EU FRUIT AND VEGETABLES REGIME: PRODUCER ORGANISATIONS

UNITED KINGDOM'S NATIONAL STRATEGY FOR SUSTAINABLE OPERATIONAL PROGRAMMES

Published May 2020

Index

		in a fresh or processed form
	Section 3.1.5	Environmental measures and methods of production respecting the environment, including organic farming
	Section 3.1.6	Crisis prevention and management
	Section 3.2	Specific information required for types of action
Section 4		Designation of competent authorities and bodies responsible
Section 5		Description of the monitoring and evaluation systems
	Section 5.1	Assessment of the Operational Programmes and reporting obligations for producer organisations
Section 6		Miscellaneous provisions
Annex 1		Table of actions that may be included in operational programmes
Annex 2		National Framework for Environmental Actions

SECTION 1 - Introduction

1.1 Introduction to, and duration of, the National Strategy

This Strategy has been drawn up in accordance with Article 27 of Regulation (EU) No. 2017/891 and Article 36(2) of Regulation (EU) No. 1308/2013.

The Strategy is intended to apply from 2018. It will continue to apply while the UK is still a member of the European Union and after the date of exit until such time as notice is given that it no longer applies.

Subject to consultation with UK Producer Organisations, the UK Government reserves the right to amend any details at any point. Amendments to the National Strategy will be made before the submission of draft Operational Programmes in any given year.

This National Strategy replaces the previous National Strategy which ran from 2008-2017.

1.2 Background

Horticulture occupies less than 4% of British arable land, produces a vast diversity of fruit, vegetables and salad and ornamental crops, and employs the full-time equivalent of 50,000 people. The sector was worth £3.2 billion to the UK economy in 2016, of which £1.5 billion is attributed to fresh vegetables, £0.7 billion to fruit and £1.2 billion to plants and flowers.

Vegetable production as a percentage of total new supply to the United Kingdom for all fresh vegetables was 55% in 2016, little change on 2015. Fruit production in the UK as a percentage of total new supply was 17% in 2016.

80% of produce grown in Britain is sold to the multiple retailers and the rest to food manufacturers or direct to consumers through local or online outlets. Demand for most crops is fairly static, but the market for berry fruits, bagged leafy salads and tomatoes are exceptional in having each doubled or more in volume over the last decade or so.

Trade with the EU is particularly important in the horticulture sector, and there is a huge reliance on imports to satisfy high consumer demand. 40% of UK fruit imports come from within the EU, with fruits that cannot generally be grown in the UK – bananas, melons and citrus fruits – making up the largest share of imports. The UK also imports significant quantities of most of the fruits grown domestically, to ensure year-round supply of fruits only grown seasonally in the UK. Over 80% of vegetable imports come from within the EU. Spain, the Netherlands and Ireland are the major suppliers. A large proportion of imports are salad crops such as tomatoes, lettuce and

cucumbers. Although these are grown in the UK in protected environments, most are still imported.

Fierce competition in the grocery market is driving down margins and forcing supply chain consolidation. 90% of the domestic produce sold to retailers is now produced by roughly 10% of growers. Seasonal weather conditions can have a major disruptive impact on production and demand and many larger UK growers grow crops overseas to provide the continuity of supply needed to maintain market access.

British growers receive relatively little in the way of Government support except through the EU Fruit and Vegetable Producer Organisation Scheme, Rural Development Programme and structural programmes in economically disadvantaged parts of the country. [1]

Over recent years, there has been a big decline in the area given to UK horticultural production. From 1985 to 2014, there was a decline of 27% in the area given to fruit and vegetable production in the UK. Fruit and vegetables are by far the greatest source of imports in the UK food system. The trade gap in horticulture rose to £7.8 billion a year in 2014, about 37% of the UK's total food trade gap.

Horticulture is labour-intensive and migrant labour is very important to the sector. An estimated 80,000 seasonal workers are employed in the fresh produce sector, with the heaviest use in salads, vegetables and soft fruit.

1.3 Potential for development

EU Exit

The United Kingdom voted to leave the European Union on 23rd June 2016. As we prepare to leave the EU, there are significant opportunities for the UK fresh produce industry to increase their share of the UK market in fresh produce, as well as to export more of the food that we grow.

Increase in UK population

According to the Office for National Statistics, the UK population grew to an estimated 65,648,000 at the end of June 2016, up 538,000 on the year before. Net international migration continued to be the main driver, but there was also an increase in births and a decrease in deaths. Approximately 13% of the population (1 in 8 or 3.2m) were born outside the UK, with people born in Poland making up the highest percentage, at an estimated 831,000, overtaking India for the first time.

[1] AHDB Horticulture Strategy 2016

The horticulture industry therefore has a growing market, with the potential to both grow more fruit and vegetables, as well as diversify into new products demanded by a more diverse population.

Low Consumption of fruit and vegetables

According to Public Health England, the population in the UK continues to eat less than the daily level of fruit and vegetables recommended by the World Health Organisation. Public health analysis suggests that many lives could be saved if the UK population followed dietary guidelines on fruit and vegetable daily intake. The Government's Eatwell plate suggests that more than a third of UK daily diets should comprise fruit and vegetables, but currently less than a quarter of diets are taken from this source.

According to Eurostat, a third of the UK population eats the recommended five portions of fruit and vegetables a day. While this is much higher than the EU average of 14%, there is still potential to increase the consumption rate, with the resulting expansion in demand. The sector would benefit from educating consumers on the health benefits of eating more fruit and vegetables.

Consumer awareness of local produce

According to a YouGov survey carried out in 2015, 79% of adults think it is important that consumers in Britain buy locally sourced produce. However, only 30% of those surveyed had actually bought any local produce in the last week. Vegetables topped the list of products that people were most likely to buy if a locally sourced alternative was available (51%), followed by meat, eggs, milk and fruit (22%). However, less than half those surveyed thought they would actually be able to buy locally sourced produce in a supermarket.

There is therefore a huge potential for growers to increase their market share of locally grown produce.

Marketing of fresh fruit and vegetables

Fruit and vegetable production is increasingly tailored to consumer demands, as the industry has sought to be more responsive to changing tastes and customer requirements, using ever more sophisticated approaches to meet them (e.g. market data analysis). One of the main drivers of this process is the need to meet the exacting demands made by supermarkets, whose market share continues to grow. The multiple retailers have achieved this by demanding high quality, consistent products in a convenient format, at prices which have enabled consumers to spend an increasingly lower proportion of their disposable income on food items. There is potential for growers to increase their market share through promotion, marketing, innovation and new product development. By concentrating these functions in POs,

producers will be able to devote more time to their core business of growing the crops that British consumers demand.

Innovation

Due to the British climate, the UK has traditionally relied on imports of fruit and vegetables throughout the year to meet consumer demand, either because we cannot grow the products ourselves, or because we can only grow them at certain times of the year. Advances in technology have allowed growers to extend the growing season, increase yields and produce new varieties of products to meet consumer demands. Increasing technological advances will enable UK growers to produce more home grown produce, displacing imports and improving the UK's self-sufficiency in fruit and vegetables.

1.4 Live Issues

Access to Labour

UK fruit and vegetable growers are reliant on migrant workers to pick their crops. About 80,000 seasonal workers pick and process British fruit and vegetables each year. The majority of these workers come from other Member States of the EU, particularly Bulgaria and Romania. Fears have been raised by the sector that the vote to leave the EU will result in a shortfall of fruit and vegetable pickers, meaning that crops are left to rot in the fields, leading to less produce on the market and higher prices for consumers.

Increase in production

While some products can be grown out of season with advances in technology and/or an increase in greenhouse production, e.g. tomatoes, other products will be more difficult to grow out of season, e.g. apples and pears. The balance between the financial and carbon cost of imports needs to be carefully weighed against the environmental and carbon cost of growing increasing amounts of produce in the UK out of season. Adequate storage facilities for produce is an issue which would need to be overcome to enable increased production. In trying to increase production, there will often be a need to increase the number of greenhouses and storage sheds, which will likely have a knock on effect on traffic and natural resources. Tensions with local planning departments and residents can also stifle expansion.

Competition

The PO scheme provides opportunities for groups of growers to collectively negotiate better prices, terms and conditions, and improve their position in the supply chain. By working together, growers have greater power to negotiate

the price of their produce and give themselves more influence in the market place.

The Government set up the Groceries Code Adjudicator (GCA) in 2013 to enforce the Groceries Supply Code of Practice and ensure supermarkets treat their suppliers lawfully and fairly. In 2015, the GCA received additional powers to fine large supermarkets for unfair practices.

The GCA has an important role to play in changing the behaviour of supermarkets, and will now be working to tackle the “Climate of Fear” that still deters some businesses from raising their concerns.

1.5 Priority needs of the sector

To improve returns

Producers of fruit and vegetables often see themselves as price takers. POs will be supported in their endeavours to negotiate with retailers for better terms.

Many POs are reluctant to market themselves either to new members or to new customers. POs will be encouraged to promote the corporate brand of the PO and its produce.

To increase market share

POs will be encouraged to work with retailers to develop the market for fruit and vegetables, leading to an increase in consumption of products and improved margins for producers.

POs will be encouraged to help promote the role of fruit and vegetables as part of a healthy lifestyle – promoting customer awareness and increasing consumption.

Increasingly, consumers prefer locally sourced produce. They also demand new products but have less time to prepare food. POs will be encouraged to generate demand for local seasonal produce, and adapt production lines to increase customer choice at retail level. This in turn will reduce the UK’s reliance on imports of fresh produce.

To drive forward innovation

As a result of rising labour costs and uncertainty over future labour supplies, POs will be encouraged to increase labour productivity but also reduce reliance on labour by investing in labour-saving technologies.

As the market develops and consumers demand new, high-quality products, POs will be encouraged to meet consumer demands by investing in new crop grading, packaging, storage and distribution facilities.

In order to ensure that POs contribute to the Government's aim that we should be the first generation to leave the environment in a better position than we found it since the industrial revolution, POs will be encouraged to assess and reduce energy consumption during production, harvesting, grading, packing, storage and marketing. POs will also be encouraged to optimise water usage according to crop need and to use technology to extend the storage and shelf life of fresh products.

SECTION 2 - Analysis of the situation in terms of strengths and weaknesses and potential for development

2.1 Analysis of the situation

The UK continues to be a net importer of fruit and vegetables. In 2008, the UK imported 3,339 thousand tonnes of fruit into the UK (including both fruit which can be grown here and exotic fruits) at a value of £2,409m. By 2015, this had increased to 3,713 thousand tonnes, at a value of £3,120m. In contrast, the UK exported and re-exported 128.7 thousand tonnes of fruit in 2008 at a value of £86.5m and exported and re-exported 131.6 thousand tonnes of fruit at a value of £101.3m in 2015.

The UK imported 2,270 thousand tonnes of fresh and dried vegetables in 2008 at a value of £1,932.7m. By 2015, this had risen to 2,496.5 thousand tonnes at a value of £2,291.7m. In contrast, the UK exported and re-exported 248.8 thousand tonnes of fresh and dried vegetables in 2008 at a value of £104.7m. This rose to 382.9 thousand tonnes of fresh and dried vegetables in 2015, at a value of £174m.

Field Vegetables

When the UK's previous National Strategy was published in 2008, the production of field vegetables was worth £814m, building on steady growth seen in previous years. This growth continued in 2009 and 2010, but a poor year in 2011 saw production fall back. By 2013, production was worth £1000m, but again fell in 2014. In 2015, field vegetables increased in value compared to 2014 by 3.2% to £884m, as both production and prices increased.

The value of beetroot halved from £24.5m in 2008 to £12.8m in 2015, but the value of dry bulb onions increased by over 100% from £46.1m to £101.6m. There were also big increases in the value of broad beans and peas harvested dry, as well as asparagus, rhubarb and lettuce.

Field veg (£m)	**2008**	**2015**
Roots and onions	277	321
Brassicas	227.1	174.5
Legumes (incl. peas)	69.2	85.8
Others	240.8	302.4
Total	**814.2**	**883.7**

Field vegetable production has increased from 2,349,000 tonnes in 2008 to 2,471,000 tonnes in 2015. Much of the growth in the roots and onions sector was due to the increase in the production of beetroot from 55 thousand tonnes in 2008 to 72 thousand tonnes in 2015, and also the growth in the production of dry bulb onions, from 349 thousand tonnes in 2008 to 394 thousand tonnes in 2015.

The fall in the brassicas sector was mainly due to a decrease in the production of cauliflower from 116 thousand tonnes in 2008 to 91 thousand tonnes in 2015, and also a fall in spring cabbage production from 30 thousand tonnes to 24 thousand tonnes in 2015.

Legumes saw a big increase in the production of broad beans, from 9 thousand tonnes in 2008 to 15 thousand tonnes in 2015, and also in peas harvested dry, which increased from 25 thousand tonnes to 72 thousand tonnes.

Field veg (Thousand tonnes)	**2008**	**2015**
Roots and onions	1327	1399
Brassicas	468	444
Legumes (incl. peas)	209	263
Others	346	364
Total	**2349**	**2471**

In 2008, 118,231 hectares of field vegetables were produced in the UK. By 2015, this had increased to 138,065. Much of this growth was due to the increase in the area for peas which are harvested dry, which increased from 6,668 hectares in 2008 to 23,138 hectares in 2015. Smaller growth was seen in winter cabbage, asparagus, onions and broad beans.

Field Veg (Hectares)	**2008**	**2015**
Roots and onions	29,714	29,306
Brassicas	27,043	26,875
Legumes (incl. peas)	44,806	63,417
Others	16,668	18,467
Total	**118,231**	**138,065**

The UK is largely self-sufficient in the supply of carrots, with domestically grown carrots accounting for 98.6% of total supply in 2015, up from 95.6% in 2008. We also produce most of our cabbages, where self-sufficiency has remained fairly constant, at around 90%, since 2008. In contrast, self-sufficiency in cauliflower has fallen from over 50% in 2008 to 37% in 2015, due to both a decrease in domestic production and an increase in imports.

