Red Tractor Assurance *for Farms*

Fresh Produce Scheme

Crop Module: Fennel

Effective 1st September 2015

Red Tractor Assurance

Welcome

Red Tractor Assurance for Farms
Fresh Produce Scheme

This crop specific module for fennel has been written to complement and avoid duplicating the generic principles of the Red Tractor Farm Assurance Fresh Produce Scheme standards. It is advisable to read the Red Tractor Farm Assurance Fresh Produce standards before reading this crop specific module. This module is designed to stimulate thought in the mind of the reader. It contains crop specific guidance and standards, where applicable, in addition to the requirements stated in the generic Fresh Produce standards.

Within this module the important requirements outlined in the crop specific standards section will be verified during the Red Tractor Farm Assurance assessment and compliance will form a part of the certification/approval decision.

Disclaimer and trade mark acknowledgement

Although every effort has been made to ensure accuracy, Assured Food Standards does not accept any responsibility for errors and omissions. Trade names are only used in this module where use of that specific product is essential. All such products are annotated® and all trademark rights are hereby acknowledged.

Notes: Pesticide Information

The Red Tractor Fresh Produce team has been working with Fera to provide tailored access to the LIAISON database for all Red Tractor Fresh Produce members. This system allows individual growers access to all information for plant protection products approved for use under the Red Tractor Fresh Produce Scheme.

LIAISON can be accessed under the Produce tab via the “Checkers and Services” page where you will also find a user manual. Searches will be filtered specifically for the crops for which you are registered. Once you have logged onto the site and clicked on the LIAISON hyperlink you will be directed to the LIAISON home screen.

You will need a username and password and these will be sent once you have registered:

http://assurance.redtractor.org.uk/rtassurance/services/Registration/members.eb .

General Introduction

Following a systematic approach will help growers identify and manage the risks involved in crop production. This module is based on a typical crop production process and 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 precedent over quality and environmental controls. The layout of this module follows the same structure as that used in the Red Tractor Farm Assurance Fresh Produce Standards. The content of the module is reviewed prior to the issue of updated editions. The review process considers both new developments and all relevant technology which has emerged since the last review was completed and which have been found to be both workable by the grower and beneficial to the environment. The aim is to transfer such information and technologies to growers.

Acknowledgements

Red Tractor Farm Assurance Fresh Produce gratefully acknowledges the contribution of all consultees in the preparation of this protocol, particularly Charles Bransden of B. E. Bransden and Sons Ltd and Chris Wallwork of UAP for providing up to date pesticide data.

Front cover image credit: Charles Bransden.

Contents

ADDITIONAL REQUIREMENTS AGAINST CURRENT STANDARDS

None for this crop module

CROP SPECIFIC STANDARDS

None for this crop module

GUIDANCE

CHOICE OF VARIETY OR ROOTSTOCK AND PLANT HEALTH CERTIFICATION

PESTICIDE APPLICATIONS MADE AT SOURCE

Any chemical control of pests and diseases which can be applied at the propagation stage should be used:

a. to target the problem directly, and

b. to minimise usage in the field at a later date.

Any treatments used should be agreed with the purchaser and accurate records of application should be kept and kept as part of that crops' continuing pesticide records, to ensure maximum dose / frequency rules observed. A record of any such treatments should accompany plants on delivery.

PLANT HEALTH QUALITY CERTIFICATION

It is unusual in the UK to raise bulb fennel for transplanting outdoors. It can be done, the significant limiting factor is premature bolting due to sometimes unavoidable stresses in the transplanting sequence. This may have to change to allow for the distinct shortage of safe, legal herbicides, if the crop is still to have a place in the U.K but if so; or for protected culture:

Producers should satisfy themselves that their transplants are grown in hygienic conditions to ensure that they are planted out in a pest and disease free condition.

Plant raisers should be registered with DEFRA Plant Health and Seeds Inspectorate under the EU Marketing Scheme. The major plant raisers have also produced, and abide by, their own stringent code of practice.

