfectant. Remove the crop, weeds and all debris within 2 days of treatment, and dispose of them by removing off site (ensure the load is covered). The plastic sheeting should be removed where possible, as the risk of carry-over of disease organisms has to be carefully considered in relation to its re-use on site.

Wash down the glass and the structure inside the glasshouse and then treat with a suitable disinfectant (e.g. Panacide<sup>®</sup>, Ter-Special<sup>®</sup>, Jet 5<sup>®</sup> or Zal<sup>®</sup>).

In the cases of previous leaf miner or leafhopper problems, a high volume spray of a synthetic pyrethroid insecticide should be applied to bare ground, walls and structure when all equipment has been removed. Persistent pyrethroid insecticides should not be used because of their possible effects on biological control agents.

In the case of previous whitefly problems, fumigate the empty glasshouse with nicotine. Warm climatic conditions are necessary for successful fumigation.

#### **Equipment**

Thoroughly clean picking boxes, trolleys, tractor tyres, footwear and any associated tools and equipment. Treat them with a disinfectant as listed above. Wash clothing and gloves. Store cleaned boxes and equipment carefully to avoid re-contamination.

After using disinfectants in the glasshouse thoroughly ventilate the house to remove all traces of vapour. Rinse picking trays with water after treating with disinfectant.

#### **Exterior**

Destroy all weeds around the glasshouse before the new crop arrives and at regular intervals during the season using non-hormone weed killers of short persistence or mowing. Several common weeds (e.g. chickweed, sowthistle and dandelion) are known hosts of tomato spotted wilt virus (TSWV) and could act as a source of this virus for the pepper crop. Weeds may also be a means of carry-over of other virus disease (e.g. TMV, CMV), of powdery mildew and of various pests.

### **8.10.2 Pest control**

#### **8.10.2.1 Biological control**

The table below lists the available biological control measures. The rates of introduction of biological agents should be based on the supplier's recommendations.

Pest	Control	Notes
Aphids - Peach-potato - Melon-cotton ( <i>Aphis gossypii</i> )	a) <i>Aphidiuscolemani</i> b) <i>Aphidius ervi</i> c) <i>Aphidoletesaphidimyza</i> d) <i>Verticilliumlecanii</i> (Vertalec®)	c) only the indigenous species d) for corrective action [Regular introduction required - see HDC trial results]
Broad mite ( <i>Polyphago-tarsonemuslatus</i> )	a) <i>Amblyseius cucumeris</i> b) Remove small foci of affected plants	Occasional pest only. Remove affected plants. Do not introduce biological control agents on leaf material
Caterpillar	a) <i>Bacillusthuringiensis</i> b) <i>Trichogrammaevanescens</i>	a) Best results are obtained on young caterpillar, so monitoring and early application essential. b) Use not permitted in Guernsey. An egg parasite so effective monitoring of adult moths is vital.
French 'fly'	Usually only a pest of crops grown on straw bales.	<i>Amblyseius</i> used for WFT will normally give adequate control
Glasshouse whitefly ( <i>Trialeurodesvaporariorum</i> )	a) <i>Encarsia formosa</i> b) <i>Verticillium lecanii</i> (Mycotal®) c) Yellow sticky traps	b) and c) for corrective action Not usually a problem in peppers
Leaf miners	Not usually a pest on chillies but any leaf miners occurring should be identified correctly. If confirmed as non-indigenous species, statutory control measures will be stipulated by PHSI. Biological control may be permitted	
Spider mites ( <i>Tetranychus urticae</i> )	a) <i>Phytoseiulus persimilis</i> b) <i>Feltiella acarisuga</i>	b) Commercially available but evaluation continuing.
Sweet potato or tobacco whitefly ( <i>Bemisia tabaci</i> )	Statutory control in UK (inform DEFRA's Plant Health and Seeds Inspectorate)	Treatments as for glasshouse whitefly may be permitted by PHSI
Western flower thrips or onion thrips ( <i>Frankliniella occidentalis</i> or <i>Thrips tabaci</i> )	a) <i>Amblyseiuscucumeris</i> b) <i>Amblyseiusdegenerans</i> c) <i>Orius</i> spp. d) <i>Verticilliumlecanii</i> (Vertalec®)	a) standard treatment b) difficult to establish c) for corrective action d) only the indigenous species

In some instances biological controls are not available and suitable pesticides may be necessary.