Cabbages (thousand tonnes)	**2008**	**2015**
Home Production Marketed (HPM)	235.5	230.4
Imports	24.6	29.4
Exports	1.1	5.4
Total supply	**259.0**	**254.4**
HPM as % of total supply	90.9	90.6

Cauliflower (thousand tonnes)	**2008**	**2015**
Home Production Marketed (HPM)	116.0	91.0
Imports	110.5	161.7
Exports	5.0	9.2
Total supply	**221.5**	**243.4**
HPM as % of total supply	52.4	37.4

Carrots (thousand tonnes)	**2008**	**2015**
Home Production Marketed (HPM)	710.7	731.0
Imports	50.1	49.6
Exports	16.2	39.4
Total supply	**744.6**	**741.2**
HPM as % of total supply	95.4	98.6

Protected crops

The value of protected crops (tomatoes, cucumbers, lettuce, mushroom, sweet peppers, celery) has been growing steadily since the previous National Strategy was published, from a value of £280 million in 2008 to £393 million in 2015. It has risen over 58% since 2005.

Protected crops (£m)	**2008**	**2015**
Tomatoes (heated)	96	119
Cucumbers	38	74
Lettuce	14	17
Mushrooms	104	154
Celery	2	2
Sweet peppers	14	13
Others	12	12
Total	**280**	**393**

Increased demand for salad items saw production increase to 310 thousand tonnes in 2015, up from 249 thousand tonnes in 2008. Production has been increasing year on year since 2007, and was 25% higher in 2015 than in 2007, with rises in nearly all products, in particular for tomatoes, mushrooms and lettuce.

Protected crops (thousand tonnes)	**2008**	**2015**
Tomatoes (heated)	88.4	97.2
Cucumbers	48.9	53.6
Lettuce	7.4	13.4
Mushrooms	70.2	103.2
Celery	1.9	1.9
Sweet peppers	16.3	23.1
Others	16.2	17.4
Total	**249.3**	**309.8**

The area of protected vegetables rose to 861 hectares in 2015, up from 677 in 2008 to 861 hectares in 2015. Lettuce accounted for much of this change, increasing from 226 hectares in 2008 to 352 hectares in 2015. There were also increases for tomatoes, sweet peppers and other crops, with only a small fall for cucumbers, from 103 hectares to 100 hectares.

Protected crops (hectares)	**2008**	**2015**
Tomatoes (heated)	213	232
Cucumbers	103	100
Lettuce	226	352
Celery	26	26
Sweet peppers	65	90
Others	44	62
Total	**677**	**861**

Domestic production and imports of mushrooms, lettuce and tomatoes have all increased since 2008. As a result, the UK remains heavily reliant on imports of these crops. The percentage of home produced mushrooms as a percentage of total supply has increased from 39% to 45% between 2008 and 2015, while the percentage of home produced tomatoes has increased from 17.6% to 19.6%. However, the percentage of home produced lettuce as a percentage of total supply has fallen slightly in the same period, from 42% to 40%.

Mushrooms (thousand tonnes)	**2008**	**2015**
Home Production Marketed (HPM)	70.2	103.2
Imports	109.5	125.5
Exports	0.2	0.5
Total supply	**179.4**	**228.2**
HPM as % of total supply	39.1	45.2

Lettuce (thousand tonnes)	**2008**	**2015**
Home Production Marketed (HPM)	124.0	135.4
Imports	172.5	207.9
Exports	4.1	5.7
Total supply	**292.4**	**337.6**
HPM as % of total supply	42.4	40.1

Tomatoes (thousand tonnes)	**2008**	**2015**
Home Production Marketed (HPM)	88.4	97.2
Imports	419.1	402.7
Exports	5.0	4.8
Total supply	**502.5**	**495.2**
HPM as % of total supply	17.6	19.6

Top Fruit

The top fruit sector has continued to perform well since the previous Strategy, with production increasing in value from £64m in 2008 to £77m in 2015. All products except culinary apples have increased in value, with a notable increase in cherry production. The value of cherries in 2015 is 600% higher than the value in 2008, and this product has seen an increase in each of the 10 years covered by the previous Strategy. It should be noted that while the value of plums appears to be some 300% higher in 2015 compared to 2008 in the table below, this is mainly due to the fact that 2008 was a particularly poor season for plums due to heavy frost, and the figure for 2015 is about average for recent years.

Top Fruit (£m)	**2008**	**2015**
Dessert Apples	64	77
Culinary Apples	56.2	40.4
Pears	10	12.9
Plums	3.7	11.2
Cherries	2.1	13.8
Others	1.5	2.3
Total	**137.5**	**157.6**

The production of top fruit has increased from 270 thousand tonnes in 2008 to 297 thousand tonnes in 2015. Growth has been seen in each product, except culinary apples. Again, the apparent big increase in the production of plums can be explained by the fact that production in 2008 was significantly lower than production in other years.

Top Fruit (thousand tonnes)	**2008**	**2015**
Dessert Apples	118.4	160.4
Culinary Apples	124.1	89.8
Pears	19.8	26.5
Plums	2.5	11.5
Cherries	1.2	4.7
Others	4.0	4.2
Total	**270**	**297.1**

The area under top fruit production in the UK has increased slightly, from 11,800 hectares in 2008 to 12,000 hectares in 2015. The area covered by cherries has increased year on year, from 447 hectares to 711. Dessert apples also saw an increase, while the area covered by culinary apples decreased. Pears saw a fall in the area under production, even though the volume of production increased. The area under plum production in 2008 was the highest it has been in the 10 years covered by the previous Strategy, even though production fell that year.

Top Fruit (hectares)	**2008**	**2015**
Dessert Apples	4873	5413
Culinary Apples	3732	3199
Pears	1536	1483
Plums	836	730
Cherries	447	711
Others	355	468
Total	**11779**	**12004**

The UK continues to import large volumes of apples, pears and plums – all products which are grown in the UK. However, during the lifetime of the previous National Strategy, the UK became more self-sufficient in these three products, with home production increasing as a percentage of total supply.

Apples (thousand tonnes)	**2008**	**2015**
Home Production Marketed (HPM)	242.5	250.2
Imports	477.7	412.9
Exports	14.4	20.1
Total supply	**705.8**	**643.0**
HPM as % of total supply	34.4	38.9

Pears (thousand tonnes)	**2008**	**2015**
Home Production Marketed (HPM)	19.8	26.5
Imports	137.9	150.1
Exports	1.1	2.0
Total supply	**156.5**	**174.5**
HPM as % of total supply	12.6	15.2

Plums (thousand tonnes)	**2008**	**2015**
Home Production Marketed (HPM)	2.5	11.5
Imports	73.0	49.1
Exports	0.6	1.1
Total supply	**75.0**	**59.4**
HPM as % of total supply	3.4	19.3

Soft Fruit

The soft fruit sector performed well over the lifetime of the previous National Strategy, with particular growth seen in strawberry production, which has increased from £195m in 2008 to £284m in 2005. Growth was also seen in raspberries and blackcurrants.

Soft Fruit (£m)	**2008**	**2015**
Strawberries	194.8	284.1
Raspberries	104.3	123.9
Blackcurrants	12.6	15.2
Other soft fruit	31.1	33.1
Glasshouse fruit	39.5	51.3
Total	**382.3**	**507.6**

The production of soft fruit has increased from 131 thousand tonnes in 2008 to 157 thousand tonnes in 2015. Much of this increase can be attributed to the production of strawberries, which have increased from 94 thousand tonnes to 115 thousand tonnes, in line with the increased value seen in the strawberry market. Raspberry production was fairly static from 2008 to 2012, but has seen production fluctuate since. Blackcurrants have had a fairly rollercoaster ride throughout the period covered by the previous National Strategy, but production has, overall, increased during this period. Strawberries remain the biggest soft fruit produced in the UK by a significant margin.

Soft Fruit (thousand tonnes)	**2008**	**2015**
Strawberries	94.0	115.5
Raspberries	15.5	17.2
Blackcurrants	13.7	15.2
Other soft fruit	7.8	9.4
Total	**131**	**157.3**

There has been a modest rise in the area under production for soft fruit in the UK between 2008 and 2015, with small rises for strawberries and blackcurrants, and a fall in the area of raspberry production.

Soft Fruit (hectares)	**2008**	**2015**
Strawberries	4384	4511
Raspberries	1701	1538
Blackcurrants	2435	2514
Other soft fruit	902	919
Glasshouse fruit	180	219
Total	**9602**	**9701**

The UK has seen an increase in both production and imports of strawberries and raspberries since 2008. Consumption of both fruits has been increasing, and as a result the UK is slightly more self-sufficient in strawberries and slightly less self-sufficient in raspberries in 2015 than in 2008.

Strawberries (thousand tonnes)	**2008**	**2015**
Home Production Marketed (HPM)	94.0	115.5
Imports	44.9	54.9
Exports	0.5	2.1
Total supply	**138.3**	**168.2**
HPM as % of total supply	67.9	68.6

Raspberries (thousand tonnes)	**2008**	**2015**
Home Production Marketed (HPM)	15.5	17.2
Imports	9.1	12.1
Exports	0.0	0.3
Total supply	**24.6**	**29.0**
HPM as % of total supply	63.2	59.5

2.2 Strategy chosen to meet strengths and weaknesses in the horticulture sector in the UK

Article 33(1) of Regulation (EU) No. 1308/2013 sets out the objectives which may be included in Operational Programmes. Section 3.2 of this Strategy sets out the actions which aim to meet those objectives. These actions, together with the expected results and targets associated with them, have been designed to meet the needs identified in the analysis of the market situation set out in section 2.1. The competent authorities in the United Kingdom are confident that these results and targets can be realistically achieved.

The United Kingdom believes that the various elements of the Strategy which have been chosen represent, in total, a coherent approach that will meet the needs of producers, consumers and others in the food chain, as well as contributing to wider environmental objectives. The United Kingdom also believes that the approach it has adopted does not present a risk of conflict or contradiction between the various objectives or actions that comprise the Strategy. Nor is there any lack of consistency or complementarity with national or regional actions, or with other activities supported through European Community funds, notably those specified under Regulation (EU) No 1307/2013 (direct payments) or Regulation (EU) No 1305/2013 (rural development).

The results of the Strategy, and the impact which it has against the baseline situation described in Section 2.1, will be monitored and analysed in the manner described in Regulation (EU) No. 2017/891.

2.3 Impact from the previous Operational Programmes

When the previous National Strategy was introduced in 2008 there were 51 POs in the UK. In 2011, recognising continued European Agricultural Guarantee Fund (EAGF) audit criticism of PO recognition, a full recognition review exercise was carried out on all UK POs. Subsequently, the UK authorities worked with the POs and were able to lift suspension from the majority of them. The remainder saw their recognition removed. As at July 2017, there are 32 POs recognised under the PO scheme in the UK. The largest PO has 248 members, while the smallest has 6 members. The most common size of PO in the UK is 10 members, although the average across the UK is 32 members. Overall, 23 POs have less than 20 members.

There are currently 9 POs recognised for field vegetables, 9 for peas, 11 for top fruit, 12 for soft fruit, 3 for mushrooms, 4 for protected crops and 1 for organics. 1 PO also produces herbs.

Annual payments currently total around €31m per annum, with EU payments ranging in value from around £50k to £7 million per annum per PO.

Since the introduction of the national living wage in the UK in 2016 all UK POs have been including actions in operational programmes to reduce labour costs. This includes the purchase of specialist equipment across all sectors to reduce reliance on labour.

Field vegetables

Investments have increased into specialist machinery, such as bedformers, drills, toppers etc to enable precision planting. This has allowed POs to increase yield per hectare. Marketed produce has also increased as a result of reduced crop damage via the purchase of improved harvest machinery. Several POs have invested significantly into the development of bespoke equipment based on previous yields and current agronomy advice reflective of their land and crop type. POs have generally moved towards a more preservative form of harvesting via the use of combine soil aeration tools to minimise soil compaction, thus providing a healthier area for the next production season.

Irrigation techniques have had significant investment from all POs in order to provide precise application of water, with some POs also using this system to apply fertiliser and nutrients to crops. These investments have resulted in increased yields and quality, with decreased labour and water/chemical usage. In the onion sector, targeted investments have been made into the latest techniques of crop storage. POs have therefore actively sought to improve boxes, doors and fan systems to improve product shelf life. Similar

purchases can be seen throughout other field vegetable POs as they look to improve shelf life and overall quality in response to consumer demands. It is anticipated that future programmes will continue to feature such purchases as POs develop existing storage processes/systems to fulfil their objectives.

Peas

The pea sector has seen significant investment into new technologies to improve drilling and harvesting processes. All POs within this industry have actively sought to reduce environmental impacts via the financed purchase of more fuel efficient equipment. In addition to this, new forms or automation such as GPS tracking and field mapping have been used to improve the accuracy of drilling and harvesting, thus increasing yield.

Many pea POs continue to opt for hire over purchase for items such as lighting towers and air compressors, as these are solely used for a maximum of 12 weeks throughout the season. This further enables the PO to save costs.

The British Growers Association (BGA) continues to provide promotional support to POs via the 'Yes Peas' campaign, providing advice on nutritional benefits to industry representatives and consumers. BGA also provide market data on a monthly and biannual basis which details trends, consumer preferences, weather impact, as well as providing advice to growers for each.