The propagation area should be clean and tidy and seed trays should be sterilised prior to each use.

Only propagators who are registered with the DEFRA Plant Health and Seeds Inspectorate should be used and a contract specifying hygiene and pesticide requirements held.

The protocol author is not aware of any persons commercially growing perennial fennel as a leafy herb, nor annual fennel as baby bulbs or as a leafy herb. He would appreciate contact via the Red Tractor Farm Assurance Fresh Produce if there are any producers, to assist in the development / maintenance of this protocol.

SITE AND SOIL MANAGEMENT

ROTATION

A good rotation of crops is essential to help reduce the build-up of pests and diseases and it demonstrates a general concern for the maintenance of soil fertility.

A minimum of three years break between fennel (as a stem vegetable - *Foeniculumn vulgare var Dulce*) crops is desirable but, due to site/irrigation availability, this may not be feasible so a break of 24 months from harvesting and build up to sowing will minimise carry-over of Septoria spores, *Pythium* and *Phytophthora*.

Increasingly, with the cultivation of larger areas of umbelliferous herb species, problems associated with rotations involving different umbellifers may well arise.

For instance, the relative newcomer to umbelliferous herbs, *Itersonilia*, may well be endemic in soils used to grow parsnip, carrots, or even fennel. The disease may not, in itself, cause economic or even noticeable damage, but the potential for escalation and the effect on following crops should not be overlooked. Fennel grown at Laleham Farm tested positive for *Itersonilia* in 2011, but was not showing any symptoms. Which makes one wonder how long it has been about.

With reference to *Itersonilia*, whilst dill was written off by the disease in the wettest part of the season 2012, and fennel showed its presence by typical leaf-tip discolouration, there was no noticeable quality, yield or health issues.

2013 a drier year, very little sign of *Itersonilia*, except on latest crops sown early July and tested in September. Characteristic bronzing/yellowing of some leaf branches, tested positive, but symptoms only showing on perhaps 1% of plants. No economic or quality issues with the bulb.

ENVIRONMENTAL PROTECTION & CONTAMINATION CONTROL

THE BASIC APPROACH TO CROP PROTECTION

Introduction

The guiding principle is that pesticide inputs should be minimised through prevention rather than cure. An integrated approach should be adopted to achieve this involving the following management steps.

Good management and planning

a. Careful site selection to avoid potential or previous problems thereby enhancing plant health

b. Sensible crop rotations to avoid build-up of problems

c. Inclusion of resistant varieties (where available) in cropping programmes whilst respecting the need to meet the required quality parameters and eating requirements

d. Establish the need to take corrective action by regular monitoring referring to thresholds where established. This should be carried out by trained staff. The effect of prevailing weather conditions should also be considered

Cultural preventative techniques

a. Good crop and field hygiene, promoting crop health by maximising nutrient availability through soil analysis and accurate application to avoid excess nutrient application

b. Utilise irrigation as a control measure wherever appropriate and feasible, especially cutworm control in July and August

c. Enable biological and natural methods of pest control to flourish in the crop environment

Corrective action

If management and cultural practices fail to prevent or control pests, the following approach should be adopted:

a. Where corrective action is required, additional biological and natural methods of pest and disease control (if available) should be considered first

b. If chemical control is needed, the following points should be considered, whilst ensuring effective control is achieved:

- Use the least toxic and persistent product.
- Use the most selective product to reduce the impact on naturally occurring beneficial organisms.
- Use minimum effective dose rate.
- Use appropriate application methods with effectively maintained equipment, and spot-treating wherever possible.
- Exceeding the recommended dose rate is wasteful, gives no benefit in terms of control, and is also illegal under COPR.

All crop residues from previous fennel crops should be thoroughly destroyed or ploughed-in as soon as cropping is complete. Over-wintering slugs can be a problem on residual roots, getting roots onto the surface in the autumn to aid predator / frost access has been found to be useful. Doing this as part of establishing an overwintering mulch break crop such as barley, phacelia, mustards et al, gives cover for birdlife and thus further control of pests.

