

The Impact of Brexit on the UK Soft Fruit Industry



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1 Introduction

1.1 John Pelham – Background and Experience

I am a Partner in Andersons Midlands, one of five independent business advisory practices trading under the style of Andersons the Farm Business Consultants. Andersons Midlands specialises in providing independent business advice to agricultural, horticultural and rural businesses as well as the allied industries that support them. A summary of advice service areas is included in Appendix I.

Having completed a degree in Agricultural and Forest Sciences from Oxford University, I gained six years' farm management experience, including four and a half years with a business specialising in the production of apples, pears and other fruit crops. I joined what was then David Anderson and Company in October 1985 at the Melton Mowbray office, becoming a Partner in 1990. I am now a Partner in the Andersons Midlands Partnership, formed in the spring of 2001. A curriculum vitae is included in Appendix II.

I have considerable experience of working with Soft Fruit growers in the UK, providing advice on a range of business matters including strategic and financial planning, budgeting and labour forecasting and business costings and benchmarking.

1.2 The Instruction

British Summer Fruits is the industry body that represents 97% of all berries supplied to the UK's leading supermarkets, whose aim is to promote the consumption of berries grown both in the UK and abroad, collaborating with exporters during winter and spring and working closely with UK growers during the summer months.

I have been instructed by British Summer Fruits to prepare a report investigating the current and future seasonal labour requirement for Soft Fruit production in the UK, and to consider the implications of restrictions in the supply of seasonal workers for both growers and UK consumers.

1.3 Sources of Information and Method of Preparing the Report

Data for Soft Fruit production volumes in the UK have been drawn from the DEFRA publication "Horticulture Statistics 2015".

Figures for the number of seasonal workers currently used in UK Soft Fruit production have been provided by the British Growers Association.

Figures for the pattern of strawberry supermarket sales in 2015 have been provided by British Summer Fruits.

Information on the relative proportions of the UK strawberry crop grown in soil and substrate has been provided by Berry Gardens and Berryworld, corroborated by Andersons Midlands own data for UK growers.

Data on Soft Fruit as a proportion of total UK fruit consumption has been drawn from Kantar information.

Figures for the labour requirement by crop have been drawn from Andersons Midlands own extensive experience of working with Soft Fruit growers in the UK.

1.4 Content of this Report

This report is set out in five sections, with this Introduction concluding with a short overview of increasing consumption of Soft Fruit by UK consumers.

Section 2 sets out an Executive Summary of the report.

Section 3 investigates the 2015 seasonal worker requirement for UK Soft Fruit production, with an assessment of the differing labour requirements for strawberries, raspberries and other Soft Fruit crops (including blackberries, blueberries, gooseberries, loganberries and red/white currants).

Section 4 reviews past developments in Soft Fruit production and considers future developments, including possible consequences for the seasonal labour requirement.

Section 5 considers the implications of restrictions on seasonal worker availability.

1.5 Increasing Consumption of Soft Fruit by UK Consumers

Soft fruit – principally strawberries and raspberries – were historically grown and consumed in mid-summer; production was predominantly in the UK, with limited imports. In 1996 the UK consumption of these quintessentially British fruits stood at 67,000 tonnes of strawberries and some 13,000 tonnes of raspberries (Source: DEFRA).

By 2015 the figures had grown dramatically. Strawberry consumption had increased to some 168,000 tonnes (up 150%), of which some 70% were grown in the UK. Raspberry consumption was up to around 29,000 tonnes (up 123%), with around 60% grown in the UK (Source: DEFRA).

Whilst strawberries and raspberries are the main Soft Fruit crops, a range of other berries are also consumed in the UK, the most important of which are blackberries and blueberries, but also including gooseberries, loganberries and red/white currants.

In 1996 the consumption of “Other Berries” in the UK was some 12,000 tonnes, of which 11,000 tonnes were grown in the UK. By 2015 the position had also changed dramatically – with consumption up to some 50,000 tonnes, of which 80% were imported (Source: DEFRA).