Top fruit

Recent operational programmes have seen increased investment in production areas through the planting of new areas and varieties to embrace changes in consumer preference and market trends. In tandem, purchases have been made into tree supports and protection, such as bird wire and rabbit guards. POs have also begun to invest into reusable bird netting as a form of crop protection.

As the areas of production have seen an increase, POs have invested in further areas of multibay tunnels, storage boxes and harvesting equipment. Purchases have also focused on grading and packing lines to deal with increased volumes, and to meet supermarket requirements for pack sizes and promotions. Where possible, POs have opted to invest in machinery that can be easily coupled to existing processing without disruption, and that provides improvements in outputs, i.e. time/energy usage/waste etc. An increase in the purchase of automated items such as GPS orchard equipment and weather stations has enabled POs to reduce labour costs in these areas, as well as increase quality and yields.

Pheromone trapping has continued to be an important investment to POs following areas of increased infestation. Whilst traps are the most popular

method of detection, many fruit POs have opted to purchase pheromone netting which is used at the end of polytunnels to prevent Spotted Wing Drosophila (SWD) entry.

Campaigns such as the Bramley Apple campaign and English Apples and Pears continue to support PO promotions.

Soft fruit

POs have continued to invest in polytunnels and table top production techniques to prolong the cropping season, thus increasing yield and revenue. This has commonly been combined with upgrades to existing irrigation via the connection of drippers to reduce waste and improve accuracy of water application.

The use of popular methods aimed at encouraging an increase in production is evident via the growing number of purchases of natural pollinators and the growth of natural habitats via the establishment of insect areas. Many soft fruit POs are keen to use natural resources for production and substitute any shortfalls with biological controls.

Investments have also seen an increase in packaging tools, such as heat sealing machines and associated equipment. This is as the focus in the industry has shifted to more environmentally friendly packaging techniques. Additionally, several POs have purchased tools to accommodate the packaging of varying package sizes, as the markets have seen a fluctuation in consumer demand for large family packs, snack packs and value packs. With the rising popularity of discounters, many POs have increased pack sizes and now supply “misshapen” produce as novelty promotion activities.

Protected cropping

As supermarket and consumer preferences have moved towards a preference for natural produce, POs have adapted by expanding investment into the use of biological controls as opposed to pesticides. Additionally, as the availability of biological controls has significantly increased over recent years, more POs have been able to use these resources. Continued investment in grafted plants has enabled POs to ensure a better quality of produce with reduced disease risks. Due to increasing consumer standards with regards to disease and appearance, POs actively seek to purchase higher class grafts from throughout Europe to meet demands.

Mushrooms

The primary area of investment in this sector relates to staff costs for picking, packing and quality control. Following an episode of ‘blotch’ in previous years, the quality standards for disease and damage have seen further changes. In

response to this, POs have increased investment into the QC process via resources, training and new computerised systems to track output quality and returns.

Investments also continue to be made into the development of specialist machinery for automated packing, including a bespoke machine capable of grading and identifying disease.

To support PO competitiveness in the industry, POs also continue to improve processes where possible via the purchase of new growing beds, insulated growing tunnels and cold storage.

Organics

The fruit and vegetable industry has shown movement towards a more natural method of production which has meant that several POs have tested commercial viability of purely organic produce.

At present, only one PO is recognised by a certified body as organic for a range of field vegetables. Investments are made by this PO to ensure that the end to end process improves efficiency whilst maintaining organic trade standards.

SECTION 3: Objectives of Operational Programmes and Instrument, Performance Indicators

Section 3.1 Requirements concerning all or several types of actions

The Rural Payments Agency (RPA), in conjunction with the devolved administrations in Scotland, Northern Ireland and Wales, is responsible for the management, monitoring and evaluation of operational programmes in line with the National Strategy and as required by EU legislation. The Department for Environment, Food and Rural Affairs, in conjunction with the RPA and the devolved administrations, has overall responsibility for the management, monitoring and evaluation of the Strategy itself and statutory reviews required under EU legislation.

In order to meet the requirements for arrangements to be put in place concerning demarcation with rural development (RD) aid under Regulation (EU) No 1305/2013, and avoidance of dual funding, POs will not be eligible for RD funding where support is sought for actions which are included in a Producer Organisation's Operational Programme. The exceptions to this are the types of environmental actions identical to the agri-environmental commitments that are eligible for funding under the Rural Development schemes, but ineligible for support under Producer Organisations' Operational Programmes. See the National Framework for Environmental Actions for details of the actions included.

Environmental Impact Assessment

Environmental actions must comply with the requirements set out in Article 33(5) of Regulation (EU) No. 1308/2013. In accordance with Article 33(6) of Regulation (EU) 1308/2013, proposed investments which might possibly increase environmental pressure must be presented with an environmental impact assessment or information about effective safeguards that will be put in place to protect the environment from such pressures. Investments with the potential to increase pressures on the environment will not be approved unless the RPA is satisfied that the investments respect the objectives set out in Article 191 TFEU and in the seventh Union environment action programme.

To address the priority needs of the sector, **all** operational programmes **must** have **two or more** of the **objectives set out in the following sections of the Strategy**. (Article 33 of Regulation (EU) 1308/2013 refers).

Section 3.1.1. Planning of production

A key task for POs is to undertake effective planning of crop production to ensure reliability of supply and underpin supply contracts, thus strengthening the relationship between supplier and buyer. Strong production planning (including estimating and/or understanding of demand) is also essential to take advantage of opportunities arising to increase market share, minimise waste and optimise production costs. Some element of contingency planning may also be appropriate.

What is it that the PO is aiming to achieve?

- Developing performance in relation to planning of production in order to match supply with demand and to take account of seasonal trends.

What will happen or change as a result of the planned action?

- Facilitating the placing on the market of members' products.
- Ensuring that production is adjusted to demand in terms of quantity and quality.
- Boosting products' commercial value and helping to maintain customer loyalty.
- Production shortfalls or surpluses will be reduced.
- Customer satisfaction will be increased.
- Production costs will be optimised.

What will be the impact of change?

- Improving competitiveness.
- Undertaking such actions successfully will help improve the attractiveness of membership of POs.

3.1.2 Improvement of product quality

Maintenance (and/or where possible the improvement) of quality in line with customer demands through stringent controls at PO level will enhance the image and reputation of the PO produce with both market outlets and consumers.

Concentration on the application of consistent quality controls by the PO will enable the producers to meet the quality demanded by customers. It will also

allow for improved hygiene standards and environment of packhouses above the minimum legal requirements.

Feeding back information from the quality control process to members will contribute to reducing percentages of rejected produce and thereby have the potential to increase their market returns.

Utilising appropriate testing regimes to ensure that customer requirements on pesticide residues and contaminants are met.

What is it that the PO is aiming to achieve?

- Maintain or improve upon their performance in relation to product quality.

What will happen or change as a result of the planned action?

- Facilitating the placing on the market of members' products, maintenance of market share and potentially develop new opportunities.
- Ensuring that production is adjusted to demand in terms of quality, thereby maintaining customer loyalty.
- Boosting products' commercial value.
- Reduction in outgrade or substandard produce and associated reduction in customer rejections/returns.
- Optimising production costs which contributes to maintaining and potentially boosting grower returns.
- Customer satisfaction will be improved.
- Rejections by buyers will be reduced.
- Handling costs will be reduced.

What will be the impact of change?

- Improving competitiveness of the PO.
- Undertaking such actions will help improve the attractiveness of membership of the PO.

3.1.3 Boosting the commercial value of products

Enhanced commercial value of their produce will improve the viability of the PO, and therefore grower returns. Market research and analysis of customer demands will lead to the development of new product lines to expand the market for growers produce. Liaison with buyers, who will have a good knowledge of customer needs, will also be beneficial.

Higher value markets should be sought, where possible, for all grades of produce but the development or exploration of markets for second grade produce or produce that does not meet main suppliers' specifications should also be considered.

What is it that the PO is aiming to achieve?

- Develop performance in relation to product marketing.
- Price stability for grower returns.
- Improve returns for growers.

What will happen or change as a result of the planned action?

- Facilitate the placing on the market of members' products – with a view to increasing the percentage placed.
- Ensuring that production is adjusted to demand in terms of quantity and quality.
- Average value of PO produce will be increased.
- Grower returns can be maintained in face of increasing cost pressures.
- New or alternative markets found for produce that previously had no or little market. Product line will better meet market demands.

What will be the impact of change?

- Improving competitiveness of PO.
- Undertaking such actions successfully will help improve the attractiveness of membership of POs.
- Whole crop utilisation minimises waste and contributes to sustainability.

3.1.4 Promotion of the products, whether in a fresh or processed form

Increasing consumers' awareness of the benefits of increased fruit and vegetable consumption and related health benefits will stimulate consumption and increase demand for the PO's produce both on a national and local level. Establishing a PO brand identity can increase consumer demand for PO produce in the supermarkets – particularly at a local or regional level.

What is it that the PO is aiming to achieve?

- To help stimulate increased sales of fruit and vegetables –as part of wider industry and Government initiatives.

- To stimulate market opportunities and to increase consumer awareness and demand for products of the PO or its sector.

What will happen or change as a result of the planned action?

- Promotion of produce and of the PO, and a resultant increase in sales of PO product – for example via in-store promotions or food fairs.
- Increased promotion/awareness of the benefits of eating fruit and vegetables, and that eating such produce can contribute to a healthy diet and count towards consumers' 5-a-day.
- The balance of demand for different PO products could change.

What will be the impact of change?

- Increased sales – and increased returns to growers.
- The influencing of future customers.

3.1.5 Environmental measures and methods of production respecting the environment, including organic farming

*NOTE: POs **must** include at least **two** environmental actions in their operational programme or alternatively, such actions must account for at least **10%** of the operational funds for a PO. (See Environmental Framework for further details)*

This will build public trust in quality, safe production that does not damage the environment. Increased production will be decoupled from increased waste production and the environmental impact will be minimised. POs can encourage growers to produce fruit and vegetables as efficiently as possible whilst minimising their impact on the environment.

What is it that the PO is aiming to achieve?

- A reduction in the negative impacts on the environment.

What will happen or change as a result of the planned action?

- Contributing to maintenance and protection of the environment, particularly the local one, emphasising the following:
    - Soil protection.
    - Maintenance or improvement of water quality.
    - Sustainable use of water resources.
    - Protection of habitats & biodiversity.
    - Conservation of landscape.
    - Climate change mitigation.
    - Waste reduction.
    - Energy use.
    - Food miles.

What will be the impact of change?

- Maintaining and protecting the environment in relation to the following elements:
    - Soil.
    - Water.
    - Habitats & biodiversity.

- Landscapes.
- Climate change mitigation.
- Air quality.
- Waste reduction.

3.1.6 Crisis prevention and management.

Actions to address crises or prevention of crises occurring within the sector may be necessary, by the PO insuring the crops against loss through extreme weather or insurance of a crop for the growers to be guaranteed a minimum price, and/or creation of mutual funds within the PO. Also training and/or short term promotional activity to deal with unexpected natural crop surpluses. (However, this does not cover surpluses caused by supplier withdrawal).

What is it that the PO is aiming to achieve?

- Crisis prevention or management.
- Avoidance or minimisation of negative impacts on the incomes of its members.
- Continued ability of the PO to meet its customer demands.
- Maintenance of the PO's viability.

What will happen or change as a result of the planned action?

- Stabilising producer prices.
- Reducing fluctuations in producers' income.
- Staff will be trained in actions to manage crises.
- Harvest insurance policies will be taken out. Mutual funds will be set up to protect member incomes.
- Measures will be adopted to predict fluctuations in demand or price.

What will be the impact of change?

- Improving competitiveness.
- Measures adopted will help improve attractiveness of membership of PO.

Section 3.2: Specific information required for types of action

Please see Annex 1 for the details of the following sections:

- Section 3.2.1: **Actions aimed at planning production** (*including Sections "3.2.1.1: Acquisition of fixed assets" and "3.2.1.2: Other actions"*).

- Section 3.2.2: **Actions aimed at improving or maintaining product quality** (non exhaustive) (*including Sections "3.2.2.1: Acquisition of fixed assets" and "3.2.2.2: Other actions")*.

- Section 3.2.3: **Actions aimed at improving marketing** (non exhaustive list) (*including Sections "3.2.3.1: Acquisition of fixed assets" and "3.2.3.2: Other actions"*).

- Section 3.2.4: **Research and experimental production** (Non exhaustive list) (*including Sections "3.2.4.1: Acquisition of fixed assets" and "3.2.4.2: Other actions"*)

- Section 3.2.5: **Training types of action** (other than in relation to crisis prevention) and actions aimed at promoting access to advisory services (non exhaustive).

- Section 3.2.6 Crisis prevention and management measures.

- Sections 3.2.8: Other types of actions (non exhaustive list) (*including Sections "3.2.8.1: Acquisition of fixed assets" and "3.2.8.2: Other actions"*).

Please see the National Environmental Framework (Annex 2) for details of the following section:

- Section 3.2.7: **Environmental types of action** (non-exhaustive list) (*including Sections "3.2.7.1: Acquisition of fixed assets" and "3.2.7.2. Other types of action"*)

SECTION 4: DESIGNATION OF COMPETENT AUTHORITIES AND BODIES RESPONSIBLE

The Department for Environment, Food and Rural Affairs (Defra) has overall responsibility for the management, monitoring and evaluation of the National Strategy itself and any review required under EU legislation. This will be undertaken in conjunction with the Rural Payments Agency (RPA); the Scottish Government; Northern Ireland's Department for Agriculture, Environment and Rural Affairs; and the Welsh Government.

Separate to the above, the RPA, in conjunction with Defra and the above mentioned devolved administrations, will be responsible for the management, monitoring and evaluation of operational programmes as required by the National Strategy.

