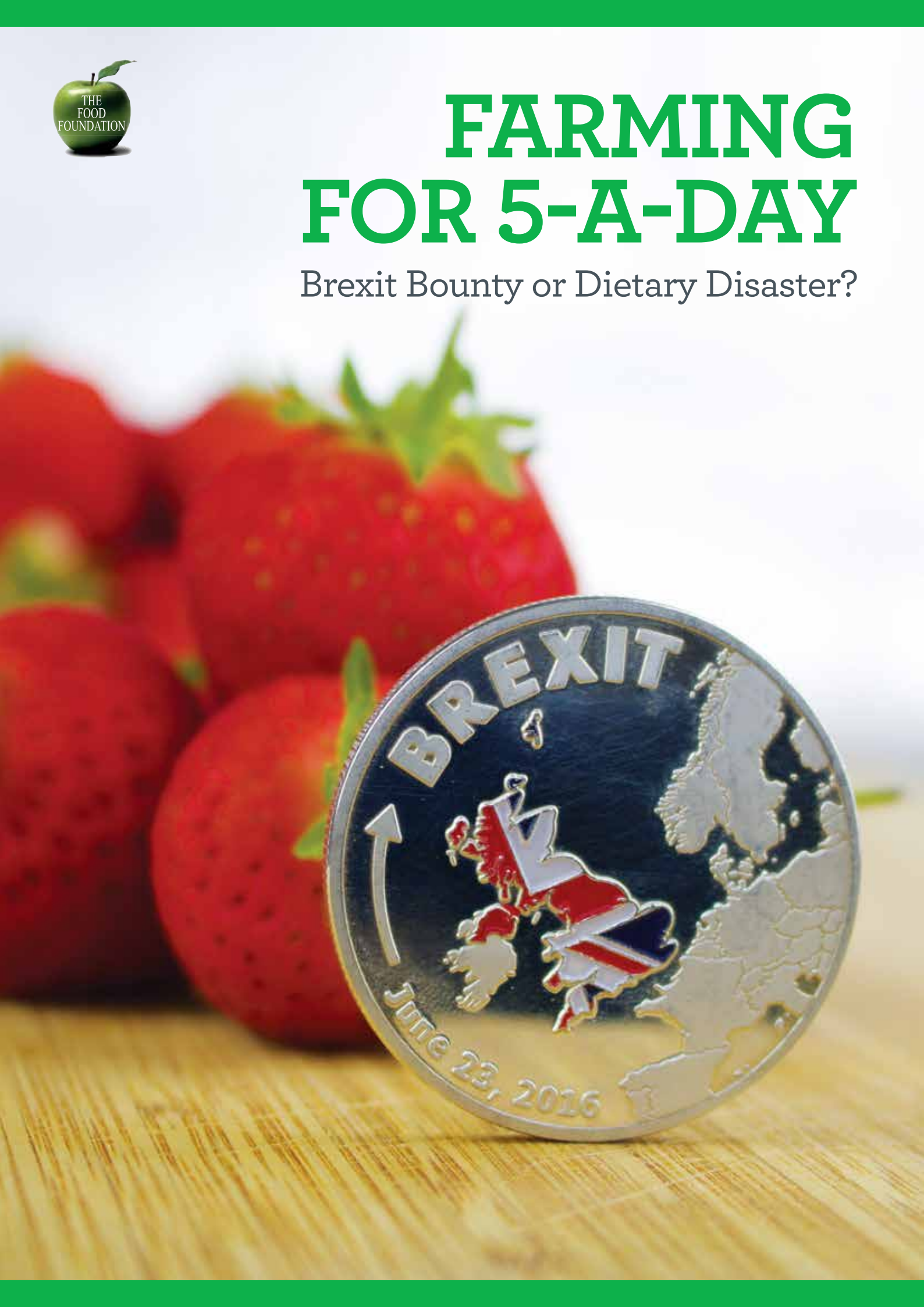
THE FOOD FOUNDATION

FARMING FOR 5-A-DAY

Brexit Bounty or Dietary Disaster?