In summary, therefore, changes in the consumption of Soft Fruit over the last 20 years have been as follows:

Crop	1996 Consumption Tonnes	2015 Consumption Tonnes	Increase Tonnes	Increase %
Strawberries	67,000	168,000	101,000	150
Raspberries	13,000	29,000	16,000	123
Other Soft Fruit	12,000	50,000	38,000	317
Total	92,000	247,000	155,000	168

2 Executive Summary

- ▶ Over the last twenty years the consumption of Soft Fruit in the UK has grown very significantly. In 1996 some 67,000 tonnes of strawberries and 13,000 tonnes of raspberries were purchased by UK consumers; by 2015 the figures were 168,000 tonnes (+150%) and 29,000 tonnes (+123%) respectively (Source: DEFRA). “Other Berries” also increased substantially, from 12,000 tonnes in 1996 to some 50,000 tonnes in 2015 (+316%).
- ▶ At the present time Soft Fruit represents 22% of all **consumer fruit purchases** in the UK (Source: Kantar).
- ▶ Over the last twenty years the production of Soft Fruit in the UK has developed very significantly, from some 60,000 tonnes of strawberries, raspberries and “Other Berries” in 1996 to over 140,000 tonnes in 2015 (Source: DEFRA). This represents a 131% increase in home-grown production.
- ▶ The majority of labour for both the growing and harvesting of Soft Fruit crops in the UK is employed on a seasonal basis, with the greatest requirement being in the May–September period.
- ▶ Only a tiny fraction of seasonal labour for Soft Fruit production is provided by UK nationals, with the majority of workers being of European Union (“EU”) origin. Indeed, without this imported EU labour, a significant proportion of whom enter and leave the UK annually, the growth in both the production and consumption of Soft Fruit in the UK over the last twenty years would not have been possible.
- ▶ In 2015 some 28–29,000 seasonal workers were employed in UK Soft Fruit production.
- ▶ Whilst growers’ costs continue to increase through inflation, the value of their produce has remained static, with prices in 2015 little changed from 1996. This has been excellent for UK consumers and doubtless an important factor in the very significant increases in Soft Fruit consumption in the UK.
- ▶ Labour costs typically account for half of Soft Fruit growers’ costs of production. In the face of continuing wage inflation, but static produce prices, growers have sought ways to improve their productivity, that is to lower their labour requirement per tonne of production. The most important advances include the use of polytunnels, the use of commercial varieties of autumn fruiting strawberries and raspberries and the developing use of substrate as an alternative growing medium to soil.
- ▶ The most important advance in productivity in the coming five years will be the continuing conversion of strawberry production from soil to substrate grown crops.
- ▶ Robotic harvesting of strawberries is still in development and, even if successful commercially, is unlikely to have a significant effect on the seasonal labour requirement by 2020 (and thereafter possibly only a limited benefit) because:
 - it is only being developed for strawberries, with considerable technical difficulties in developing this technique for raspberries and other soft fruit crops;
 - for the strawberry crops that can be harvested in this way, robotic picking will only potentially replace 45% of all seasonal labour costs (with the remaining 55% continuing to be required for crop establishment, husbandry, management of overings and grading/packing);
 - a proportion of the strawberry crop will not be able to be harvested robotically, either because it is grown in the soil or because the substrate system is not suitable for machine harvesting.
- ▶ Based on the production increases of the recent past, and assuming a continuing increase in the proportion of strawberries grown in substrate (which have a lower labour requirement than those grown in the soil), it is forecast that by 2020 the seasonal worker requirement for UK Soft Fruit production will have increased to just over 31,000 employees.

- ▶ A reduction or loss in the volume of UK Soft Fruit production, due to seasonal worker availability, would have very significant implications for the UK consumer, for whom Soft Fruit represents such an important part of all their fruit purchases.
- ▶ In general the likely consequences of restricted seasonal worker numbers would be as follows:
 - A reduction in the volume of UK Soft Fruit production.
 - A reduction in the number of UK Soft Fruit-growing businesses.
 - A reduced area of Soft Fruit production in the UK.
 - A significant reduction in UK self-sufficiency in a highly perishable product which, both economically and environmentally, should be produced as close to the point of consumption as possible.
- An increase in the volume of Soft Fruit imports into the UK, with a detrimental effect on the balance of payments and the environment (with increased transportation), as well as reducing or removing the opportunity for consumers to buy local produce.
- A reduction in taxation income for the UK Government – Income Tax, Corporation Tax and National Insurance from both employers and employees.
- A reduction in overall market supply, increasing prices to UK consumers (which would be greater in the event of weak Sterling).
- A reduction in the consumption of Soft Fruit by UK consumers as a result of reduced availability and increased price (which could be exacerbated in the event that Soft Fruit becomes the subject of tariffs). Soft Fruit marketing specialists estimate that the loss of a seasonal labour supply could lead to price inflation for strawberries and raspberries in the range 35–50% from current levels.