SECTION 5: DESCRIPTION OF THE MONITORING AND EVALUATION SYSTEMS

General. Operational programmes will be considered from recognised producer organisations fulfilling recognition criteria.

Programmes will be approved only on condition that the Producer Organisation provides a statement of the initial situation, the objectives of their programme, and the performance indicators for each action implemented as listed in Section 3/Annex 1 of this Strategy; and undertakes to provide a measurement of the results realised to date each year in its Annual Report.

Each PO must report annually on the implementation of its operational programme. The report on each action must include a measurement of the progress achieved to date for the prescribed indicators for each action. The circumstances responsible for failure to achieve the target set or for exceeding the target should also be provided.

The overall performance of the PO will also be assessed by analysis of the annual accounts.

Section: 5.1: Assessment of the operational programmes and reporting obligations for producer organisations

The effectiveness of operational programmes will be monitored through the information provided in the Annual reports, having regards to:

- the changes in total value of production marketed
- the overall unit value changes (for each crop with 5% or more of the total UK value of marketed production (VMP).
- the % of value added to produce passing through POs
- the percentages of programmes that achieve their stated objectives
- the changes in recognition and membership patterns
- the changes in PO market share
- the effects on the environment

In addition to the annual reporting requirements there is an on-going requirement that each PO monitors and evaluates its own operational programme. Part of this regulatory process requires that POs must carry out an evaluation during the penultimate year of the operational programme (year two of a three year programme, or year four of a five year programme). Article 57 of Regulation (EU) 2017/891 refers. The annual report in the penultimate year of the operational programme must show the extent to which the objectives pursued by the PO have been achieved. It must also mention factors which have contributed to the success or failure of the implementation of the operational programme, and the way those factors were taken into

account in the current operational programme, or will be taken into account in the next operational programme.

Where relevant, this evaluation must include a qualitative assessment of the results and the impact of the environmental actions aimed at:

- the prevention of soil erosion.
- a reduction in the use of or better management of plant protection products.
- the protection of habitats and biodiversity.
- landscape conservation.

The results of the evaluation should be used to:

- improve the quality of the operational programme;
- identify any need for substantive change in the operational programme;
- draw lessons useful in improving future operational programmes.

The evaluation report must be attached to the annual report.

Section 5.2: Monitoring and evaluation of the National Strategy

Monitoring and evaluation of the National Strategy itself will be carried out by Defra in conjunction with the Rural Payments Agency and the devolved administrations.

Any formal amendment of this Strategy (other than that relating to the Environmental Framework) will be taken in the form of written correspondence between Defra and the RPA & the Devolved Administrations mentioned in Section 4. Stakeholders and the European Commission will be informed of the amendment at the same time. However, in line with Article 28 of Regulation 2017/891, any formal amendment of the Environmental Framework will be taken in the form of a written communication to the European Commission and in line with the conditions set out in the second paragraph of Article 36 of Regulation (EU) No. 1308/2013. Correspondence will be copied to RPA and the Devolved administrations. Stakeholders will be informed at the same time.

A report on the effectiveness of this National Strategy shall be undertaken during 2020.

SECTION 6: MISCELLANEOUS PROVISIONS

CONDITIONS APPLYING TO PROGRAMME MEASURES AND ACTIONS

Maximum percentage levels of the fund which may be spent on any individual measures and/or type of action and/or expenditure.

Article 27 of Regulation (EU) 2017/891 requires each Member State to set out, in its National Strategy, maximum percentages of the operational fund which may be spent on any individual measure or type of action in order to ensure a balance between different measures in any individual programme. **In this regard, no more than 60% of the fund can be spent on a measure per year of the programme and no more than 40% of the fund can be spent on any individual action per year of the programme.** However, there are exemptions to these two limits:

- Expenditure on research and development is limited to 30% of the Operational Fund, provided it is not spent on production.
- No more than one third of the programme fund can be spent on actions relating to crisis prevention and management.
- These limits may be extended for major capital investments where there is clear evidence of collaborative or collective value to the PO and its members (for example, pea viners, packhouses, storage facilities), and for significant environmental actions.

Retention periods for assets

In accordance with Article 31(5)(b) of Regulation (EU) No. 2017/891, assets must remain in the property and possession of the PO until either the end of the fiscal depreciation period of the asset, or the end of the retention period determined by the PO, whichever is shorter. In the UK, the retention period is five years.

Marketing of Production outside the PO

Article 12 of Regulation (EU) No. 2017/891 states that a Producer Organisation may allow its producer members to:

- Sell products directly or outside their holdings to consumers for their personal needs;
- Market by themselves or through another producer organisation designated by their own organisation quantities of products which are marginal in relation to the volume of marketable production of their organisation of the products concerned;

- Market by themselves or through another producer organisation designated by their own organisation, products which because of their characteristics are not normally covered by the commercial activities of the producer organisation concerned.

For the purposes of Article 12 of Regulation (EU) No. 2017/891, Producer Organisations may allow their producer members to market up to **25%** of their production outside the PO, calculated by volume.

Amendments to operational programmes

Article 34 of Regulation (EU) No. 2017/891 allows POs to increase their operational fund for the total programme up to a maximum of 25% or to decrease it by a percentage to be fixed by Member States, provided that the overall objectives of the operational fund are maintained. For the purposes of Article 34, Producer Organisations in the UK may also decrease the amount of the operational fund by a maximum of 25%.

Crisis prevention and management

Article 33(3) of Regulation (EU) No. 1308/2013 lays down various actions that can be covered by crisis prevention and management measures. Furthermore, Article 37 of Regulation (EU) No. 2017/891 allows for Member States to decide which of these measures should apply in its own country. In the UK, we have decided to allow POs to include actions relating to:

- promotion and communication.
- training measures;
- harvest insurance;
- support for the administrative costs of setting up mutual funds and financial contributions to replenish mutual funds.

However, we will not allow actions related to market withdrawal, and green- or non- harvesting of fruit and vegetables.

3.2 Actions that may be included in operational programmes

The following section identifies specific actions and a non-exhaustive list of actions.

This list of actions is non-exhaustive. Detailed proposals from POs for other actions to further their programme objectives will be considered favourably by the Rural Payments Agency.

3.2.1 Planning of production in relation to demand in terms of product quantity

Planning, both long term and ongoing, to ensure that all production of all members is marketed and that the market outlets can be serviced with the quantities and qualities required. Progress will be measured by comparing the quantity and value of product that gets placed on the market at the end of the programme with the situation at the start of the programme.

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
3.2.1.1. – Acquisition of fixed assets				
Investments in computers, data loggers and specific computer software, centrally and/or on individual holdings; aimed at controlling or recording the crop production environment. Investments in new areas of trees, bushes and canes to meet increased product demand,	The UK will not fund investments in strawberry planting. However, consideration may be given to actions for research and development with a view to introducing changes in variety profile or increased cropping. The PO must be able to demonstrate this enhances the market position.	Number of holdings participating in the actions Number of actions undertaken Total value of investments (£)	Change in volume of marketed production (Tonnes)	Estimated change in value of marketed production (£) Change in the total number of F&V producers who are active members (4) of the PO/APO concerned (number) Change in the total area under F&V production cropped by members of the PO/APO

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
including new varieties or new rootstocks. Machines for specialist production/harvesting/packaging etc activities and increased labour efficiencies (for example – planting and harvesting/vining rigs, pea tanks, irrigation equipment, grading weighing and packaging equipment for especially where this will help reduce labour requirements). Equipment for soil remediation (e.g. subsoilers) Modern growing systems and associated equipment such as polytunnels, table tops, hydroponic systems. Crop covers and associated winding gear. Use of mechanical methods of weed control. Crop specific sprayers, improved nozzles, and computerised application mapping systems.				concerned (Ha)

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
Crop specific fertiliser application systems to allow precision placement of nutrients. Glasshouse technologies to extend the UK cropping season for example measures such as thermal screens; heating system improvements; new energy sources and CO2 technology, and associated electronic controls. Investments in hail and frost protection systems. Investments in new planting techniques e.g. rootstocks, bedmaking equipment. Investments in ancillary crop specific machinery to maintain the freshness and quality of the crop.				
3.2.1.2. – other actions				
Pre-harvest crop analysis to ensure the member's crops are harvested correctly to meet		Number of holdings participating in the actions	Change in value of total marketed production (£/Kg)	Estimated change in value of marketed production (£)

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
customer specifications. Checks on the release of crops from storage to ensure the controlled release of produce according to the best keeping qualities. Balancing supply to demand to maximise gains from seasonal variations in price. (For example use of ERP computerised systems) Development of complete computer database systems from production through to sale, for tracking produce and recording inputs on the crops. Staff costs for the management and coordination of planting schedules, pre harvest crop assessments, and supervising the harvest process to meet customer requirements. Specific computer programming costs and initial licence fees. Cost of training in the use of computerised systems for PO employees or members and their staff.		Number of actions undertaken		Change in the total number of F&V producers who are active members (4) of the PO/APO concerned (number) Change in the total area under F&V production cropped by members of the PO/APO concerned (Ha)

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
Direct staff costs for staff to co-ordinate production planning, pre harvest monitoring, and post harvest storage and demand. Direct staff costs to monitor the quality of produce entering the PO domain, and to monitor the quality of produce leaving the PO domain.				

3.2.2. Improving or maintaining product quality

Implement quality assurance checks to meet the demands of the market and reduce the level of rejected product. Progress will be measured by comparing the volume of the marketed production that meets the requirements of specific quality assurance schemes at the end of the programme with the situation at the start of the programme.

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
3.2.2.1 – Acquisition of fixed assets				
Investments in grading and handling equipment to aid product presentation. Investigations and investment into new packaging Improvements in post harvest crop storage. Investments in collaborative packhouses, handling facilities and market preparation facilities, centrally or at the discretion of the RPA on members holdings where of clear benefit to the whole PO. Investments in produce chilling facilities centrally or at the		Number of holdings participating in the actions Number of actions undertaken Total value of investments (£)	Change in volume of marketed production that meets the requirements of a specific "quality scheme" (Tonnes)	Estimated change in value of marketed production (£) Change in the total number of F&V producers who are active members (5) of the PO/APO concerned (number) Change in the total area under F&V production cropped by members of the PO/APO concerned (Ha)

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
discretion of the RPA on individual holdings where of clear benefit to the whole PO. Agency. Investments in collective cold stores and controlled atmosphere facilities. Investments in improved storage boxes and transport boxes. Investments in in-house laboratory facilities & equipment. Investments in field packing Investments in field cooling On the lorry investments in improving shelf life. Development in new crop stores, to improve shelf life and quality of crops and minimise crop residues. Also to buffer peaks and troughs of production. Investments in improving the insulation of existing cold stores.	POs are advised to discuss with RPA before submitting such applications POs are advised to discuss with RPA before submitting such applications			

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
Investments in improving refrigeration units and running programs Improvements in grading equipment and facilities. Hail and frost protection measures and other crop protection structures (e.g. cherry covers)				
3.2.2.2 – other actions				
Independent audits of the PO control systems will help validate the QA process. Shelf life testing of the products. Sampling and analysis of produce for residues of plant protection products, heavy metals, bacterial and other contaminants. Sampling and analysis of water quality; either during production or cleaning of the crop.		Number of holdings participating in the actions Number of actions undertaken	Change in value of total marketed production (£/Kg) Estimated impact on production costs (£/Kg)	Estimated change in value of marketed production (£) Change in the total number of F&V producers who are active members (5) of the PO/APO concerned (number) Change in the total area under F&V production cropped by members of the PO/APO concerned (Ha)

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
Expenditure on microbiology and residue testing Developing low input/organic product lines Use of natural pollinators Biological control techniques to replace/reduce pesticide usage. Pheromone trapping to predict pest risk. Pre planting soil tests to determine nutrients and disease levels Staff costs to monitor crop growth and advise on treatment thresholds in line with crop management protocols. Staff costs to monitor and advise on the quality and specification of produce being delivered to the PO. Personnel costs to check the quality and specification of prepared produce being delivered by the PO				

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator

3.2.3 Improving marketing

Specific marketing of the PO product to increase market share, promote new product lines, negotiate best prices, maximise producer returns, promote PO brands. Progress will be measured by comparing volume of production marketed and average unit value at the end of the programme with the situation at the start of the programme

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
3.2.3.1. – acquisition of fixed assets				
Machines for cutting, trimming, slicing, and multipacking produce to improve its appearance. Investments in pack presentation/ pack size equipment. Investments to improve the uniformity of produce. (for example, optical graders). Investments in improved produce weighing systems to reduce product "give away". Investments in building facilities which enhance the PO's position in the market place.		Number of holdings participating in the actions Number of actions undertaken Total value of investments (£)	Change in volume of marketed production (Tonnes)	Estimated change in value of marketed production (£) Change in the total number of F&V producers who are active members (5) of the PO/APO concerned (number) Change in the total area under F&V production cropped by members of the PO/APO concerned (Ha)

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
Market research, including production patterns, market dynamics and consumption trends. Investment in grading and packing equipment concentrating on innovative and value added products to meet consumer demands. Development and maintenance of PO websites. New trees and bushes to supply customer preferred varieties.				