Pest	Active ingredient	Notes
onion thrips	a) fatty acids	Harmful to beneficial insects
two spotted & red spider mite		
whitefly	a) fatty acids	

Product	<i>Phytoseiulus</i>	<i>Encarsia</i>	<i>Aphidius</i>	<i>Ambly-seius</i>	<i>BumbleBees</i>			
	Egg	Adult	Pupae	Adult	Mum	Adult		
fatty acids	I	H/I?	S	H/I?	-	H (I?)	H/I?	H

### Key:

S : Safe, but as a precaution bee hives should be covered before applications

( ) : Number of days

I : Intermediate

H : Harmful. Beehives should be removed pre-application

- : Not tested; assume harmful unless evidence to the contrary

? : Not tested but suspected from practical experience

This table is based on the latest information available. With certain formulations and under certain circumstances the information may not be true. Check with the supplier of the biological agents.

### 8.10.3 Disease Control

Certain diseases are relatively common and occur on many holdings each year. The procedure for the control of the common disease problems is given in detail. The procedure for other diseases is given in outline and further technical advice should be sought as necessary.

It cannot be emphasised too strongly that regular crop monitoring with rapid and accurate disease identification and an appropriate rapid response, involving cultural changes, a glasshouse environmental change, roguing of the affected plant or a fungicide treatment, is essential to fulfil the objective of minimising fungicide use.

All crops should be walked and inspected for disease at least once every seven days. If disease is overlooked, or seen but no action taken, then several fungicide applications may be required to bring the problem under control, compared with perhaps one or two applications if prompt action is taken.

#### 8.10.3.1 Botrytis

Preventative action decision	Fungicides
<b>General</b>	
Control humidity (<85% RH) Keep foliage and floor dry Avoid plant damage	
Remove debris after trimming	
<b>On young plants</b>	
Avoid damage at planting Treat if damaged	fenhexamid
<b>On flowers, leaves, branches and fruit</b>	
Check humidity control and plant handling	fenhexamid
Treat with fungicide as soon as disease occurs. Alternate chemical groups to reduce risk of resistance	

**Notes:** Resistance to fungicides is becoming increasingly common. Reduced disease control will occur where resistant isolates are present.

#### 8.10.3.2 Other diseases

Disease	Comment	Action
<i>Pythium</i> root rot	Young plants are more susceptible	Use clean water source.
<i>Phytophthora</i> root rot	Uncommon	Use clean water source. Sterilise soil. Avoid water logging.
<i>Rhizoctonia</i> stem base rot	Uncommon. Soil crops.	Sterilise soil.
White rot ( <i>Sclerotinia</i> )	Mainly in soil-grown crops	Remove affected parts. Sterilise soil.
Powdery mildew	Serious problem in Holland; recently recorded in UK.	sulphur <sup>(1)</sup>
<i>Verticillium</i> wilt	Rare. Mainly soil crops	Sterilise soil.
Tomato mosaic virus (TMV)	Common in Holland; less so in UK to date. Wide range of symptoms e.g. blotchy ripening, 'bumpy' fruit, leaf mosaic	Choose resistant variety. Dip hands in skimmed milk solution when working crop in the early stages. Remove affected plants.
Cucumber mosaic virus (CMV)	Uncommon. Easily confused with TMV	Control aphid vectors.
Tomato spotted wilt virus (TSWV)	Increasing risk. Symptoms can be similar to CMV	Control WFT vector. Remove affected plants. Control weeds.
Pepper yellow veins virus	Mostly in soil grown crops. Olpidium vector. No fruit symptoms described	Sterilise soil. Use clean water source.