3 The current seasonal labour requirement for uk soft fruit production

3.1 DEFRA Soft Fruit Production Statistics

DEFRA publish information on UK Soft Fruit production in the report “Horticulture Statistics”, the most recent version of which is for the 2015 crop year.

Table 5 of that report – “Home Production Marketed for the Calendar Year in the UK 1985-2015” – identifies four crop categories under the heading “Soft Fruit”:

- ▶ Strawberries
- ▶ Raspberries
- ▶ Blackcurrants
- ▶ Other Soft Fruit (the most important of which are blackberries and blueberries, but also including gooseberries, loganberries and red/white currants).

For the purpose of this report, data on blackcurrant production has been excluded, as this crop is mainly grown for processing, with both husbandry and harvesting operations now largely mechanised; there is therefore a negligible requirement for seasonal labour.

An extract of the DEFRA Soft Fruit figures for 2006–2015 (excluding blackcurrants) identifies production as follows:

TABLE 1
Soft Fruit Production 2006 –2015
Tonnes Thousands

Year	Strawberries	Raspberries	Other Soft Fruit	Total
2006	67.5	12.2	6.0	85.7
2007	83.1	14.8	7.8	105.7
2008	94.0	15.5	7.8	117.3
2009	98.5	15.6	8.9	123.0
2010	95.7	15.9	8.9	120.5
2011	101.9	15.5	7.7	125.1
2012	94.8	15.6	7.5	117.9
2013	93.9	14.6	8.0	116.5
2014	104.4	17.8	7.9	130.1
2015*	115.5	17.2	9.4	142.1

*Figures are provisional | Source: DEFRA

A full table of DEFRA production figures for the 20 years 1996–2015 is included in Appendix III.

3.2 The Seasonal Labour Requirement for Soft Fruit

Seasonal workers are used for nearly all of the tasks in Soft Fruit production, with only a very small proportion of work undertaken by permanent staff. Indeed, there are a number of Soft Fruit holdings in the UK where the only permanent labour is the proprietors themselves.

There are five main work areas on the UK Soft Fruit farm:

1. Crop establishment
2. Crop husbandry
3. Management of crop coverings
4. Harvesting
5. Grading and packing

Crop Establishment – including planting and associated tasks such as bed preparation, laying out of substrate bags and in-field irrigation installation.

Crop Husbandry – essentially the growing of the crop and subsequent removal, including a wide range of tasks such as:

- ▶ Topping/pruning
- ▶ Spawn selection
- ▶ Tying in
- ▶ Irrigating
- ▶ Weeding
- ▶ De-blooming
- ▶ Crown thinning and plant cleaning
- ▶ Runner cutting
- ▶ De-leafing

- ▶ Leaf and cane tucking
- ▶ Truss training
- ▶ Strawing
- ▶ Cane pulling
- ▶ Grubbing and Field Clearance
- ▶ Waste Removal
- ▶ Plant and bag Removal

Management of crop coverings – includes the construction and removal of polytunnels, as well as their management during the growing season (e.g. venting and opening/closing of doors). Also includes the use of fleece for crop protection and the cleaning and maintenance of glass in glasshouses.

Harvesting – seasonal labour for both the picking of the crop as well as all support operations – including supervision, runners, scalesmen and transport.

Grading and packing – all packhouse tasks associated with the preparation of the crop for dispatch to the customer.

The breakdown of seasonal labour costs in a Soft Fruit business between the non-harvest and harvesting categories might be as follows:

Labour Category	% Expenditure
▶ Crop establishment	
▶ Crop husbandry	
▶ Management of crop coverings	40-50
▶ Grading and packing	
Harvesting	50-60

Of the harvesting category, some 4/5th of costs are attributable to picking, with the balance taken up by the other harvest operations. Typically, therefore, picking represents on average some 45% of all seasonal labour costs. This is important when reviewing the potential implications of developments in robotic harvesting, considered further in Section 4.5.