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
3.2.3.2 – other types of action including promotion and communication activities other than in relation to crisis prevention and management				
Promotion and communication including in store promotions where this actively promotes the interest of the PO. Promotion and communication in conjunction with supermarkets but limited in number, providing the product is identified as PO produce.	Excluded items are costs for alcoholic beverages, bar bills, and event sponsorship. Excluded are supermarket promotions such as “Buy one get one free”	Number of holdings participating in the actions Number of actions undertaken	Change in value of total marketed production (£/Kg)	Estimated change in value of marketed production (£) Change in the total number of F&V producers who are active members (5) of the PO/APO concerned (number)

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
Investment specifically aimed at improved marketing of organically grown fruit and vegetables Development of PO brands:- -Membership of crop societies (e.g. PVGA) -Cost of branding consultants -Cost of registering trademarks -Media campaigns -Promotional literature -In-store tasting Advertorial and recipes Expenses incurred in PO activities at farmers markets, food fairs and trade shows (market fees, stalls, key staff costs, stall signs and promotional literature, tasting). Product differentiation and development of premium/discount lines to exploit market niches Development of integrated database systems to coordinate supply, marketing, and sales.				Change in the total area under F&V production cropped by members of the PO/APO concerned (Ha)

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
Procuring new suppliers for the PO in order to extend the PO supply season to customers from seasonal to all year round, in order to take advantage of category management. Employing key marketing staff to develop direct sales Development of sales for out of spec products to the processing sector for juicing, peeling, processing Rebranding and promotion of the PO to build up customer awareness. Promotion of PO brand on PO sites and facilities Assurance of crop production protocols, grading facilities, traceability, ethical staff treatment, as necessary to exceed the customer's requirements.				

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
Fees for market information, and consumer buying habits. Generic crop promotions Benchmarking growers operational performance via environmental assessments.				

3.2.4 **Research and experimental production**

Clearly defined research or experimental projects with time limited objectives, such as an appraisal of diversification into new product lines, or the introduction of new crops or new varieties of crop or method of cropping.

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
3.2.4.1. – Acquisition of fixed assets				
The duly justified cost of input where a trial is clearly being undertaken. Equipment to grow and record at a plot level	Excluded items: (a) Levies to statutory bodies that undertake R&D (b) Support to plant breeding operations – see Scheme guidance leaflet (c) Subsidising production costs. Expenditure on R&D will be limited to 30% of the programme	Number of holdings participating in the actions Number of actions undertaken Total value of investments (£)	Number of new techniques, processes and/or products adopted since the beginning of the operational programme	Estimated change in value of marketed production (£) Change in the total number of F&V producers who are active members (6) of the PO/APO concerned (number) Change in the total area under F&V production cropped by members of the PO/APO concerned (Ha)

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
3.2.4.2. – other types of action				
Additional staff costs to make crop observations, analyse and present results to the members. Market research for the new product. Cost of membership of non-statutory research bodies producing near market research and development results. Taste panels and analysis of consumer reactions. PO in house trials. Support to non-statutory, near market industry R&D projects sponsored by the PO. Levies for crop groups (e.g. PGRO) to support industry led R&D		Number of holdings participating in the actions Number of actions undertaken Number of hectares concerned	Number of new techniques, processes and/or products adopted since the beginning of the operational programme	Estimated change in value of marketed production (£) Change in the total number of F&V producers who are active members (6) of the PO/APO concerned (number) Change in the total area under F&V production cropped by members of the PO/APO concerned (Ha)

55

3.2.5 Training and provision of advisory services

Progress will be measured by the number of people who completed a training activity and the number of holdings using the advisory service

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
Actions related to training (other than in relation to crisis prevention and management) and actions aimed at promoting access to advisory services				
Equipping of dedicated training facilities for PO members (furnishings, audio-visual presentation equipment, demonstration units). Training courses for members and their production staff on quality assurance, management of plant protection products, harvesting methods, production planning and risk management, IT skills needed for the implementation of operational programme actions or for administration of the operational programme. Provision of advisory and consultancy services and technical advice to members and the PO on -Optimising inputs	Restrictions may be placed on non member usage of equipment. Training for staff of third party marketing companies is not eligible for inclusion in the programme. Individual growers providing a service only for their own business will be ineligible Statutory requirements – e.g. Health & Safety will be ineligible.	Number of actions undertaken Number of days of training received by participants	Number of people who completed the full training activity/programme Number of holdings that use advisory services	Estimated change in value of marketed production (£) Change in the total number of F&V producers who are active members (4) of the PO/APO concerned (number) Change in the total area under F&V production cropped by members of the PO/APO concerned (Ha)

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
-Plant health issues -Food safety and hygiene issues -Preparing for certification under quality assurance schemes -Harvesting -Environmental issues such as irrigation, heating, use of fertilisers and plant protection products -Labour profiling and harvest/packhouse management. -Services to advise on transport logistics, energy use, staff management. -Integrated crop production methods and organic production systems -Gross margin analysis, benchmarking, enterprise fixed cost analysis Training in issues relevant to the development of the PO				

3.2.6 Crisis prevention and management measures

Crisis prevention and management measures shall not comprise more than one-third of the expenditure under the operational programme, however the programme itself must be balanced.

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
Promotion and communication campaigns to deal with sudden crop gluts Training including measures to meet sudden changes in product specification/markets Harvest insurance (including consequential insurance) against loss as a result of climatic events which can be assimilated to natural disasters, losses caused by adverse climatic events or caused by animal or plant diseases, or pest infestations. Support for the administrative cost of setting up mutual funds and financial contributions to replenish mutual funds	Loss of key personnel, changes in specifications from supermarkets or price reductions for products do not constitute a crisis. Policy must be controlled by PO For protected produce the consequential insurance is eligible but the associated insurance relating to the insurance of buildings/structures and or facilities (e.g. heating supply) against damage by adverse climatic events or natural disasters is not eligible	Number of actions undertaken	Total volume of production subject to withdrawal (Tonnes) Total area concerned by green harvesting or non-harvesting (Ha) Estimated change in volume of marketed production for products subject to the promotion/communication activities (tonnes) Number of people who completed the full training activity/programme Total value of the insured risk (£) Total value of the mutual fund set up (£)	Estimated change in value of marketed production (£) Change in the total number of F&V producers who are active members (6) of the PO/APO concerned (number) Change in the total area under F&V production cropped by members of the PO/APO concerned (Ha)

59

3.2.7 Environmental actions

Actions by producer organisations should complement and be consistent with the community's environmental priorities in the following areas: **Operational programmes must include two or more environmental actions**.

A programme with just one action will be accepted if the measure uses at least 10% of the expenditure of the programme.

Where at least 80% of the members are subject to one or more identical agri-environment commitments (see Environmental Framework) then each action will count.

Exceptionally, consideration will be given to the eligibility of certain components of major capital investments where that component has a clear, identifiable and measurable environmental impact or benefit.

Action	Eligibility conditions including Exclusions/Restrictions	Output indicator	Result Indicator	Impact Indicator
3.2.7.1 – Acquisition of fixed assets SEE ENVIRONMENTAL FRAMEWORK				

3.2.8 Other actions

The above list of actions is not exhaustive. Other actions may be funded where there is clearly a link to the actions and measures permitted under the Fruit and Vegetables Aid Scheme. This includes actions which enhance the status or governance of the Producer Organisation. POs should contact their complex case worker at the RPA if they consider that something which is not included in the above list of actions should be funded under the PO scheme.

3.2.9 Administration of the operational programme

POs can claim administration costs at the flat rate of 2% of the expenditure incurred. Funding will be payable up to a limit of 1% of the Operational Programme or €90,000 whichever is lower.

Annex 2

NATIONAL FRAMEWORK FOR ENVIRONMENTAL ACTIONS

National Strategy for Operational Programmes of Producer Organisations in the United Kingdom

National Framework for Environmental Actions

INTRODUCTION

This Environmental Framework is intended to apply from 2018 until such time as the United Kingdom leaves the European Union and after the date of exit until such time as notice is given that it no longer applies.

The framework may be amended (if circumstances make it appropriate to do so) at annual intervals, with any amendment to the framework being submitted to the Commission for approval, where appropriate. The timetable applying to any such proposed amendment will be such as to allow any further modification that the Commission might require to be incorporated into the framework in advance of the deadline for the submission each year of applications for new operational programmes or amendments to existing programmes.

As required by Article 33(5) of Regulation (EU) No. 1308/2013, Operational Programmes approved under the Fruit and Vegetables Aid Scheme (PO Scheme) must include two or more environmental actions, or at least 10% of the expenditure under the operational programme must cover environmental actions.

This National Framework draws up the general conditions relating to such environmental actions, explaining in more detail what the legislative background is, and the links with the Rural Development Regulation (Regulation (EU) No. 1305/2013). It is intended to give guidance to POs on the broad categories of environmental actions that comprise the framework so far as the United Kingdom is concerned, as well as providing a non-exhaustive list of detailed actions that might be included in operational programmes.

The National Framework applies to the United Kingdom as a whole, but reference is made in paragraphs 4 and 5 to differing considerations which apply in England, Scotland, Wales and Northern Ireland respectively as a

result of differences in relevant legislative provisions, notably as regards rural development programmes.

Linkage with rural development

Actions under this framework shall be complementary, consistent and in conformity with the following programmes approved under Regulation (EU) No. 1305/2013:

Rural Development Programme for England 2014-2020 (approved by the European Commission on 13 February 2015)

Welsh Government Rural Communities – Rural Development Programme 2014-2020 (approved by the European Commission on 26 May 2015)

Scottish Rural Development Programme 2014-2020 (approved by the European Commission on 26 May 2015)

Northern Ireland Rural Development Programme 2014-2020 (approved by the European Commission on 25 August 2015)

The second sub-paragraph of Article 33(5) of Regulation (EU) No. 1308/2013 requires environmental actions in operational programmes to respect the requirements for agri-environment-climate payments laid down in Article 28(3) of Regulation (EU) No. 1305/2013. These requirements are:

In England:

The requirements set out in section 8.2.8.3.1 of the RDPE Programme Document 2014-2020 for Measure 10 – Agri-environment climate commitments.

In Scotland:

The requirements set out in Chapter 8, Measure 10 (and Measure 4 for related physical assets) of the Scottish Rural Development Programme 2014-2020.

In Wales:

The requirements set out in section 8.2.7.3.1 of the Welsh Government Rural Communities – Rural Development Programme 2014-2020.

In Northern Ireland:

Payments for the Environment Farming Scheme cover only those commitments going beyond the relevant mandatory standards established pursuant to Annex 2 of Regulation (EU) No 1306/2013, as well as minimum

requirements for fertiliser and plant protection product use and other relevant mandatory requirements established by national legislation. Therefore, participants must maintain all land within the schemes in Good Agricultural and Environmental Condition (GAEC). Minimum requirements for fertiliser and plant protection product use and other relevant mandatory requirements established by national legislation are set out in Annex B of the Northern Ireland Rural Development Programme (NIRDP) 2014-2020. Annex A sets out the relevant mandatory standards established pursuant to Article 2 of Regulation (EU) No 1306/2013 (the cross-compliance and GAEC baselines). These baselines and other relevant mandatory requirements will be clearly set out in the scheme documentation made available to applicants. Observing these baselines is a condition of scheme membership.

If at least 80% of the producer members of a producer organisation are subject to one or more identical agri-environment-climate commitments provided for in Article 28(3) of Regulation (EU) No. 1305/2013, then each one of those commitments will count as an environmental action in the operational programme. For the purposes of this paragraph, “agri-environment-climate commitments” means the following:

In England:

Participation in Countryside Stewardship (open since 2016) together with membership of earlier schemes that are now closed to new applicants: the Entry Level Stewardship scheme; Organic Entry Level Stewardship scheme (but not the Higher Level Stewardship) the old Countryside Stewardship Scheme and Environmentally Sensitive Areas schemes.

In Scotland:

Membership of the Land Management Contract Menu Scheme, Organic Aid Scheme, Countryside Premium Scheme, Environmentally Sensitive Area Schemes, Habitats Scheme, the Rural Stewardship Scheme, Rural Development Contracts Land Managers’ Options and Rural Development Contracts Rural Priorities which are no longer open to new applicants; and under the Scottish Rural Development Programme 2014-2020, membership of the Agri-Environment-Climate Scheme (AECS).

In Wales:

Membership of either Glastir Entry, Glastir Advanced or Glastir Organic schemes under Pillar 2 of the Welsh Government Rural Communities – Rural Development Programme 2014-2020.

In Northern Ireland:

Membership of the Environmental Farming Scheme under Measure 10 of the Northern Ireland Rural Development Programme 2014-2020.

Relevant legislation and other provisions (non-exhaustive list)

Cross compliance conditions, comprising

- **Statutory Management Requirements** in the areas of environmental, public and plant health legislation, as set out in Article 93 of Regulation (EU) No 1306/2013.
- Requirements under domestic (England, Wales, Scotland, Northern Ireland, United Kingdom) legislation requiring land to be held in **Good Agricultural and Environmental Condition (GAEC).**

Codes of Good Agricultural Practice in regard to Air, Water and Soil

Environmental actions included in operational programmes may include investments beneficial for the environment. They may also include other actions beneficial for the environment, which are linked to the fruit and vegetables sector, provided they contribute to soil protection, water or energy saving, improvement or maintenance of water quality, habitats or biodiversity protection, climate change mitigation and reduction or improved management of waste.

Duration of environmental actions

Normally the duration of an environmental action will be the same as the duration of the operational programme of which it forms part. However, where the operational programme includes an environmental action (other than involving investments) that is identical to an agri-environment-climate or organic farming commitment supported under a Rural Development Programme in the different parts of the United Kingdom (e.g. landscape and habitat protection or soil protection) and where the duration of the action is critical for the attainment of the expected environmental benefits, the environmental action should have the same duration as the commitment under the Rural Development Programme. Where the duration of the action exceeds the duration of the operational programme, the action should be continued in a subsequent operational programme.

In accordance with Article 36(1) of Regulation (EU) No. 2017/891, if a Producer Organisation or Association of Producer Organisations stops its operational programme before it is scheduled to end, no further payments will be made for actions implemented after the date the operational programme stops. Aid for environmental actions which are due to take place over a number of years, but are not completed because the operational programme stops early, must be recovered and reimbursed.