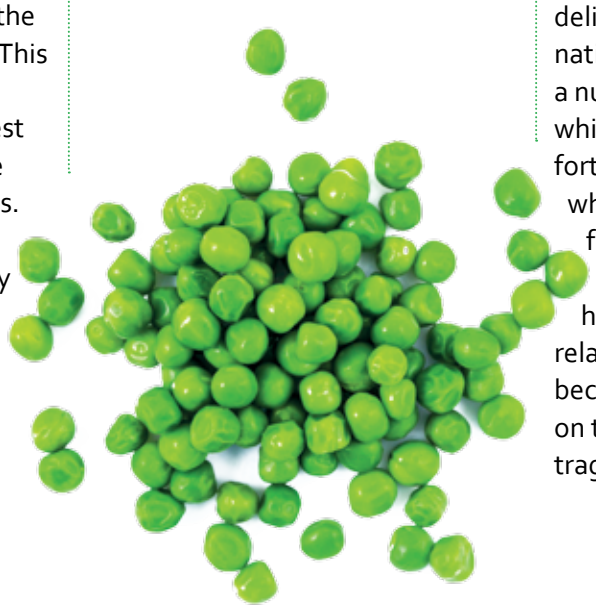
Summary

Our diets are killing us and crippling our Health Service. Food prices are a major driver of food choices and so have a significant impact on what we eat. In this briefing, we examine the potential impact of Brexit scenarios on the price of fruit and vegetables – foods which we need to be eating much more of to protect our health.

Inflation resulting from unfavourable exchange rates, the rising cost of seasonal labour and a heavy tariff bill resulting from a "No Deal Brexit" scenario combine to mean that purchasing a variety of fruit and vegetables on a daily basis could become unaffordable for millions of British households. At least thirty-three of our 50 most popular fruit and vegetables will be directly affected by new trade rules with the EU. The price of securing 5-a-day for a 4 person household purchasing the nation's favourite fruit and veg will rise from £37.58 to £39.76 a week; or per year, from £1,954 to £2,067. If they were to eat 7-a-day (as recommended by current government guidance) the cost becomes £2,894 per year. This means almost half (46%) of the entire food budget of the poorest 10% of the population would be taken up with fruit and veg costs.

We looked at the self-sufficiency levels of our favourite fruit and veg and grouped them according to their trade characteristics and therefore the impact which new trading rules could have on them.

1. THE HARDY HEROES
   products which we eat all, or almost all "UK grown" throughout the year
2. THE CHANNEL HOPPERS
   products which we grow in the UK for part of the year, but due to growing conditions rely on produce from the rest of Europe for the rest of the year. These products rarely come from beyond the EU.
3. THE BREXIT BOOSTERS
   products which we grow in the UK but rely on European imports too, and we could grow more in the UK if we could become more competitive and/or if tariffs are introduced for EU imports.
4. THE EU EMIGRANTS
   products which we may grow partially in the UK but we rely heavily on imports from both the EU and rest of the world.
5. THE GLOBE TROTTERS
   Products we cannot grow in the UK and we only import from countries outside the EU.



We uncover, in our analysis, sixteen UK-grown fruit and vegetables (Apples, Broccoli, Cauliflower Cherries, Courgettes, Cucumbers, Garlic, Lettuce, Mushrooms, Onions, Pears, Peppers, Spinach, Spring Onions, Sweetcorn and Tomatoes), both *Brexit Boosters* and *EU Emigrants* that, with the right support, could become increasingly productive. They could begin to supply more of the UK market, thereby helping to mitigate potential price increases, benefiting UK consumers, farmers and the NHS alike. While growing more in the UK will not entirely mitigate the price increases, it will ease the impact on British households. Ministers should seize this potential along with the huge opportunity to grow demand; demand which could see the UK horticulture sector's productivity rise from £2billion a year to £3.3 billion.

Ministers designing our future agriculture policy face a simple choice: to develop a policy which deliberately sets out to benefit the nation's health or not. We propose a number of policy measures which could be adopted in the forthcoming Agriculture Bill and which offer genuine public good for public money. Overlooking an opportunity to improve our health at a time when diet-related disease is skyrocketing and becoming an unsustainable burden on the public purse, would be tragic wasted opportunity.

Food prices matter for millions of people living in Britain

In the UK we spend about 17% of our household budget on food and drink (when we take into account the food we eat out as well as at home), and though much is made of the fact that we spend very little, our levels of spending are not dramatically lower than our European neighbours for whom the average is 20% (Eurostat, 2012).