The use of pest monitoring and forecasting techniques should be adopted where possible as an adjunct to crop inspection, especially for carrot fly and turnip moth.

Field margins can provide a reservoir of insect predators, including ladybird larvae, hoverflies, ground beetles etc. Care should be taken to avoid spray drift from the crop into these areas. Ensure LERAPS are observed where appropriate, S.F.P., E.L.S and H.L.S. rules should also be taken into account.

PEST, DISEASE AND WEED CONTROL

PEST CONTROL

Carrot fly (*Psila rosae*)

Carrot fly is a sporadic pest of fennel but, in an area where *Umbelliferae* are grown intensively, a population of flies will usually establish in 2-3 years and thereafter infestation will become regular and heavy. The fly has two full generations a year, adults for the first generation emerge from the soil at the end of April. Eggs are laid in the soil around young plants during May and June from which larvae hatch and bore into the roots and crown bases of the plants. By mid-July few first generation adults remain.

A second generation of adults emerges during August and egg laying extends through until September. Damage from the second generation is not generally as serious as that from the first because the period of adult emergence is protracted, giving a lower population to lay eggs at any one time. There may be a partial third generation especially in East Anglia if it has been a warm summer. Especially in years like 2006, where the weather pattern gave rise to dramatic increases levels of second and third generation carrots fly activity. The greater activity may have been possible to anticipate if all predictive and monitoring techniques were in place from 1st generation onwards.

Fennel plants are at greater risk when they are small as fewer larvae are needed to cause root damage, causing typical symptoms of wilting and yellowing of leaves, this causes stress and premature bolting. Larger plants can withstand bigger populations of larvae and can grow away from damage without visible symptoms. The larvae only damage the root, not the edible bulb part or leaves. It is prudent to try to prevent resting levels of pests such a carrot fly to build up.

Cultural control: Regular monitoring of carrot fly activity is essential and yellow sticky traps are available for this purpose. They do not indicate absolute levels of the pest so no thresholds have been set. They do however need an experienced entomologist to identify the catches.

Good crop rotation and, if possible, siting crops away from previous umbelliferous crops, will help to delay the build-up of large populations. Carrot flies do not fly large distances and it takes 2-3 years for a damaging population to establish. Carrot flies spend much time in vegetation around the edges of fields so keeping hedgerows suitably trimmed in 'A' shape encourages populations of insect eating birds and nesting sites.

Crop covers are increasingly used to prevent air borne pests infecting crops. Fennel (var *dulce*) leaves can only support the lightest fleeces unless supported on frames or wires, when a young plant. Mature plants can support conventional covers.

When no crop exists, the flies can complete their life cycles on hedgerow umbellifers so regular crops of fennel in one area will usually lead to a population reaching pest status.

Crops planted after June are usually at less risk from attack than the early crops.

No data yet exists on resistant fennel varieties.

Currently approved products are listed on the PSD website. When choosing products check the harvest interval is adequate for the growth stage of the crop.

Carrot willow aphid (*Cavariella aegopodii*)

This pest overwinters as an egg on the bark of willow trees and hatches out in a winged form to infest fennel, carrots, celery and parsnip crops during May. Peak infestation lasts until early July when another winged generation emerges to re-infest willows and hedgerow umbellifers.

The aphid itself is not a major pest of fennel but can cause significant damage in areas where celery and carrotss are grown intensively by transmitting carrot motley dwarf virus. Control measures should be instigated immediately the pest is seen during regular crop inspections. Early attacks by aphid on very young plants can cause lasting damage. The typical tight curling of cotyledons or first true leaves caused by feeding damage, if observed, should be treated accordingly.

Cultural control: As it is not possible to eliminate the aphid's alternative host plants, no practical cultural methods are suitable. Hover fly and ladybird larvae can eat large numbers of aphids and their presence is to be encouraged (see below).

Chemical control: A number of materials are effective against aphids, details may be obtained from the PSD website link. If possible pirimicarb should be chosen, which is specific highly active against aphids and does not harm bees or ladybirds. Hoverfly larvae, which predate aphids will however be affected.