3.3 Timing of the Requirement for Seasonal Workers

The first seasonal workers typically appear on UK Soft Fruit holdings in February/early March, whilst few seasonal employees remain beyond the end of October. The greatest requirement, however, is from May–September, with many workers typically working for a 20–25 week season during this period. This demand for seasonal labour is reflected in the pattern of sales – for example British Summer Fruits own data for 2015 show that 85% of all supermarket strawberry sales occurred during the five months May–September. The timing of an individual grower's requirements for seasonal labour will vary according to location and the crops grown. A strawberry grower in East Kent, for example, might require his seasonal labour 2–3 weeks earlier than a Scottish strawberry grower with the same crops and growing system, whilst a grower specialising in autumn raspberries will have a lesser requirement for seasonal workers in the spring/early summer, but a peak in August–October.

3.4 Seasonal Labour Requirements by Crop Category

There are considerable variations in the amount of labour required for soft fruit crops, both:

- ▶ between crop types (e.g. strawberries and raspberries)
- ▶ in the range of varieties, methods and growing systems within crop types, particularly for strawberries.

Historically, strawberries were grown in the soil. However, in the last 10–15 years the development of artificial growing media, (such as peat and coir) and new growing systems (e.g. tabletops) has seen a significant increase in substrate production, to the extent that by 2015 some 55% of the national crop was grown in this way (Source: Berry Gardens and Berryworld grower survey). Estimates suggest that this figure is increasing by some 5% per year, so that by 2020 it is possible that some 80% of the UK strawberry crop will be grown in substrate. This is important, as the labour requirement for strawberries grown in substrate is less than that for the soil-grown crop. In this report strawberries will be divided into two categories ("soil" and "substrate") accordingly.

It is also important to observe that there can be considerable differences in the labour requirement for similar crops due to variations in growing conditions, not only between growers, but also within an individual grower's production.

3.5 Calculation of Current Requirement and Comparison with Industry Data

Based on Andersons Midlands extensive individual Soft Fruit grower data, median labour requirements, by crop type, using an “Hours per Tonne” measure for each of the four main crop categories, might be as follows:

TABLE 2

SOFT FRUIT CROPS LABOUR REQUIREMENT BY CATEGORY

HOURS PER TONNE

Crop	LABOUR REQUIREMENT RANGE Hours per Tonne	LABOUR REQUIREMENT-MEDIAN Hours per Tonne
Strawberry–soil	140 – 180	160
Strawberry–substrate	100 – 140	120
Raspberry	300 – 400	350
Other Soft Fruit	325 – 425	375

If the median figures are applied to the DEFRA production figures for 2015 (see Table 1), and assuming:

- ▶ that strawberry production is divided 45% in the soil and 55% in substrate
- ▶ that a single seasonal worker is employed on average for 22 weeks at 40 hours per week (i.e. 880 hours)

then the calculated labour requirement is as follows:



TABLE 3
CALCULATION OF SEASONAL WORKER NUMBERS 2015

DEFRA PRODUCTION FIGURES

Crop	TONNES	HOURS/TONNE	TOTAL HOURS	TOTAL WORKERS (Total Hours/880)
Strawberry-soil	51,975*	160	8,316,000	9,450
Strawberry-substrate	63,525**	120	7,623,000	8,663
Raspberry	17,200	350	6,020,000	6,841
Other Soft Fruit	9,400	375	3,525,000	4,006
Total	142,100		24,560,000	28,960

* 115,500 tonnes x 45% | ** 115,500 tonnes x 55%

Whilst there is no reported data on the number of seasonal workers employed specifically in the Soft Fruit sector in 2015, the British Growers Association (“BGA”) have prepared an indicative calculation of the number of seasonal workers currently being employed in each of the various categories of horticultural crops (including both soft and top fruit, vegetables, asparagus and mushrooms) from a survey of UK horticultural businesses.

The above theoretical calculation of 28,960 workers in the Soft Fruit sector corresponds closely with the BGA indicative figure for the Soft Fruit seasonal labour employment of between 27,000 and 28,000 seasonal workers in 2016.



4 Developments in soft fruit production and the changing requirement for seasonal labour

4.1 Production Increases 1996–2015

The DEFRA production figures for 1996–2015, shown in full in Appendix III, show increases in all three soft fruit categories in this 20 year period, as follows:

TABLE 4

SOFT FRUIT PRODUCTION 1996 COMPARED TO 2015 – TONNES

	1996	2015	Increase %
Strawberries	40,100	115,500	188
Raspberries	13,200	17,200	30
Other Soft Fruit	8,100	9,400	16
Total	61,400	142,100	131

There is a clear difference in production increases between crops, with strawberry output growing significantly more than that for raspberries and Other Soft Fruit.