But as ever, averages mask huge variation. If you are in the top 10% income bracket your household spends on average 13% of your household budget on food and non-alcoholic drinks, amounting to £45 per person per week. But if you are in the bottom 10% you spend 22% of your budget which equates to £30 (ONS, 2017a, 2017b). And problems are increasingly arising for households at the lower end of the wealth spectrum. When it comes to levels of severe food insecurity, we have the second highest rates in Europe. The UN estimates that 4.2% of the population in the UK is experiencing severe food insecurity (FAO/IFAD/UNICEF/WFP/WHO, 2017), compared to a European average of 1.6%. That amounts to 2.7 million British men, women and children.

So, while on average we currently do not pay a lot for our food, as a percentage of household budget, food price rises have a dramatic effect on the lives of millions of people in Britain. Moreover, food prices are a political hot potato; no one likes the cost of basic necessities to go up, and no politician wants to be presiding over a period of food inflation.

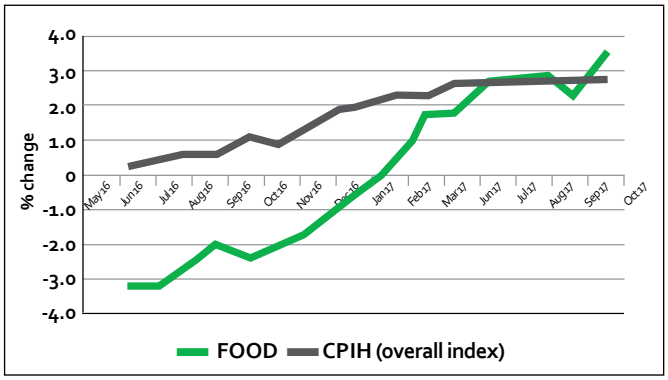
Rising food prices hit the poorest hardest

Ten years ago, food prices rose sharply globally and Britain was no exception. While they have declined since, they are still considerably higher than in 2007. As food is a global commodity, a few key factors affect prices: harvests in the major growing regions which can be affected by climate shocks, the volume of food stocks and the extent to which they can buffer harvest fluctuations, oil prices which affect transport and input costs and the extent to which food crops are replaced with fuel crops thereby affecting global supply. Trade policies can also have dramatic effects. When prices rose in 2008, export bans imposed by some countries wreaked havoc on prices.

In the UK, as elsewhere, food price rises over the last 10 years have affected what we buy. DEFRA data show that between 2007 and 2015 households saved 5% of their food budget by buying cheaper versions of the same food, bought 7% less food, but in spite of these savings higher prices meant they still experienced a net increase of 16% on their food bill. For those in the poorest 10% of households however, the impact was much worse. They experienced a net increase of 26% (DEFRA, 2017b) .

Since the EU Referendum, food prices have started to rise again (see Figure 1), triggered by the reduced strength of the British Pound. The forecasts for further rises are uncertain. While world harvests have been good, and stocks are high, it is not clear what will happen to the UK's exchange rate, and oil prices (which tend to create a lagged increase in food prices) are on an upward trend (FAO, 2017).

Figure 1: Consumer Prices (ONS) May 2016-October 2017



Fruit and veg prices should be a priority concern in planning our new agriculture policy

In this paper we take a close look at the implications of possible Brexit scenarios on prices of fruit and veg. There are 4 key reasons why it makes sense to look at fruit and veg compared to other foods:

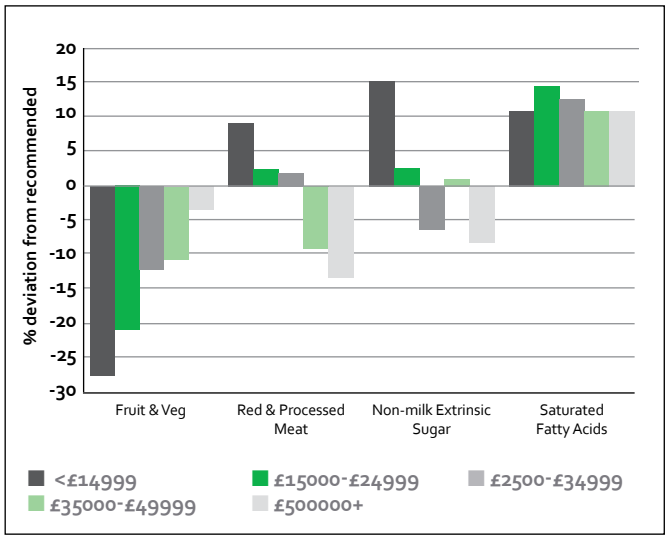
1 Fruit and veg are an important factor in household spending

We spend a significant slice of our household budget on fruit and veg already – approximately 18% of our food and soft drink spend. This compares to 19% on cereals (including bread) and 7% on milk (DEFRA, 2017b). Prices of fruit and veg will therefore have a large overall impact on food budgets. For fruit and veg, price inflation since 2007 has contributed to a 5% reduction in the quantity we purchase (DEFRA, 2017b).