POs will be allowed to reduce the duration of the environmental action where it is clear that the action will not produce results which benefit the environment. In some cases, this may include stopping the action early. POs should discuss this possibility with the RPA before reducing the duration or stopping any environmental action. Failure to consult the RPA may mean that the PO is deemed to have failed to meet the environmental requirements of the scheme and aid may be reduced as a result.

Environmental actions may be undertaken at PO level or on individual holdings.

General requirements for an environmental action selected under an operational programme

Environmental actions selected under an operational programme must:

- Respect the requirements for agri-environmental payments set out in Article 28(3) of Regulation (EC) No. 1305/2013, i.e. entail commitments going beyond the relevant baseline/reference level applicable, which includes:
  - The relevant mandatory standards established pursuant to Chapter I of Title VI of Regulation (EU) No 1306/2013;
  - The relevant criteria and minimum activities as established pursuant to points (c) (ii) and (c) (iii) of Article 4(1) of Regulation (EU) No 1307/2013;
  - The minimum requirements for fertiliser and plant protection products use established by national legislation; and
  - Other relevant mandatory requirements established by national legislation;
- Conform to this National Framework.

Various environmental actions may be combined, provided they are complementary and compatible with the other environmental actions implemented under the operational programme and, where appropriate, with the agri-environmental-climate commitments supported under the relevant Rural Development Programme, implemented by the members of the Producer Organisation. Where environmental actions other than investments in physical assets are combined, the level of support shall take account of the specific income foregone and additional costs resulting from the combination.

Support for the environmental actions selected under an operational programme, which are intended to cover additional costs and income foregone resulting from actions, will be subject to modification in cases where amendments are made to the relevant level (i.e. the set of standards beyond which an environmental commitment must go).

Actions which limit the use of fertilisers, plant protection products or other inputs will be accepted only if it is possible to assess the limited use in such a way that provides assurance about compliance with those actions.

Integrated Pest Management

In accordance with Article 4 of Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides, the UK adopted the UK National Action Plan for the Sustainable Use of Pesticides (Plant Protection Products) in February 2013.

The overall objective of the National Action Plan is to ensure that pesticides are used sustainably by reducing the risks and impacts of use on human health and the environment, and encouraging the development and introduction of Integrated Pest Management and of alternative approaches and techniques.

The use of Integrated Pest Management will be eligible for aid only where it meets the eight general principles of Integrated Pest Management laid down in Annex III of Directive 2009/128/EC and the conditions set out in the UK's National Action Plan.

Activities which are compulsory according to UK law are not eligible for support under the EU Fruit and Vegetables Producer Organisation Scheme.

ENVIRONMENTAL NEEDS AND PRIORITIES

In revising this Environmental Framework, the UK has considered the environmental needs and priorities of each of the principal sectors of the industry. The following paragraphs give a sector-by-sector picture of the current environmental status of the fruit and vegetable industry and set out ways in which that status might be further improved, bearing in mind progress seen since the Environmental Framework was initially written in 2008.

Vining peas: environmental needs and priorities

Vining pea crops require little in the way of soil-applied fertiliser and research and development is enabling thresholds to be established for major pests, limiting the application of pesticides. Loss of actives is making weed control more difficult, but techniques such as increasing seed rate and sowing deeper in conjunction with finger weeders are having some success in controlling weeds, though volunteer potatoes are still a problem which needs to be tackled. Volunteer potatoes are a major contaminant in the harvested crop if no herbicides are available, although seed rates can be cut by using precision seeding.

Harvesting of the crop can lead to significant damage to soils if it has to proceed in unfavourable weather conditions, though efforts are being made through the latest designs of harvester, which aim to reduce or minimise this. As the crop matures rapidly, delaying harvest until field conditions improve is not a practical option.

There is an awareness of the need to promote the environmental credentials of the crop such as its carbon footprint and nitrogen-fixing ability. Carbon measurement is likely to feature in future plans as the crop has a lower-than-average carbon footprint and this should be further reduced by making pea harvesters more fuel efficient. Generally the vining peas sector have been in the vanguard on environmental and sustainability issues, with individual

members taking responsibility, encouraged by both the PO and the customer. It is usual for crop sprays to be minimised, and efforts continue to persuade growers to leave field margins uncultivated to encourage habitats and wildlife, notably providing the ideal habitat for ground nesting birds such as lapwings, yellow wagtails and skylarks.

Field vegetables: environmental needs and priorities

Research commissioned by Defra to compare the 'environmental footprint' of certain field vegetables with other horticultural crops, and with other forms of agricultural production (wheat, lamb and milk) shows that, in terms of:

- Ecological footprint
- Pesticide use
- 'global warming potential'
- Eutrophication/acidification potential
- Water and labour use

field vegetables (carrot, cauliflower and onion were studied) rated quite low for impact. This is in part due to the attributes of the production systems employed, but also reflects the part played by Good Agricultural Practice codes, accreditation schemes and the demands of the market. Nevertheless the demands to improve environmental performance continue to increase both as a result of legislation and consumer preferences. Minimising soil structure degradation will assume greater importance in the context of sustainability.

The majority of field vegetable businesses are accredited to at least one quality scheme, such as Assured Produce, and often several such schemes. In general these require the adoption of practices which go beyond compliance with legislation and require businesses to demonstrate that this has been done through self- and independent audits. Accredited businesses should have policies in place covering environmental aspects of production, which will be subject to regular review. Indeed many leading producer groups actively promote their environmental credentials and take an active part in schemes such as LEAF or 'Operation Bumble Bee'. The major environmental concerns for field vegetable producers are the use of water and energy, including transport.

Water plays a crucial role in the sustainable cropping of many vegetable growing enterprises; often associated with this are enhanced natural habitat areas, for example around reservoirs. The Water Framework Directive and climate change are major drivers likely to affect future investment. Water

abstraction and its management in terms of efficacy of application represent a major challenge for the vegetable growers as the majority of water use in vegetable crops is during the summer, when there may potentially be a shortage in supply. If, as a result of climate change, summers are to be longer and drier, then water shortages and/or the increasing cost of water may start having a significant environmental impact.

Longer and drier growing seasons could result in greater amounts of water being required (for example, irrigation is now sometimes required in March and October, which would have been unheard of even 5 years ago). Efforts are being made to encourage greater water resource efficiency by considering practical measures to reduce usage, adopting best practice and benchmarking irrigation systems, as well as investing in improved delivery systems. Where feasible, growers will be looking to ensure greater security of this resource. Greater attention may also need to be given to preventing soil erosion as irrigation or intense rainfall events – such as those seen in recent wetter summers - increase.

The impacts of global warming are likely to result in longer growing seasons, with the possibility of new crops or increased self-sufficiency.

Growers are also increasingly looking to invest in labour replacement activities, growing systems, robotics, and increased mechanisation, as a way to replace any reductions in skilled labour.

Energy use, including its use in transport, can have a major environmental impact from primary production though to market preparation. Energy audits are becoming a more regular feature on farms, with energy consumption an important feature for product choice or investment decisions.

The combined effect of EC legislation on pesticides and their commercial availability and efficacy, the influence of accreditation schemes and pressures from the multiples and consumers are leading to a much closer look at the use of agrochemicals. The supermarkets may have their own list of pesticides which, though officially approved, cannot be used on crops destined for them and major efforts are in place to further reduce residue levels at point of sale. This may require different pest and disease control strategies to be adopted. On occasion, this can lead to trade-offs, for example reducing use of herbicides may mean more mechanical cultivations with increased energy use. Furthermore, with increased concern over food waste and its impact on overall food supply and security, a balance will need to be struck between reducing the use of crop protection products and minimising waste due to in field losses. Precision farming will have a role to play in reducing the use of all input applications.

Many vegetable growers have been keen to subscribe to environmental improvement schemes, not only with tree and hedge planting, but with other measures to increase bio-diversity. Moreover, an increasing number of businesses are looking for ways to reduce their overall impact on the environment, by auditing all parts of the supply chain. This will impact on primary producer's policies for energy use, water and waste.

Soft fruit: environmental needs and priorities

The majority of UK soft fruit production is now in substrate, with many growers planning to move to 100% substrate systems. This negates the need for soil sterilisation and increases production. Higher yielding varieties and better management of trickle irrigation systems has significantly reduced the volume of water and of nutrients required per tonne of fruit. Some growers are using more drippers per bag or pot to better target plant roots and further reduce inputs.

As cropping sites become more permanent, increasingly POs are investing in stronger tunnels with automatic venting systems. This reduces labour inputs and increases yields through optimising growing conditions.

Virtually all soft fruit production is under poly-tunnels or glass. In these more controlled environments, most growers are using IPM (Integrated Pest Management) involving the introduction of biological control agents and only using predator friendly, target specific pesticides when thresholds are exceeded. Customers are increasingly requesting residue free products, resulting in growers applying fewer sprays and observing longer harvest intervals.

Adequate water supplies are an essential requirement for crops grown under temporary covers and although they may be drawn from a number of sources, volumes can be marginal at times of shortage e.g. when river, borehole or mains supplies can be restricted; this varies widely across the regions. Growers are increasingly putting in reservoirs for winter storage to mitigate summer shortfalls. As well as reducing the need for abstraction from rivers, streams and other natural sources, installation of reservoirs can also provide scope for wildlife habitats and an increase in biodiversity.

Increasingly, mulches used over beds to help suppress weeds and conserve moisture are of woven construction, allowing rain water to pass through and into the soil, helping to reduce erosion. This is also widely used in the leg rows of polytunnels. Straw applied between the beds during the summer does help prevent erosion and ultimately conserves the structure of the soil. Areas under table-tops are grassed down reducing erosion potential. Whilst polythene covers are in place over tunnel hoops, high rainfall can cause soil

erosion as water is channelled between structures. Various guttering systems to collect water (and ideally recycle it) are available, but the cost is high.

Increasingly fruit farms are planting up small areas around farms with native trees, wild flower species and hedges etc., all aimed at enhancing the bio-diversity in the countryside. Such plantings are recognised as having the potential to encourage natural pest predators, helping to reduce the need for spraying and encouraging bees for crop pollination. Bee hotels have been sited around production areas to encourage solitary bees.

Short-term storage facilities are essential for today's soft fruit units, enabling harvesting to continue through the week whilst demand fluctuates and for fruit to be supplied to customers in quantity for the end of the week, when demand is greatest. Modern storage facilities have reduced energy requirements as a result of improved insulation specifications and many of the older stores are now being upgraded with improved insulation to save energy. As growers expand to satellite sites, they are installing cold storage facilities on-site to quickly start the cooling process before fruit is transported to the packhouse.

Top fruit: environmental needs and priorities

Much of the United Kingdom's tree fruit production is of relatively low environmental impact. Integrated pest and disease control, the use of grass in the orchards to reduce soil erosion, band application of fertilisers to meet crop needs and the encouragement of bio-diversity around orchards in the windbreaks and hedges are all measures which take into account the needs of the environment.

Much effort has been put into the modification of spray programmes to reduce crop residues. Increasingly, pesticides are only applied when problems reach a threshold and many of those now available are, to a great extent, much more specific for controlling their target. Envirocans and RIMPro modelling (real time information and forecast of pest and disease development) have also helped reduce the use of chemicals. An increasing number of sprays used are derived from natural products, which have very low toxicity levels or residues. Post-harvest treatments are usually only applied on the basis of a risk-assessment.

Whilst new orchards are now fitted with irrigation, much of the water is from "on farm sources", being stored in reservoirs from winter rain, utilising water which would otherwise be discharged through streams and rivers to the sea. Reservoirs provide an environment for wildlife and, in some cases, leisure facilities in the form of fishing, giving additional farm income. Moreover, most orchards use mulches to help conserve moisture, particularly for young trees to aid establishment and also to help reduce the amount of irrigation required.

The mulch, which is often straw or increasingly composted green waste, helps to reduce soil erosion.

Increasingly fruit farms are planting native trees in small areas around farms, installing bird boxes and undertaking other measures, all aimed at enhancing biodiversity on the farm.

The use of mow and spray orchard systems is helping to reduce fuel usage and the increasing average size of production units helps to improve efficiency of transportation of fruit to the various markets. Larger units are able to supply larger quantities of fruit to a single buyer, requiring less transport movements. Moreover, fruit has in the past been stored in facilities of variable age and performance, whereas modern storage facilities have reduced energy requirements from improved insulation. The use of Smartfesh (Ethelene inhibitor) in CA storage to delay ripening of fruit in store and extend the marketing period once out of store, has also helped to reduce fruit waste and hence increase environmental benefits.

Some growers are now using Anaerobic Digesters and biomass boilers for greener energy sources. The additional advantage of this is that the resultant digestate end product can then be recycled and spread on the land as a fertiliser, benefiting both the soil and the environment.

Protected crops: environmental needs and priorities

The most evident environmental impact in the protected crops sector is the use of energy. In addition to its use for heating, energy consumption by lighting, pumps etc is also very important. To mitigate costs and to qualify for rebate from the Climate Change Levy / Climate Change Agreement, growers have been seeking to reduce their energy use by a variety of methods, and improve the effectiveness of that which is used. New technologies, such as LED lighting, will find increased application. Measures to reduce heat and energy loss, such as thermal screens, will also reduce nuisance caused by light pollution in cases of extension of winter day-length by artificial lighting.

Across all crops in the sector, growers are seeking to reduce the amount of pesticide use. Although the number of available pesticides is reducing, the main drivers have been the desire to adopt Integrated Pest Management, to help differentiate United Kingdom producers from other suppliers to the market and to meet consumer's expressed preference. The introduction of accreditation schemes, such as Assured Produce, is also having an impact on use of pesticides. The degree of challenge posed in reducing agrochemical use varies between crops; it is likely that the future will also see new pest and disease threats arising which will need appropriate (biological or other) counter-measures.