Despite the upward trend for all three categories over the period, scrutiny of the table in Appendix III shows both downward, as well as upward, movements in tonnages between individual years, as would be expected for crops for which weather can have a significant effect on both production and, as importantly, consumption.

There are also differences in the rate of increase between periods; for example, with raspberries and Other Soft Fruit, there is a decline in production in the early 2000s before subsequent increases.

To gauge the rate of increase it is more informative:

- ▶ to look at production over 5 year periods, rather than comparing individual years at the beginning and end of the overall period;
- ▶ to separate the 3 crop categories of strawberries, raspberries and Other Soft Fruit.

The average annual production for the four periods

- ▶ 1996-2000
- ▶ 2001-2005
- ▶ 2006-2010
- ▶ 2011-2015

for each of the crop categories is set out in the following three tables (Tables 5-7), together with the average crop area and yield for the period.

The figures are as follows:

TABLE 5
STRAWBERRY PRODUCTION 1996-2015 BY 5 YEAR PERIODS
AVERAGE TONNES THOUSANDS PER YEAR

Period	Average '000T/Year	% Increase on Previous 5 Years	Average Crop Area Ha.	Average Yield T/Ha.
1996-2000	37.4		3,774	9.9
2001-2005	49.2	31.6	3,473	14.2
2006-2010	87.8	78.5	4,310	20.4
2011-2015	102.1	16.3	4,579	22.3

TABLE 6**RASPBERRY PRODUCTION 1996-2015 BY 5 YEAR PERIODS****AVERAGE TONNES THOUSANDS PER YEAR**

Period	Average '000T/Year	% Increase on Previous 5 Years	Average Crop Area Ha.	Average Yield T/Ha.
1996–2000	11.4		2,269	5.0
2001–2005	9.1	-20.2	1,358	6.7
2006–2010	14.8	62.6	1,653	9.0
2011–2015	16.1	8.9	1,677	9.6

TABLE 7**OTHER SOFT FRUIT PRODUCTION 1996-2015 BY 5 YEAR PERIODS****AVERAGE TONNES THOUSANDS PER YEAR**

Period	Average '000T/Year	% Increase on Previous 5 Years	Average Crop Area Ha.	Average Yield T/Ha.
1996–2000	6.5		871	7.5
2001–2005	5.2	-20.0	746	7.0
2006–2010	7.9	51.9	896	8.8
2011–2015	8.1	2.5	900	9.0

4.2 Changes in Soft Fruit Production Methods

Few other sectors in UK agriculture or horticulture have achieved the levels of yield improvements seen in UK Soft Fruit growing, in particular for the strawberry crop.

In 1996 the majority of UK strawberry production of some 40,000 tonnes was during June and July, of which some 25% was marketed through supermarkets. Average yield was 9.9 tonnes per hectare and crop quality was variable.

By 2015 UK-grown strawberries were available from April–October, with over 60% of the total sold through the multiple retailers. Between 1996 and 2015 average yields had increased by 125%, to 22.3 tonnes per hectare, with significant improvements to crop quality, enabling growers to meet the higher specifications required by supermarkets.

Whilst it is not the place of this report to detail all of the considerable developments that have made this possible, the key factors are as follows:

- ▶ The development of specialist crop coverings (“polytunnels”). These have not only protected crops from the wet weather risk at harvest, but have also provided the means by which growers have been able adjust harvest timings and extend the availability of UK grown crops.
- ▶ The development of commercial Autumn fruiting varieties of both strawberries (“Everbearers”) and raspberries (“Primocane”).
- ▶ The development of new varieties with improved yield and quality.
- ▶ The use of artificial growing media (or substrate), such as peat and coir, to provide a consistent and soil-borne disease-free environment in which to grow crops.
- ▶ The availability of an adequate supply of seasonal labour to undertake all the tasks associated with the growing and harvesting of over 80,000 tonnes of new production that has been developed in the UK between 1996 and 2015 (see Table 4). The majority of this “new workforce” requirement will have been met from seasonal workers from the EU, a significant proportion of whom enter and leave the UK annually, with only a tiny fraction of the need met by UK nationals.



4.3 Future Developments

The critical management issue for all UK Soft Fruit businesses is the availability and cost of seasonal labour.