Cutworms

These pests are the caterpillars of several species of noctuid moths, the most common being the turnip moth (*Agrotis segetum*). The young caterpillars hatch in June and July, feed on the foliage for up to a week and then descend to the soil to feed on the underground parts of the plant. A severe attack of cutworm indicates the grower has not been vigilant in crop inspections at the right time.

Cutworm attacks are most severe in hot dry summers. Routine treatment is not required, is largely ineffective and is environmentally unacceptable.

Cultural control: Young cutworm caterpillars are easily drowned so heavy rain effectively controls some attacks. In dry weather, regular irrigation, essential for good fennel crops, is effective in reducing damage especially when used in conjunction with trapping. Minimum individual applications of 10mm are necessary to dislodge and drown the young larvae. As fennel (var *Dulce*) requires, from 30 days, 30mm water weekly, a 3-day cycle of 10mm is effective.

Avoid planting fennel into land which has previously been left very weedy as the moths are attracted to the dense cover to lay eggs.

Chemical control: Spray timing is critical as large caterpillars are much more difficult to kill than small young ones. Base any treatments on warnings from subscribed forecasting systems or trapping, and use high volumes of water on to dry soil in warm weather. Preferably do not allow soils to dry out. If proved necessary by threshold tests and predictive methods, late afternoon chemical application followed by overnight irrigation will help to ensure target is reached, but is not ideal.

Currently approved products are listed on the PSD website. When choosing products check the harvest interval is adequate for the growth stage of the crop.

Slugs

Due to mild winters, slugs have become an increasingly important pest of fennel as they start to infest the crop in early autumn, therefore early control is essential.

They thrive in soil which is wet from high rainfall or irrigation. Slugs can be a serious pest in the high humidity microclimate under a maturing crop canopy. Previous cropping should be taken into account, and where for instance high levels of brassica roots are remaining in the soil, the crop history should be investigated for potential carryover problems.

Cultural control: Large amounts of weed or debris from the previous crop will encourage slugs to breed leading to large population increases therefore do not allow decaying vegetation to accumulate, especially 'robust' roots from previous brassica crops for instance - ensure trash is well broken up.

Slugs tend to live in hedgerows and migrate into crops at night so it is advisable to leave a good strip of fallow weed free land between the hedge and crop.

Trapping systems do exist but they are suitable for small scale uses only. Biological control methods are being investigated at present but are not as yet sufficiently developed for commercial use. An effective threshold test using slug traps/baits should be used.

Chemical control: Slug pellets containing metaldehyde or ferric phosphate are effective, do check the PSD website for current legal uses.

In the first instance, if monitoring is good enough, only the fallow strip around the edge of the field should need treatment. This is important in fennel because broadcasted pellets can lodge between the leaf stems of the crop causing contamination. This is not acceptable even if the harvest interval (if applicable) is adhered to. Band treatment between rows prior to canopy closure may be effective, and is environmentally the best way. Wildflower mixtures to attract Thrush populations should be considered for field edges.

Caterpillars

Caterpillars rarely reach sufficient numbers to assume pest status in fennel.

Cultural control: As no specific species attack fennel, it is not necessary to consider any preventative measures. Silver Y moth larvae can cause problems but is a very rare visitor, and good agronomy will flag up the risk.

Chemical control: Regular crop inspection will usually identify any caterpillar infestations which are generally localised.

A pyrethroid product will control most caterpillars and spot treatments may be considered if the infestation is not heavy. Currently approved products are listed on the PSD website.

DISEASE CONTROL

All crop residues from previous fennel crop should be thoroughly destroyed or ploughed-in as soon as cropping is complete.

The use of disease monitoring and forecasting techniques should be adopted where available as an adjunct to crop inspection, thus minimising fungicide use. *Pythium* or *Phytophthora* at the young plant stage can cause severe crop losses.