The protected crops sector is a significant user of water. Most long-season crops are grown in systems such as rockwool, isolated from the soil. Water supply and irrigation systems are generally viewed as efficient, though there is a degree of over-watering to allow for imperfections in the circulation of the nutrient solutions. Recirculation of water and nutrients is practised by some and there may be a need for further investment by the industry in recycling and purification systems to limit water and fertilizer discharges from the nursery, with their potential for pollution. Water collection from, for example, glasshouse roofs, is becoming more widespread and has the potential to contribute significantly to a nursery's water usage. Additional water storage facilities may be necessary to facilitate this.

Mushrooms: environmental need and priorities

As a protected crop, mushroom production is a significant user of energy, but a moderate user only compared with many glasshouse crops. Compost production, however, results in potentially serious liquid and gaseous emissions, and efforts are accordingly being made to limit the environmental impact of compost run off by recycling it on site. Similarly, gaseous emissions which may give rise to pollution by noxious odours are also being tackled by aeration of the compost at all stages of production.

Spent mushroom compost is generally considered to be a waste material, and a priority need of the mushroom industry is to recognise it as a potentially valuable resource, as with farmyard manure. Pesticide usage by mushroom growers is, for a number of reasons, very low, many farms being semi-organic, with efforts being directed towards specific hygiene and exclusion measures and biological control agents.

BROAD AREAS FOR ENVIRONMENTAL ACTION

The following broad categories of measure will constitute the framework for the United Kingdom:

(1) Measures aimed at reducing fuel and energy usage

(2) Measures aimed at reducing the environmental impact of water usage

(3) Measures aimed at preventing emissions into air, water or soil

(4) Measures aimed at the re-use of crop remains and other organic residues, or at contributing to recovery of agricultural waste

(5) Measures aimed at protecting the landscape, natural habitats and biodiversity

(6) Measures aimed at preventing soil erosion and promoting conservation of soils

POs should provide evidence of the expected positive contribution of the environmental action to the measures set out above when they submit their operational programme or amendment to such a programme. The RPA may require evidence to be provided in the form of project specifications attested by an independent qualified body or expert in the environmental field concerned.

In the case of environmental actions which aim to achieve a reduction in the current use of production inputs, emission of pollutants or waste from the production process, investments must be expected to provide for a reduction of **at least 15%**, calculated over the fiscal depreciation period of the investment, compared to the pre-existing situation of:

- The use of production inputs that are non-renewable natural resources, such as water or fossil fuel, or possible source of environmental pollution, such as fertilisers, plant protection products or certain types of energy sources;
- The emission of air, soil or water pollutants from the production process; or
- The production of waste, including waste-water, from the production process.

In order for these measures to be eligible for support, the PO must provide, at the time of submitting its proposal for an operational programme or an amendment to such a programme, an independently attested statement of the reductions expected to be made in energy/fuel or water usage, in emissions into air, water or soil, or in the production of waste as a result of the investment(s) made in the course of the action concerned.

Where such an attestation is provided, there will be no requirement for a PO to prove that the investment has actually resulted in the reduction expected. In this case, the PO will not be subject to administrative and on-the-spot checks by the competent authorities on the actual attainment of the expected reduction in fuel/energy usage, water usage or emissions into air, water and soil, of the production of waste resulting from the investment(s) made. All other administrative and on-the-spot checks by the competent authorities will take place as normal.

As an alternative, investments that are expected to provide for a reduction in environmental impacts of **at least 7%**, calculated over the fiscal depreciation period of the investment, compared to the pre-existing situation of:

- The use of production inputs that are non-renewable natural resources, such as water or fossil fuel, or possible source of environmental pollution, such as fertilisers, plant protection products or certain types of energy sources;
- The emission of air, soil or water pollutants from the production process; or

- The production of waste, including waste-water, from the production process

will be allowed, provided that the investments allow for at least one additional environmental benefit.

Investments which aim to replace the use of fossil energy sources with renewable energy sources will be accepted, provided the amount of energy generated does not exceed the amount that was used on actions related to fruit and vegetables, on an annual basis, prior to the implementation of the action, by the producer organisation, association of producer organisations, subsidiary or the members of the producer organisation benefitting from the investment.

Investments which aim to reduce the environmental risks linked to the use of certain production inputs, including plant protection products or fertilisers, or to improve the environment, will be accepted provided they contribute to soil protection, water or energy saving, improvement or maintenance of water quality, habitats or biodiversity protection, climate change mitigation, and reduction or improved management of waste, even where their contribution to the environment is not quantifiable.

Investments which aim to reduce the amount of water used will only be accepted where:

- They provide for a reduction of at least 5% in water use in drip irrigation or similar systems, compared to the water usage prior to the investment; and
- They do not result in a net increase in the area under irrigation, unless the total water consumption for irrigation of the whole farm, including the increased area, does not exceed the average water consumption of the previous five years prior to the investment.

POs will be expected to provide evidence of their current water usage and expected water usage under the new drip irrigation or similar system and the method that has been used in this calculation. They will also be expected to provide evidence of the area under irrigation.

Detailed list of actions

Under each of the measures referred to above, the following non-exhaustive list of environmental actions could be considered. Producer Organisations must include at least two of these actions in the operational programme or these actions must account for at least 10% of the operational funds of a Producer Organisation. These actions may be considered eligible for financing only if they go beyond the relevant baseline/reference level applicable. In connection with each proposed environmental action, a PO

must indicate whether the expenditure under each detailed commitment that it undertakes to fulfil falls into the category of purchasing a fixed asset, renting/leasing a fixed asset, or other forms of expenditure. In cases where a PO makes commitments concerned with training, advice or technical assistance in support of environmental actions, it may choose to group these commitments together under a single heading when it draws up its operational programme.

1.	**Measures aimed at reducing fuel and energy usage**				
	Justification: Reduce emissions of CO2 and other greenhouse gases				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
1.1.	Review the logistics of product collection and distribution to minimise total carbon usage, where complementary to other environmental actions under the category of measures 1;	- Use of additional (internal or external) qualified personnel for an energy audit of the logistics of product collection and distribution, with the view to identifying possible areas for improvement and defining relevant environmental actions to be undertaken (*) (*) For eligibility for support, the requirements indicated in paragraph 49 are applicable	Personnel costs related to additional (internal or external) qualified personnel used for the review	Energy usage	Change in Litres fuel/tonne produce
1.2.	Acquisition of equipment for the monitoring and control of energy consumption, where complementary to other environmental actions under the category of measures 1;	- Purchase of the equipment for the monitoring and control of energy consumption - Use of the equipment as intended	Expenditure related to the investment made on the equipment		
1.3.	Replacement of existing heating installations not covered in action	- Purchase of a new heating installation in replacement of an existing one;	Expenditure related to the investment made on the new		

1.	**Measures aimed at reducing fuel and energy usage**				
	Justification: Reduce emissions of CO2 and other greenhouse gases				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
	1.2	- Use of the new heating installation as intended;	installation		
1.4.	Monitor and control energy consumption in intensive production areas (heated glass), where complementary to other environmental actions under the category of measures 1	- Purchase of equipment for the monitoring and control of energy consumption; - Use of the equipment as intended.	Expenditure related to the investment made on the equipment	Energy usage; installation of computer controls; installation of thermal screens	Kwh/tonne produce
1.5.	Improve thermal insulation in stores;	- Improvement of the thermal insulation in stores;	Expenditure related to the investment made on the improvement of thermal insulation	Fuel usage	Improvement in running costs per tonne produce harvested, stored or chilled
1.6.	Undertaking the improvement of the existing refrigeration plants	Improve refrigeration plants;	Expenditure related to the investment made on the improvement		

1.	**Measures aimed at reducing fuel and energy usage**				
	Justification: Reduce emissions of CO2 and other greenhouse gases				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
1.7.	Investments in more fuel-efficient harvesters and similar equipment;	- Purchase of a new harvester and/or similar equipment; - Use of the new harvester and/or similar equipment as intended;	Expenditure related to the investment made on the new harvester and/or similar equipment		
1.8.	Purchase (but not leasing) of CHP unit	- Purchase of a CHP unit; - Use of the CHP unit as intended.	Expenditure related to the investment made on the CHP unit		
1.9.	Conversion of existing heating installations to run on renewable sources of energy	- Conversion of an existing heating installation to run on bio fuels - Use of the heating installation converted as intended	Expenditure related to the investment made on the conversion of existing heating installation	Conversion of heating equipment and transport to run on bio fuels	Actual reduction in fossil fuel usage/ tonne
1.11.	Conversion of existing transport equipment to run on renewable sources of energy	- Conversion of existing transport equipment to run on bio fuels - Use of the transport equipment	Costs related to the conversion of existing transport equipment		

1.	Measures aimed at reducing fuel and energy usage				
	Justification: Reduce emissions of CO2 and other greenhouse gases				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
		converted as intended			
1.12.	Replacement of existing heating installations with new installations able to run on renewable sources of energy	- Purchase of a new heating installation able to run on bio fuels in replacement of an existing one - Use of the new heating installation as intended.	Expenditure related to the investment made on the new heating installation, subject to the provisions of Regulation (EU) 2017/891 Article 31(6) where previously funded investments are being replaced (where applicable)		
1.13.	Promoting the use of more sustainable transportation methods (rail, sea) rather than road transport for finished products and raw materials	Use of rail or sea transport in replacement of road transport	Additional specific costs for rail or sea transport	Volume of products and other goods transported more sustainably	Reduction in fuel usage

2.	Measures aimed at reducing the environmental impact of water usage				
	Justification: contribute to water saving, or (in the case of 2.1) changing the seasonality of water abstraction in an environmentally beneficial way				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
2.1.	High flow storage reservoirs	- Installation of a high flow storage reservoir; - Use of the reservoir installed as intended; Eligibility for support is limited to storage reservoirs offering environmental benefits in terms of winter abstraction, in particular where winter abstraction is carried out under approval/licence by such bodies as the Environment Agency and is encouraged in preference to summer abstraction (and where assessments are made, and explanations are given, of what systems will be put in place to avoid upsetting the ecological balance of streams, rivers and ponds, and to avoid adverse effects on the wild flora and fauna associated therewith). Sites impacting on SSSIs	Expenditure related to the investment made on the installation of a high flow storage reservoir	Volume of high flow water stored Usage by members Reduction in licensed summer abstraction	Increase in high flow storage capacity No of grower members utilising stored water Licensed summer abstraction

2.	**Measures aimed at reducing the environmental impact of water usage**				
	Justification: contribute to water saving, or (in the case of 2.1) changing the seasonality of water abstraction in an environmentally beneficial way				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
		and Natura 2000 sites are excluded. Major reservoir construction projects on individual holdings are ineligible unless they are of collective benefit to the PO and unless they are subject to appropriate depreciation and lease agreements being in place.			
2.2.	Rooftop water collection and recycling	- Purchase and installation of the equipment necessary for rooftop water collection and recycling; - Use of the equipment installed as intended.	Expenditure related to the investment made on the equipment necessary for rooftop water collection and recycling	Volume in cubic metres collected/reused	Increase in cubic metres collected/reused
2.3.	Re-use of water at the level of product preparation installations	- Purchase and installation of the equipment necessary for the re use of water at the level of product preparation installations;	Expenditure related to the investment made on the equipment necessary for the re use of water at the level of product preparation installations		

2.	**Measures aimed at reducing the environmental impact of water usage**				
	Justification: contribute to water saving, or (in the case of 2.1) changing the seasonality of water abstraction in an environmentally beneficial way				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
		- Use of the equipment installed as intended.			
2.4.	Preparation and implementation of irrigation plans aimed at water savings or reductions in run-off;	- Preparation of an irrigation plan aimed at water savings or reductions in run-off; - Implementation of the irrigation plan prepared for at least five years.	- Costs related to the preparation of the irrigation plan. Eligible costs include, where appropriate, those related to soil analyses and the purchase/lease of the equipment necessary to the preparation and implementation of the plan.	No of members using, and area of crops covered	Reduction in water usage per tonne of produce
2.5.	Transition from spray gun to drip irrigation;	- Installation of a drip irrigation system in replacement of spray gun irrigation system; - Use of the new irrigation system as intended.	Expenditure related to the investment made for the installation of the drip irrigation system in replacement of spray gun irrigation system, subject to the provisions of Regulation (EU) 2017/891 Article 31(6) where previously		

2.	**Measures aimed at reducing the environmental impact of water usage**				
	Justification: contribute to water saving, or (in the case of 2.1) changing the seasonality of water abstraction in an environmentally beneficial way				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
			funded investments are being replaced (where applicable)		
2.6.	Improved irrigation systems, including purchase/lease of pumps, pipes and other equipment (irrigation installations resulting in net increases of water consumption are excluded)	- Installation of the improvements to the existing irrigation system; - Use of the improved irrigation system as intended;	Expenditure related to the investment or to the lease of the improvements installed to the existing irrigation system.		