2 Fruit and veg are the biggest marker of dietary inequality

Fruit and veg consumption is the area of the diets where we see the biggest differences between rich and poor, but everyone needs to be eating more (see Figure 2).

Figure 2: Dietary Intake v. Recommended by Equivalised Income Group



Source: Maguire, Burgoine, & Monsivais, 2015

3 Fruit and veg consumption needs to increase

Fruit and veg are (with the possible exception of oily fish) the only food groups the Department of Health wants us to be eating more of, to improve our dietary health and reduce the huge burden of diet-related illness on the NHS. On average, our fruit and veg consumption needs to increase by 64% to be in line with the Government's dietary guidelines (Scarborough et al., 2016) – which amounts to 7-A-Day. Moreover, there are signs our consumption is at best stagnant, at worst declining slightly (see Table 1).

Table 1: Percent population achieving 5-a-day (PHE/FSA, 2016)

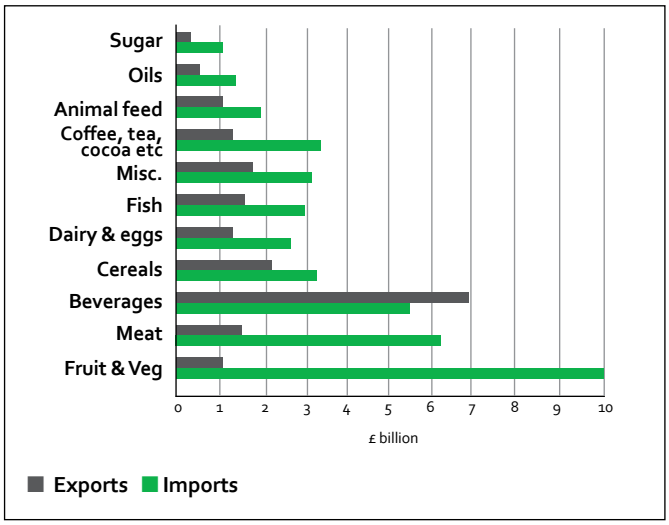
	% achieving 5-a-day		
	2008-10	2010-2012	2012-2014
Children aged 11-18y	10	6	8
Adults aged 19-64y	29	27	27
Adults aged >64y	36	37	35

4 We rely heavily on imported fruit and veg so the export agenda is much less important

Fruit and veg has the biggest trade deficit of all our food (see Figure 3(DEFRA, 2016b) and will therefore be uniquely affected by any new trading arrangements resulting from the UK exiting the EU. Thirty years ago, 83% of the veg we ate came from the UK. Now it is 54%.

17% of the fruit supply in the UK is UK grown, a similar proportion to 30 years ago though in the intervening years levels have fluctuated (DEFRA, 2016c).

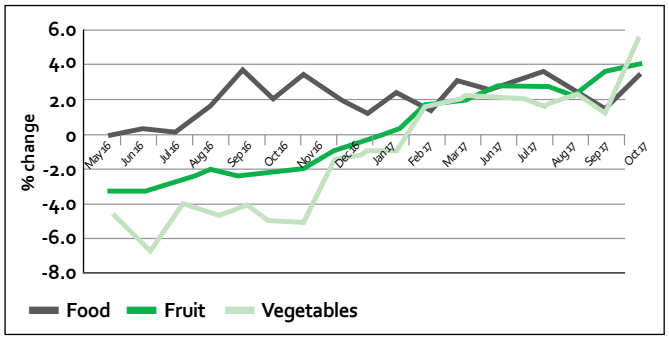
Figure 3: UK Trade in different food groups (DEFRA, 2016)



What we know about fruit and veg prices

The Consumer Price Index (CPI) shows that as with overall food prices, the prices of fruit and vegetables have also gone up. The CPI tracks 15 fruit and vegetables[1] and Figure 4 shows their price trends in the last 18 months.