Cultural control: A good soil structure with 3% organic matter, will help to reduce the incidence of these diseases. Poor soil structures, due to over cultivation, often leads to disease problems. Some seaweed based products help to increase beneficial microorganisms. Stale seedbed preparation with free draining tilth will help reduce disease. Attention to method, and frequency, of irrigation of seedbeds to avoid saturated, anaerobic conditions which favour onset of root diseases is recommended.

Chemical control: A metalaxyl-based product may give some control. Currently approved products are listed on the PSD website.

Other diseases

Sclerotinia can build up in soils where fennel is cropped regularly.

Botrytis rarely infects fennel. Treatments for leaf spot should also control *Botrytis*.

Itersonilia. This disease has been recently identified in the UK on crops of dill and flat leaf Parsley. As a precaution, some bulb fennel plants were tested. It would appear that *Itersonilia* can be harboured by fennel, whilst not causing any commercially significant damage, merely discolouration of frond tips. It may be significant if the leaves are to be used for oil production, or as a garnish. It would be particularly important to be aware of this crop's potential for harbouring the disease if other, more sensitive, umbellifers are planned in a rotation. Seemingly perfect plants were tested at maturity in 2011, and were "carrying" *Itersonilia*. Whilst this does not seem to pose a problem for the grower, plant, edibility, or presentation, it is certainly now something to add to the list of soil-borne diseases to bear in mind when growing Umbellifers.

The very wet 2012 season', whilst *Itersonilia* had a disastrous effect on dill, the only effect on fennel, that indicated presence of the disease, was typical frond-tip discolouration.

For carrot motley dwarf virus control measures see carrots willow aphid (*Cavariella aegopodii*).

Bacteria soft rots may occur in the autumn, especially if the bulbs have grown too soft. This often results from the poor control of irrigation and nutrition, i.e. usually excessive nitrogen combined with high soil moisture.

Control methods - once present there is no control.

WEED CONTROL

Cultural

The usual good husbandry practices such as rotation and stale seedbed should be observed to ensure that as few weed seeds as possible remain in the soil at planting. It should be of paramount importance to ensure fennel grown as a stem vegetable is sited on clean ground. Use of stale seedbed techniques, and care taken to eradicate perennial weeds will pay dividends. This is critical, as typically a direct-drilled fennel crop is in the ground for anything up to 5 months. The maturing crop has a particularly dense canopy, there are no effective legal post emergence herbicides, even if the target weed could be reached by the herbicide, and hand weeding becomes impossible. In hot years such as 2003, 2006 late germinating weeds such as Black Nightshade can romp away unseen until it is too late to save the crop, and also build unfortunate levels of weed seeds to plague subsequent cropping. You should walk fennel crops prior to canopy closure to identify need for hand rogueing. Similarly, the microclimate caused by the canopy can give any weed species a more tropical growth rate. Basically, if you don't start off clean, and keep it clean, don't grow fennel as a direct-drilled crop. Use could be made of block raised plants to shorten the days in the ground, planting through mulch or other weed suppression/ reduction techniques.

Use of contact herbicides prior to sowing the crop will minimise risk of residues and may reduce the need for herbicide use later in the crop life. Keep an eye on PSD Database for chemicals appearing as a result of pan-EU ratification of selective herbicides approved for fennel as a stem vegetable. Mechanical methods of weed control such as tractor-mounted or hand hoeing or hand weeding should be used wherever practical as such methods reduce chemical usage in the crop It is critical to avoid loosening the plant in the ground when hoeing, and hand weeding is preferable to hand hoeing. Fennel does not like being disturbed in the root zone, damage can stress the plant.

Herbicides

Growers should establish which species of fennel they are growing prior to using the new system of direct access to the PSD Database as a guide to choice of materials.

It cannot be emphasised enough that there are herbicides 'approved', particularly on fennel grown as a herb, that will kill or damage fennel. This anomaly dates back to blanket approvals for crops grown as herbs. For instance, do not use clopyralid on any fennel crops.