Wages represent some 50% of the costs of production for growers, who are continually striving to contain labour costs, which consistently increase at a rate that exceeds general cost inflation. This is particularly important as sale prices for Soft Fruit have been static (in actual terms) throughout the last 20 years. Whilst excellent news for consumers, this puts significant pressure on the grower to maintain a supply of seasonal labour of adequate quality to meet the exacting standards of fresh produce production.

The most important development over the coming five years is likely to be the continuing increase in the proportion of the strawberry crop grown in substrate. Whilst there is no data on growers' future intentions in this area, it might be reasonable to assume that by 2020 as much as 80% of strawberry production would be in substrate. This is the proportion used in the calculation of future labour requirement set out in the following section.

A further potential development that also needs consideration is robotic harvesting. Section 4.5 looks in more detail at the potential for labour replacement by this technique.



4.4 A Calculation of the Potential Future Seasonal Labour Requirement for 2020

If we assume the same rate of total yield increase for the five years 2016–2020 as that achieved in the preceding five years, that is 2011–2015, then production in 2020 would be as follows:

TABLE 8
FORECAST SOFT FRUIT PRODUCTION 2020
TONNES

	2015	2020	Increase Tonnes	Increase %
Strawberries	115,500	134,327	18,827	16.3
Raspberries	17,200	18,731	1,531	8.9
Other Soft Fruit	9,400	9,635	235	2.5
Total	142,100	162,693	20,593	14.5

If we assume by 2020 that 80% of the strawberry crop will be grown in substrate, then a forecast for total seasonal labour requirement can be calculated based on the above production figures, as set out in the following Table 9.

TABLE 9
CALCULATION OF POTENTIAL SEASONAL WORKER REQUIREMENT 2020
BASED ON FORECAST PRODUCTION FIGURES

Crop	Tonnes	Hours/Tonne	total Hours	Total Workers (Total Hours/880)
Strawberry–soil*	26,865	160	4,298,400	4,885
Strawberry–substrate**	107,462	120	12,895,440	14,654
Raspberry	18,731	350	6,555,850	7,450
Other Soft Fruit	9,635	375	3,613,125	4,106
Total	162,693		27,362,815	31,095

* 134,327 tonnes x 20% | ** 134,327 tonnes x 80%

Comparison with the 2015 requirement set out in Table 3 (on page 14) shows as follows:

TABLE 10
POTENTIAL SEASONAL WORKER REQUIREMENT 2020
COMPARISON WITH 2015 CALCULATED WORKER NUMBERS

Crop	2015 Worker Requirement	2020 Worker Requirement	Difference
Strawberry–soil	9,450	4,885	-4,565
Strawberry–substrate 8,663	8,663	14,654	5,991
Raspberry	6,841	7,450	609
Other Soft Fruit	4,006	4,106	100
Total	28,960	31,095	2,135

4.5 The Potential for Robotic Picking to Reduce the Requirement for Seasonal Labour

At present machines for the robotic picking of Soft Fruit are not commercially available.

However, there are machines in development for the robotic picking of strawberries which are at the prototype stage and which might be available for limited commercial use within 1– 2 years. Extensive use on a commercial scale seems unlikely before 2020.

By 2015 UK–grown strawberries were available from April–October, with over 60% of the total sold through the multiple retailers. Between 1996 and 2015 average yields had increased by 125%, to 22.3 tonnes per hectare, with significant improvements to crop quality, enabling growers to meet the higher specifications required by supermarkets.

When considering the extent to which “picking robots” might displace seasonal labour some key factors need to be borne in mind:

- ▶ These machines are only being developed for strawberry crops, so there will be no opportunity to replace labour for other Soft Fruit crops in this way.
- ▶ The picking operation for strawberries only accounts for some 45% of all seasonal labour costs (for all seasonal labour requirements see Pages 10-11).
- ▶ These machines will only be relevant for strawberries grown in substrate on “Tabletop Systems”. This means that strawberry crops grown in the soil will continue to have to be harvested manually.
- ▶ Furthermore there are a number of methods for growing strawberries in substrate that do not use the Tabletop System, for which robotic harvesting is also unlikely to be an option.
- ▶ Additionally there will be a number of Tabletop Systems whose layout, topography or location will make robotic picking impossible.

Taking these factors into account, it seems likely, even with the successful development of a commercially available strawberry picking robot, that only a limited part of the strawberry might be harvested in this way by 2020.