**Notes :**

Soil Sterilisation with methyl bromide is no longer permitted

<sup>(1)</sup> SOLA - see Appendix 2 for the specific product expiry date

**Less common diseases**

Disease	Comment	Action
<i>Phytophthora</i> root rot	Uncommon - mostly found in soil crops	Sterilise soil
<i>Rhizoctonia</i> stem base rot	Uncommon - mostly found in soil crops	Sterilise soil.
Black root rot ( <i>Phomopsis</i> )	Can be devastating - mostly found in soil crops but recently in rockwool.	Remove infected slabs, good hygiene pre-planting,
<i>Sclerotinia</i>	Occasional disease	Remove affected plant parts. Sterilise soil.
<i>Penicillium</i> stem rot	Increasingly common	Remove affected plants. Control humidity.
<i>Verticillium</i> wilt	Rare - mostly in soil crops but recently in rockwool	Sterilise soil. Remove affected plants..
<i>Fusarium</i> wilt	Increasing. Mostly in soil crops but recently in rockwool.	Sterilise soil. Remove affected plants.
Downy mildew	Occasional - can be devastating, spreads very quickly	Check imported plants. Control humidity and keep plants dry. Spray fenhexamid
<i>Alternaria</i> , <i>Stemphylium</i> and <i>Ulocladium</i> leaf spots	Uncommon	Remove affected leaves, control humidity and keep plants dry
Angular leaf spot ( <i>Pseudomonaslachrymans</i> )	Rare - occurs at high temps (>24° C)	Keep plants dry

**9. Harvesting and storage**

See Generic Standards and/or Generic Guidance Notes.

**9.1 Hygiene**

"No smoking/No food" signs must be displayed on glasshouses and staff must be provided with clearly defined areas in which to eat and drink.

Staff must be informed of the effects and the need to follow hygiene measures after handling damaged fruit.

**10. Pollution control and waste management**

See Generic Standards and/or Generic Guidance Notes.

There must be written procedures for the management and recording of incidents involving heating oil spillage.

**11. Energy efficiency**

See Generic Standards and/or Generic Guidance Notes.

**12. Health and safety**

See Generic Standards and/or Generic Guidance Notes.

Staff should be aware of danger from damaged fruit and should wash hands and avoid skin contact in delicate areas, especially eyes. (See 9.1 above)

## 13. Conservation

The use of bumble bees for pollination of crops in the UK

The current Defra view is that the provisions of the Wildlife and the Countryside Act 1981 apply to the commercial bees because they are of sub-species not native to Great Britain. Section 14 of the Act makes it an offence to release, or to allow to escape, into the wild 'any animal which is of a kind which is not ordinarily resident in and is not a regular visitor to Great Britain in a wild state' without an appropriate licence. As such, any release of the bees into the wild may be an offence under the Act. That could include a release in a greenhouse, from which the bees might easily escape.

However, licences can be granted under the Act to allow the release of non-native animals if they do not threaten native species or other interests. The producers and importers are preparing an application for such a licence.

While discussions are ongoing, Defra has asked the producers to advise growers on how to minimise the risk of escape of queen bumble bees and males to the wild. It is known that worker bees may enter and leave glasshouses and tunnels where they are being used for pollination, but these workers do not have the capacity for breeding. Queen bees and males are produced at the end of the useful life of a hive and so the hive must be disposed of properly at this point. To not do so may be an offence.