The timing of post-emergence herbicides is critical. Therefore good crop walking is essential. Weeds should be treated at their appropriate growth stage to minimise the use of herbicides. Multiple low doses, if approved, may be more effective, use of this technique should be considered. There are currently no post-emergence selective herbicides approved for fennel as a stem vegetable.

2015 Update

Both linuron and pendimethalin have now until 2019, and are both largely safe on fennel. Advice remains the same on Clomazone, growers should be aware that this is a high potency herbicide. The usual utmost care should be observed in trialling low doses on small areas, and bear in mind the residual activity affecting follow-on crops.

Plant protection product choice

APPROVED USES NOT INCLUDED ON THE PRODUCT LABEL

In many circumstances, particularly for minor crops, product labels do not include all of the approved uses and growers wishing to check the approval notice of a particular product should note that this information is available using the LIAISON® search accessible via their RED TRACTOR Farm Assurance home page after logging in.

A search on the 'Specific Off-Label Approvals' (now known as EAMU) page of LIAISON® by crop or product name should yield a results page. A click on the product name should link to a summary of the approval information. Near the bottom of the summary is the specific off-label number (e.g. 0246/09) and this link will open up a pdf of the original EAMU document giving details of the extension of use.

For various reasons the use of some approved pesticides may not be acceptable to processors. In order to conform to such requirements, proposed applications should be confirmed with the contracting company.

NUTRITION

A soil analysis for phosphorus, potassium, magnesium and pH is essential prior to deciding on the composition and quantity of base fertiliser to apply. Use the minimum rates possible, based on ADAS soil indices, to bring the soil to a level considered to be suitable for a fennel crop. Typical major nutrient requirements are listed in the Appendix and the figures are expressed in kilograms of plant food per hectare. Fennel is not particularly responsive to nitrogen until the crop has reached 5 true leaves, usually after about a month from direct drilling, so minimal nitrate levels are needed in the base dressing.

However, use of slower release nitrogen products needs care, as the conversion in the soil depends on temperature and bacterial activity. In these instances advice should be sought on incorporation prior to drilling or planting, and the correct rates to employ. (If trickle irrigation is used, consider the relative merits of fertigation, but be aware that once again the speed of release is considered. Also be aware of the catch 22 situation if relying totally on fertigation: if a long period of wet weather occurs, the bizarre need to irrigate in order to fertigate may be necessary with consequent cost / waste / waterlogging implications). As underpinned experience in the moist summer of 2012, the use of slow release granular compounds was most effective.

Top dressings can subsequently be used as needed, reducing the risk of leaching. Little and often is desirable to maintain even growth without luxury uptake. Fennel is particularly prone to quality defects caused by uneven growth spurts. Premature bolting can often be linked to inappropriate levels, or imbalance of available Nitrogen against freely available moisture. It is vital to balance N levels with soil moisture availability. Nitrate fertilisation will require greater sophistication over the next few years to address the concerns of run-off and leaching into watercourses, and to minimise nitrate levels in the harvested crop. Product choice is expanding, and consideration should be given to more slow release compounds.

The use of Ammonium Nitrate or similar quick release materials should preferably be avoided. Techniques are available to establish nitrate levels in soil and leaves (e.g. Merckoquant® test strips and the independent Nitrachek 404® colorimeter) but, as levels of available nitrate can change rapidly due to environmental conditions, no absolute thresholds for treatment have yet been established. The testing requirements for glasshouse grown winter lettuce have given rise to an H.D.C. developed improved Nitrate testing protocol. Growers may wish to make themselves aware of the new techniques. Regular use of such equipment on a field-by-field basis by an experienced agronomist will however enable more accurate decisions to be taken on rates of nitrogen to be applied. Available N should

be measured prior to crop establishment and monitored during the growing season or effective use made of N level calculations and predictors.