To gain an outline indication as to what this might mean for the requirement for seasonal labour, let us make the theoretical assumption (no other assumptions are presently available) that 20% of the substrate-grown strawberry crop is picked by robots in 2020.

Using the figures from Table 9 (page 20) the calculation is as follows:

- ▶ *Forecast tonnes strawberry grown in substrate = 107,462 tonnes*
- ▶ *20% of 2020 forecast production = 21,492 tonnes*
- ▶ *Labour requirement for picking = @ 120 hours per tonne x 45% = 54 hours per tonne*
- ▶ *Total labour saved by robotic picking = 21,492 tonnes x 54 hours = 1,160,568 hours*
- ▶ ***TOTAL LABOUR SAVED = 1,160,568 HOURS ÷ 880 = 1,319 WORKERS***

If successfully developed, robotic picking does create the opportunity to replace some seasonal workers, although the above illustration suggests that (in the foreseeable future) this could be no more than 5% of the annual requirement – and indeed less than the overall additional requirement for seasonal workers by 2020.



5 An assessment of the implications of restrictions on future seasonal worker availability

5.1 The Increasing Requirement in Summary

The calculations in the previous section – summarised in Tables 8 and 10 – forecast between 2015 and 2020:

- ▶ an increase in production of all Soft Fruit crops of over 20,000 tonnes, equivalent to 14.5% of production.
- ▶ an increase in the requirement for seasonal workers of over 2,000 by 2020 compared with the 2015 figures, that is a further 7.4% by worker numbers.
- ▶ that the worker requirement has not increased pro-rata due to the continuing conversion of strawberry production from soil to substrate, with the lesser labour requirement of the latter.

5.2 The General Implications of Restricted Seasonal Worker Numbers for both Producers and Consumers

- ▶ A reduction in the volume of UK Soft Fruit production.
- ▶ A reduction in the number of UK Soft Fruit-growing businesses.
- ▶ A reduced area of Soft Fruit production in the UK.
- ▶ A reduction in taxation income for the UK Government – Income Tax, Corporation Tax and National Insurance from both employers and employees.
- ▶ An increase in imports of Soft Fruit into the UK, increasing transport costs (both financially and environmentally) and reducing or removing the opportunity for consumers to buy local produce.
- ▶ A reduction in overall market supply, leading to increased prices for UK consumers.
- ▶ An increase in the volume of Soft Fruit imports into the UK, with a detrimental effect on the balance of payments.
- ▶ A reduction in the consumption of Soft Fruit by UK consumers as a result of reduced availability and increased price (which could be exacerbated in the event that Soft Fruit becomes the subject of tariffs).

5.3 The Potential Implications for the UK Consumer of Restrictions in Seasonal Worker Availability:

As this report has indicated, the production of Soft Fruit in the UK is almost exclusively reliant on seasonal workers from the EU, a significant proportion of whom enter and leave the UK annually.

In 2015 total Soft Fruit consumption in the UK was 247,000 tonnes, of which 58%, or 142,000 tonnes, was produced in the UK. Home-grown production is absolutely vital to the supply of the UK market, meeting almost 100% of UK consumers' requirements for the May-September period.

To understand the potential implications for UK consumers of the loss of seasonal labour for UK Soft Fruit growers, the following question was put to a group comprising a number of British Summer Fruits marketer members, who specialise in the supply of both home-grown and imported berries to the UK market:

"If UK growers lost their ability to engage seasonal workers, and therefore production largely disappeared from the UK, what would be the effect on the UK consumer for whom Soft Fruit has become such an important part of their diet?"

Their reply was as follows:

"Following some work on actual costs of Dutch / Belgian strawberries and Portuguese raspberries (where there is already a substantial summer production) we came to the following numbers. We ignored the actual short term effect on those markets if the whole UK demand was introduced, which would be very inflationary in the immediate term, as we have to assume that if we exported our industry to countries that still had unfettered access to seasonal labour, the production in those geographies would grow to meet UK demand over a period."

The numbers we looked at are:

Strawberries 400gm punnet in 2016

UK average "main season" (i.e. June - Sept) cost price to retailer £1-35 - retail £2-00 (retailer Gross Margin 32.5%)

Imported fruit – cost price to retailer £ 1-85 - retail therefore £ £2-75 assuming same retailer Gross Margin.