Instructions for disposing of hives

There are several simple ways in which potential escapes can be minimised:

- Do not distribute the hives outside your own facilities: they must remain with the original grower. The grower is responsible for the disposal process in accordance with the local laws.
- Never remove the bee lock or queen excluder door, or open the lid of the inner (plastic) liner.  
Note: always be careful when handling the hives for disposal. Hives with live bees should not be disposed of in skips: rough handling can damage the inner liner or cause the hive to split open, allowing queens and males to escape.  
For further information, please contact your supplier.
- Close the hive door at the end of the useful life of the colony, but not later than 12 weeks after introduction. Then:-

Ideally:

- Remove the sugar water pack by carefully lifting the inner hive out of the box, then lifting the sugar water pack and removing it from the box. Take care not to open the bee lock or damage the inner hive whilst doing this.
- After removing the sugar water unit, kill all remaining bumblebees in the hive by freezing the hives for 2 days at -18°C before disposing of them.

Alternatively;

- Remove the sugar water and store the hives, with the bee lock closed, in (plastic) disposal bags. Securely fasten the bag to prevent escape. Store the hives in the bags for one week before disposing of them.
- A further option is to kill the remaining bees with an approved bee and wasp nest destroyer.

Under going revision at the time of publication  
source Richard Great Rex  
Syngenta Bioline

**Appendix 1 Products currently approved for use on Protected Chilli Peppers**

Active Ingredient	Target Organism	MRL (mg/kg)	Harvest Interval <sup>(1)</sup>
<i>Bacillus thuringiensis</i> <i>Biological control none chemical</i>	caterpillars	none set	none stated
fenhexamid	botrytis	2.0	day
fatty acids (soft soap)	whitefly, aphids, thrips, spider mites	none set	none stated
<i>Verticillium lecanii</i> <i>Biological control none chemical</i>	aphids, whitefly Powdery mildew	none set none set	none stated none stated
<i>Sulpher</i>			

**Notes:**

Specific off-label approvals (SOLAs). There is no possibility of a SOLA based on other pepper uses approvals for use on pepper do not cover use on chilli peppers. Extrapolation between the crops is not permitted without some data to show that residues are comparable (at least two trials at the same GAP).

**Appendix 2 Specific off-label approvals (SOLAs) for Peppers (Chilli)**

No	Product	Active Ingredient	MRL (mg/kg)	Harvest Interval <sup>(1)</sup>	Expiry
11229	Teldor®	fenhexamid	2.0	1 day	30/11/2010
13733	Agrovista Fenamid	fenhexamid	2.0	1 day	31/05/2011
10928	Thiovit Jet	suplhur	none set	not stated	31/12/2013

**Notes:**

Specific off-label approvals (SOLAs). There is no possibility of a SOLA based on other pepper uses approvals for use on pepper do not cover use on chilli peppers. Extrapolation between the crops is not permitted without some data to show that residues are comparable (at least two trials at the same GAP)

**Appendix 3 Control Points: Peppers (Chilli)****CS.65 PEPPERS (CHILLI)**

- CS.65.1 Water and nutrients should be re-circulated - Protocol reference: Section 6
- CS.65.2 If not, steps should be taken to minimise nutrient run-off into soil and water courses - Protocol reference: Section 6
- CS.65.3 The volume of run-off should be measured and samples analysed - Protocol reference: Section 6
- CS.65.4 Steps should be taken to minimise nitrate levels in applied nutrient solutions - Protocol reference: Section 6
- CS.65.5 Growers should visit the propagator to inspect their plants - Protocol reference: Section 5.4
- CS.65.6 You must have written procedures for the management and recording of incidents involving heating oil spillages - Protocol reference: Section 10
- CS.65.7 Your glasshouses must have appropriate "No Smoking/No Food" signs and staff provided with a clearly defined area to eat / drink - Protocol reference: Section 9.1
- CS.65.8 You must record the introduction and monitoring of biological control agents - Protocol reference: Section 8.1
- CS.65.9 Propagators used should adhere to the UK Plant Raisers Code of Practice - Protocol reference: Section 5.4
- CS.65.10 Only certified seed should be used - Protocol reference: Section 5.2.1
- CS.65.11 Staff should be informed of the effects and the need to follow hygiene measures after handling damaged fruit - Protocol reference: Section 9.1