Other methods of application, such as direct injection, slow release compounds and nitrification inhibitors are being developed and such techniques should always be investigated in an effort to make efficient use of nitrogen. Timing of the application of organic FYM, where used, should be carefully considered as nitrate release can be unpredictable and may lead to excessive crop uptake or leaching through the soil. FYM should not be applied in the autumn. FYM should not be applied to glasshouse soils. Increasingly, crop nutrient requirements should be, as far as practicable, known throughout the crop's life, and in NVZs particularly, that N levels in the plant and soil at harvest are monitored and recorded, at least for one representative crop annually. This last may become part of due diligence procedures.

HARVEST AND STORAGE

Fennel bulbs are delicate, bruise easily, and knife damage will quickly become a post-harvest blemish. Care should be taken to cut the base cleanly, leaving a whole, undamaged basal leaf, do not cut brutally across several leaf bases.

It is also worthy of note that the need to remove one more entire leaf base due to an over-enthusiastic ,but careless, first attack with the knife will often remove sufficient weight to drop beneath clients' minima.

Careful harvesting, post-harvest handling and rapid cooling will result in a fine product with reasonable shelf life.

Weighing scales on harvesting rigs should be accurate and records should be maintained confirming this, where required by clients or local authorities Weights & Measures.

Where any post-harvest rinsing/washing is carried out, potable water should be used, with records to validate potability available. Potable water tanks for field use should be refreshed regularly, emptying and cleaning carried out periodically.

RESIDUES AND CONTAMINANTS

Red Tractor Farm Assurance Fresh 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 harvests 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.

With one or two more actives becoming available from harmonisation across E.U. States, care should be taken to establish not only potential residues in the crop, (and tested for accordingly) but potential residues affecting following cropping.

Red Tractor Assurance

Certification Bodies

Your routine point of contact with the Scheme is through your Certification Body.

Certification Bodies are licensed by Red Tractor to manage membership applications and to carry out assessment and certification against the Standards. The table below shows which Certification Bodies apply to each enterprise.

Certification Body	Beef and Lamb	Dairy	Combinable Crops and Sugar Beet	Fresh Produce	Pigs	Poultry
NSF	✔	✔	✔	✔	✔	✔
Kiwa PAI	✔	✔	✔	✔	✔	✔
SAI Global	✔	✔	✔	✔	✔	✔
SFQC	✔	✔	✔	✔		
NIFCC (Northern Ireland)		✔				✔
QWFC (Wales)		✔				

NSF Certification

NSF Certification
Hanborough Business Park
Long Hanborough
Oxford OX29 8SJ
Tel: 01993 885739
Email: agriculture@nsf.org
Web: www.nsf-foodeurope.com

PAI kiwa Partner for progress

Kiwa PAI
The Inspire,
Hornbeam Square West, Harrogate,
North Yorkshire HG2 8PA
Tel: 01423 878878
Email: paienquiries@kiwa.co.uk
Web: www.kiwa.co.uk/pai

SAI GLOBAL ASSURANCE SERVICES

SAI Global Assurance Services Ltd
PO Box 6236,
Milton Keynes MK1 9ES
Tel: 01908 249973
Email: agrifood@saiglobal.com
Web: www.saiglobal.com/assurance

SFQC
Specialist assurance for the food and farming sectors

SFQC Ltd
Royal Highland Centre,
10th Avenue, Ingliston,
Edinburgh EH28 8NF
Tel: 0131 335 6605
Email: redtractor@sfqc.co.uk
Web: www.sfqc.co.uk

NIFCC
NORTHERN IRELAND FOOD CHAIN CERTIFICATION

NIFCC [Northern Ireland]
Lissue House,
31 Ballinderry Rd, Lisburn,
Northern Ireland BT28 2SL
Tel: 028 9263 3017
Email: info@nifcc.co.uk
Web: www.nifcc.co.uk

QWFC

QWFC [Wales]
PO Box 8, Gorseland,
North Road
Aberystwyth SY23 2WB
Tel: 01970 636688
Email: info@wlbp.co.uk
Web: www.wlbp.co.uk

Red Tractor Assurance *for Farms*

Fresh Produce Scheme

T: 01932 589 800
E: produce@redtractor.org.uk
www.redtractorassurance.org.uk

Fresh Produce Standards