37% COST INFLATION FOR CONSUMERS

Raspberries 200gm punnet in 2016

UK average "main season" (i.e. July - Sept) cost price to retailer £1-35 - retail £2-00 (retailer Gross Margin 32.5%)

Imported fruit – cost price to retailer £ 1-90 - retail therefore £3-00 assuming same retailer Gross Margin

50% COST INFLATION FOR CONSUMERS

The consequence of any restriction in the supply of seasonal labour, and therefore in UK Soft Fruit production, will certainly have an inflationary effect on prices. At the most extreme – that is with almost no seasonal labour – there is likely to be very high price inflation, as the above assessment sets out.

The threat to the UK consumer, for whom Soft Fruit represents 22% of all their fruit purchases (Source: Kantar) could not be clearer.

APPENDIX I

Andersons Midlands service areas

- ▶ Business appraisal and strategic planning
- ▶ Investment planning and appraisal
- ▶ Financial planning including budget and cashflow preparation
- ▶ Enterprise costings and benchmarking
- ▶ Farm business administration
- ▶ IT and software design
- ▶ Contract Farming Agreements and Joint Ventures
- ▶ Cooperation and collaboration
- ▶ Diversification
- ▶ Understanding CAP schemes and grant support
- ▶ Basic Payment / agri-environment claims and problem solving
- ▶ Preparation of grant applications
- ▶ Tenancy matters, rent review and arbitration
- ▶ Expert witness
- ▶ Insolvency
- ▶ Recruitment

APPENDIX II

EJ Pelham curriculum vitae

John Pelham - MA (Oxon) Agricultural & Forest Sciences

Joined what was, then, David Anderson & Company in 1985, becoming a Partner in 1990 and assuming responsibility for the management of a consultancy team operating throughout the Midlands region. One of the founding Partners of the Andersons Midlands practice, formed in 2001, and is now based at their West Midlands office in Hereford.

With over 30 years' consultancy experience, he has provided advice to a large number of farming businesses throughout the UK, working with both cropping and livestock systems and drawing extensively on the seven years' practical experience previously gained in farming and farm management. He increasingly advises on strategy and business development and has particular expertise in helping businesses address the issue of succession.

He has a detailed working knowledge of all aspects of business advice with particular experience in:

- * Strategic Business Planning
- * Financial forecasts and Investment Appraisal
- * Detailed enterprise costings and benchmarking for all crop and livestock systems
- * Specialist business advice for top and soft fruit growers
- * Farming systems and agricultural support
- * Contract Farming Agreements and Joint Ventures
- * Expert Witness
- * Training and Recruitment

Background and Practical Farming Experience

Brought up with farming background, Father being Principal of Hertfordshire College of Agriculture and Horticulture

1974-75	Farm worker on 700 acre farm with dairy, beef, pig and arable enterprises in Hertfordshire
1978	Graduated from Oxford University with degree in Agricultural and Forest Sciences
1978-79	Farm worker on 900 acre farm with dairy, beef, sheep and arable enterprises in Devon
1979-1983	Assistant Farm Manager on arable, fruit, livestock and leisure business in Suffolk
1983-1985	Farm Manager on 1,000 acres in County Westmeath, Eire including a 400 cow dairy herd, dairy youngstock and cereal cropping

APPENDIX III

SOFT FRUIT PRODUCTION 1996 – 2015

TONNES THOUSANDS

SOFT FRUIT PRODUCTION 1996 – 2015

TONNES THOUSANDS

Year	Strawberries	Raspberries	Other Soft Fruit	Total
1996	40.1	13.2	8.1	61.4
1997	32.8	10.1	7.0	49.9
1998	34.9	12.8	5.5	53.2
1999	42.0	11.0	5.8	58.8
2000	37.3	9.8	6.2	53.3
2001	36.6	7.7	4.9	49.8
2002	41.4	7.3	5.3	54.0
2003	47.1	8.5	5.2	60.8
2004	52.5	10.0	5.4	67.4
2005	68.6	12.2	5.1	85.9
2006	67.5	12.2	6.0	85.7
2007	83.1	14.8	7.8	105.7
2008	94.0	15.5	7.8	117.3
2009	98.5	15.6	8.9	123.0
2010	95.7	15.9	8.9	120.5
2011	101.9	15.5	7.7	125.1
2012	94.8	15.6	7.5	117.9
2013	93.9	14.6	8.0	116.5
2014	104.4	17.8	7.9	130.1
2015*	115.5	17.2	9.4	142.1

*Figures are provisional | Source: DEFRA