3.	**Measures aimed at preventing emissions into air, water or soil**				
	Justification: Contributing to maintain air, water and soil quality				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
3.1.	Conversion to integrated production	- Application of integrated production methods compliant with the requirements of the LEAF Marque, and the Gold Standard of Nature's Choice (Tesco's) - Certification by a recognised certification body (obligatory requirement not eligible for support) (*). Requirements related to the duration of the action, as indicated above are applicable. (*) Integrated production certification could be eligible for support under actions aimed at improving or maintaining product quality.	Additional costs and income foregone related to the conversion from the conventional production methods (compliant with the baseline/reference level requirements) to integrated production methods (compliant with the requirements of the LEAF scheme and/or other schemes to be specified) determined on a real cost basis. The calculation of the additional costs will take account of possible cost savings resulting from the action (e.g. reduced use of plant protection products,	Reduction in liquid or gaseous emissions or in spray drift	Reduction in volume or environmental impact of liquid or gaseous emissions

3.	**Measures aimed at preventing emissions into air, water or soil**				
	Justification: Contributing to maintain air, water and soil quality				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
			fertilisers and water) and, possible higher prices for products.		
3.2.	Conversion to organic production	- Application of organic production methods compliant with the provisions of Council Regulation (EC) 834/2007; - Inscription to the national organic production system, in accordance to Council Regulation (EC) 834/2007 (obligatory requirement not eligible for support); - Certification by a recognised organic certification body (obligatory requirement not eligible for support) (*). Requirements related to the duration of the action, as indicated above are applicable. (*) Organic certification could be eligible	Additional costs and income foregone related to the conversion from the conventional production methods (compliant with the baseline/reference level requirements) to organic production methods (compliant with the provisions of Council Regulation (EC) (EC) 834/2007) determined on a real cost basis. The calculation of the additional costs will take account of possible cost savings resulting from the action (e.g. reduced use of		

3.	**Measures aimed at preventing emissions into air, water or soil**				
	Justification: Contributing to maintain air, water and soil quality				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
		for support under actions aimed at improving or maintaining product quality.	plant protection products, fertilisers and water) and possible higher price for products.		
3.3	Reduction in use of fertilisers	- Reduce the use of fertilisers so as to achieve the pre-defined minimum reduction target (*). (*) As for agro-environmental measures a minimum reduction target of 30% is applicable. National/regional authorities may define higher minimum target. The reference level for the reduction is compliance with the minimum requirements for fertiliser use and other obligatory requirements concerning the use of fertilisers established by the national legislation, including the legislation transposing the Nitrate Directive (Dir. 91/676/EEC) and the Water Framework Directive (Directive	Additional costs and income foregone resulting from the action determined on a real cost basis. The calculation of the additional costs will take account of possible cost savings resulting from the action (e.g. reduced volume of fertilisers used, possible reduced costs for fertiliser distribution).		

3.	**Measures aimed at preventing emissions into air, water or soil**				
	Justification: Contributing to maintain air, water and soil quality				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
		2000/60/EC). Requirements related to the duration of the action, as indicated above, are applicable.			
3.4.	Reduction in use of plant protection products, including reductions in the use of fungicides, late harvest sprays and dipping agents via the use of storage processes and ripening regulators;	The reference level for the reduction is compliance with the minimum requirements for plant protection product use and other relevant obligatory requirements concerning the use of plant protection products established by the national legislation, including the legislation transposing Regulation (EC) 1107/2009) Requirements related to the duration of the action, as indicated above are applicable. Where a producer organisation wishes to use natural gases to control post-harvest storage and shelf life of crops	Additional costs and income foregone resulting from the action, determined on a real cost basis. The calculation of the additional costs will take account of possible cost savings (e.g. reduced volume of plant protection products used, possible reduced costs for their distribution).and possible additional income (sale of products complying with marketing standards) resulting from the action.		

3.	**Measures aimed at preventing emissions into air, water or soil**				
	Justification: Contributing to maintain air, water and soil quality				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
		instead of recognised chemical treatments, the marginal extra costs of crop treatment can be claimed over and above drenching costs. The PO should indicate the active ingredients it wishes to remove from its crops and the PO should subsequently demonstrate via baseline and future crop residue tests a reduction in crop residues at the point of sale.			
3.5.	Provision of advisory and consultancy services and technical advice to members and the PO on integrated pest management Reduction in use of plant protection products via new control methods, including use of predators, biological pesticides and mechanical methods (see paragraph on Integrated Pest	- Purchase and use of organic plant protection materials, such as pheromones and predators - Purchase and use of grafted-plants (on tolerant/resistant varieties), where it can be reasonably be expected to result in a reduction in the use of plant protection products or soil disinfectants (*)	Cost of report and advice Additional costs and income foregone resulting from the action, determined on a real cost basis. The calculation of the additional costs will take account of possible cost savings resulting from the		

3.	**Measures aimed at preventing emissions into air, water or soil**				
	Justification: Contributing to maintain air, water and soil quality				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
	Management for full details of what can be claimed)	- Planting and cultivation of biocidal crops, as well as companion planting, where it can be reasonably be expected to result in a reduction in the use of plant protection products (*) Requirements related to the duration of the action, as indicated above, are applicable. (*) Eligible crops and, where appropriate, tolerant/resistant varieties concerned must be defined by reference to reputable, published scientific data. These data must also include clear indications of the types of plant protection products and soil disinfectant the use of which could be reduced.	action (e.g. reduced volume of plant protection products used, possible reduced costs for their distribution).		

3.	Measures aimed at preventing emissions into air, water or soil				
	Justification: Contributing to maintain air, water and soil quality				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
3.6.	Reduction in use of plant protection products via the installation of fine-mesh crop protection netting;	- Purchase and installation of fine-mesh crop protection netting.	Expenditure related to the purchase and installation of fine-mesh crop protection netting.		
3.7.	Installations of waste water treatment systems, beyond compliance with legal mandatory requirements	- Installation of a waste water treatment system; - Use of the installation as intended.	Expenditure related to the investment made on the waste water treatment system		
3.8.	Purchase/lease of equipment for control and monitoring of the quality of waste water produced, where equipment is additional to that covered in action 3.7.	- Purchase/lease of equipment for control and monitoring of the quality of waste water produced; - Use of the equipment as intended.	Expenditure related to the investment made or to the lease of the equipment over and above that covered in action 3.7		

4.	**Measures aimed at the re-use of crop remains and/or other organic residues or at contributing to recovery of agricultural waste**				
	Justification: Reduce waste and landfill				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
4.1.	Composting	- Putting in place of a composting installation proportionate to the volume of organic residues produced by the farmer or by the PO, and - use and/or sale of the compost produced	Expenditure related to the investment made on the composting installation	No of members benefiting;	Tonnes removed from landfill and, for anaerobic digestion, reduction in greenhouse gases (particularly methane) plus energy production
4.2.	Actions in support to use and sale of the compost produced, where complementary to composting	- Purchase, or renting/leasing, of mushroom compost bagging machines; - Use of the machines as intended. Only eligible where it contributes to wider objectives of producing re-usable compost for sale or for other use	Expenditure related to the investment made or to the renting/lease of the machines		
4.3.	Anaerobic digestion of PO crop residues which are not compostable	- Putting in place an anaerobic digestion installation;	Expenditure related to the investment made on the anaerobic digestion		

4.	**Measures aimed at the re-use of crop remains and/or other organic residues or at contributing to recovery of agricultural waste**				
	Justification: Reduce waste and landfill				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
		- Use of the installation as intended. For eligibility for support, the installation must be linked to a PO facility and must be related to reduction and management of a PO's waste	installation Eligible expenditure limited at 40% of costs		
4.4.	Actions to help PO members to reuse spent growing mediums, and plant/crop remains	(a) Use of spent growing mediums as soil improvers by members of the PO. (b) Use of plant/crop remains for mulching	Additional costs and income foregone resulting from the action determined on a real cost basis. The calculation of the additional costs will take account of possible cost savings resulting from the action (e.g. reduced volume of fertilisers used, possible reduced costs for fertiliser distribution).	No of members benefiting	
4.5.	Actions to help PO members to dispose of spent growing mediums	Spent mushroom compost bagged and marketed by PO to third parties outside	Additional costs and income foregone resulting from the		

4.	**Measures aimed at the re-use of crop remains and/or other organic residues or at contributing to recovery of agricultural waste**				
	Justification: Reduce waste and landfill				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
	and/or plant/crop remains more sustainably	the PO as peat replacement Separation of waste plastic material Use of glasshouse waste as a soil conditioner, or as biomass Eligibility is limited to commitments going beyond the mandatory requirements established by the national waste legislation.	action determined on a real cost basis.		
4.6.	Actions to contribute to recycling of agricultural plastics	- Plastic waste collection, sorting and transport to an authorised recycling institution - Having a contract with an authorised recycling institution (requirement not eligible for support) **Eligibility is limited to commitments going beyond the mandatory requirements established by the**	Additional costs resulting from the action determined on a real cost basis.	No of members benefiting	

4.	**Measures aimed at the re-use of crop remains and/or other organic residues or at contributing to recovery of agricultural waste**				
	Justification: Reduce waste and landfill				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
		national waste legislation.			
4.7.	Other actions to help PO and/or its members to return incidental waste to a reuse or recycling stream, where complementary to environmental actions 4.4., 4.5 or 4.6.	- Establishing of a suitable place for the disposal of incidental waste; - Purchase and use of equipment and machinery for the storage and preliminary treatment of waste; Eligibility is limited to commitments going beyond the mandatory requirements established by the national waste legislation.	Expenditure related to the investments made.		

5.	Measures aimed at protecting the landscape, natural habitats and biodiversity				
	Justification: Maintenance and/or improvement in biodiversity				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
5.1.	Maintenance of uncultivated field margins, uncultivated areas for the encouragement of bumble bees, or beetle banks	- Maintenance of the uncultivated field margins, uncultivated areas for the encouragement of bumble bees, or beetle banks. Requirements related to the duration of the action, as indicated above are applicable. Eligibility is limited to commitments going beyond the GAEC standards and other relevant mandatory requirements established by the national legislation.	Additional costs and income foregone resulting from the action determined on a real cost basis.	Species benefiting	Maintenance or increase of numbers of plant and animal species
5.2.	Conversion of arable land into permanent pasture	- Converting arable land into permanent pasture. Requirements related to the duration of the action, as indicated above are applicable.	Additional costs and income foregone resulting from the action determined on a real cost basis.		

5.	Measures aimed at protecting the landscape, natural habitats and biodiversity				
	Justification: Maintenance and/or improvement in biodiversity				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
		Eligibility is limited to commitments going beyond the GAEC standards and other relevant mandatory requirements established by the Community or national legislation.			

6.	Measures aimed at preventing soil erosion and promoting conservation of soils				
	Justification: Prevent soil blows and erosion				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
6.1.	Actions to prevent soil erosion and promote conservation of soils	- Undertaking activities that contribute to preventing soil erosion and to soil conservation (e.g. mulching; maintenance of permanently vegetated areas, uncultivated contour belts; terrace building; adoption of specific conservation tillage practices; use of renewable products such as coir as an alternative to peat, as a measure to reduce pressure on endangered peatlands). Requirements related to the duration of the action, as indicated above are applicable. Eligibility is limited to commitments going beyond the GAEC standards and other relevant mandatory requirements established by the national legislation. *Note: the eligibility of any of the actions*	Additional costs and income foregone resulting from the action, a “real costs” approach being applicable.	Areas and members benefiting	

6.	Measures aimed at preventing soil erosion and promoting conservation of soils				
	Justification: Prevent soil blows and erosion				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
		selected under Measures No 5 and 6 may be affected by modifications to cross-compliance requirements resulting from the CAP Health Check)			

6.	Measures aimed at preventing soil erosion and promoting conservation of soils				
	Justification: Prevent soil blows and erosion				
	Environmental actions	**Commitments**	**Eligible expenditure**	**Indicator**	**Definition and measurement**
6.2.	Acquisition of special equipment/machinery, where complementary and necessary to actions to prevent soil erosion and promote conservation of soils	- Purchase/lease of special equipment necessary to implementing actions aimed at preventing soil erosion and contributing to soil conservation (e.g. ridge tying equipment, bedforming and clod separation equipment to manage land on an annual basis, and equipment to flood fields pre-cropping) - Use of that equipment as intended.	Expenditure related to the investments made or to the renting/lease of the equipment/machinery concerned		

Several options for the same type of action

For each of the measures set out in the section entitled “Broad Areas for Environmental Action”, the Tables above indicate several possible options for environmental actions. In most cases any of these options may be combined under the same operational programme and jointly implemented by a PO’s members. However, in some instances, two of the alternative options given for the same measure are likely to be sufficiently closely related to one another that they are regarded as incompatible, and hence would not both be eligible to be included in the same operational programme.

Whether that situation will arise in practice will depend on the precise combination of specific commitments chosen by a PO to implement the actions in question in its proposal for an operational programme. The competent authority will indicate to the PO whether it has chosen mutually incompatible environmental actions.

Complementary commitments in support to environmental actions

Training, advice and/or technical assistance, if implemented alone, cannot generate direct environmental benefits. However, they can be essential for feasibility and effectiveness of certain environmental actions. The same may be said for other types of measures, such as energy/fuel review or audit, which can contribute to identification of needs, definition of priorities and design of relevant environmental actions to be implemented at the level of a PO or its members. A basic requirement for eligibility for support of these types of actions is, therefore, that they are implemented in connection with environmental actions that can be expected to generate direct environmental benefits. For eligibility for support, the following set of requirements must be met:

a) The action is intended to complement (i.e. accompany and be associated with) other environmental actions included in the National Framework, which must therefore be included in the operational programme of the PO, and is specifically targeted to reinforce the effects of these actions. The actions concerned must be specified in the operational programme of the PO.

b) The (technical assistance, advice, training, audit) activities must be entrusted to additional (internal or external) qualified personnel.

c) The operational programme must indicate the specific tasks that the additional qualified personnel are required to perform.

Avoidance of double funding

As regards the possible overlapping of environmental actions covered by this Framework with certain measures included in the United Kingdom's Rural Development Programmes, the criteria and administrative rules applied in the United Kingdom's Rural Development Programmes, aimed at ensuring that a beneficiary

may receive support for a given operation only under one scheme, are covered in detail in other parts of the United Kingdom’s National Strategy for sustainable operational programmes. (Section 3 refers).