Figure 4: Consumer Prices (ONS) May 2016 - October 2017



We have, in this paper analysed data for 50 fruits and vegetables which have the largest market value in the UK, based on Kantar Worldpanel data.

The total value of the market of these 50 products was £10.6 billion (Kantar Worldpanel; May 2016–May 2017, (Fresh Produce Journal, 2017)) with a volume of just over 6 billion metric tonnes (MT). Potatoes (Old, Baking, New) have been removed from the analysis as nutritionally they are classified as a carbohydrate. Beetroot, Blackberries, Blueberries and Swede were also removed because disaggregated data on their production, imports or exports were not available, leaving 43 of the 50 products in the analysis. Several products were grouped for the analysis (see Box for further details on methods).

We analysed the price changes for these products over the period Sept 2016- Sept 2017 in the supermarket with the largest market share, using the price tracking database mysupermarket.com. On average, prices of our favourite vegetables increased by 1.9%, and of fruit by 2.5%, and reflect very closely the CPI data. It is not clear whether this level of inflation is likely to remain or increase further (Clarke, Serwicka, & Winters, 2017).

[1] **Fresh vegetables:** Potatoes, old white, per kg, Potatoes, new loose, per kg Tomatoes, per kg Cabbage, hearts, per kg Cauliflower, each Broccoli, per kg Carrots, per kg Onions, per kg Mushrooms*, per kg Cucumber, each Lettuce - iceberg, each **Fresh fruit:** Apples, cooking, per kg Apples, dessert, per kg Pears, dessert, per kg Oranges, each Bananas, per kg Grapes, per kg Avocado pear, each Grapefruit, each

In a "No Deal" Brexit scenario this price inflation will be further compounded by tariffs, which will be imposed on the majority of fruit and veg we eat. At least 18 of our fruit and veg favourites will be immediately affected by tariffs between 9% and 13% for at least part of the year.

Research recently published (Clarke et al., 2017) shows (using partial equilibrium models) that the implications of shifting to the WTO Most Favoured Nation tariffs would add further to this price inflation by a further 3.1% for fruit and 4.0% for vegetables. While their research shows a shift in prices for some foods which might go in favour of eating more healthily (e.g. Meat is expected to rise by 5.8% and Oils and fats by 7.8%), the rises in the cost of fruit and veg are considerably higher than those expected for sugar, jam and confectionery (2.3%). And these estimates are considered very conservative, as they do not take into account a range of other expected costs (e.g. frictions at borders resulting from exiting the single market, costs of tariffs on the costs if inputs into UK production etc etc).

We analysed the implications of these cost increases on our favourite fruit and veg for a household of four.

We found that the price of securing 5-a-day for a 4-person household, purchasing the nation's favourite fruit and veg will rise from £37.58 to £39.76 a week; or per year, from £1,954 to £2,067. If they were to eat 7-a-day (as recommended by current government guidance) the cost becomes £2,894 per year (Table 2). This means the equivalent of 46% of the entire food budget of the poorest 10% of the population would be taken up with fruit and veg costs.

Table 2: Impact of inflation and tariffs on the cost of purchasing 5-a-day and 7-A-Day

		Sept 2016	March 2019 in No Deal scenario
	Price of 5-a-day for a family of four	Per week	£37.58	£39.76
		Per year	£1,954	£2,067
		Per person per week	£9.39	£9.94
	Price of 7-a-day for family of four	Per week	£52.61	£55.66
		Per year	£2,735	£2,894
		Per person per week	£13.15	£13.91

Notes: Based on a standard pack size of each of our 43 favourites adjusted to provide 5-a-day or 7-a-day. This will overestimate consumption as no adjustment is made for unavoidable waste (peel, stones etc) but no account is made of fruit and veg contributed through processed sources.

METHODS

Due to data limitations we made some assumptions in the analysis, specifically as follows:

- **Cabbage:** we combined all varieties of cabbage in the production data though the extent to which they are currently UK grown varies

- **Parsnips:** there are no import and export data. UK production exceeds market volume so there could be a degree of export.

- **Brussels sprouts** and **Kale** have been combined as export and import data classify these as "other brassicas", but production data is only available for Brussels Sprouts. Similarly, **Oranges** and **Easy Peelers** were combined and **Nectarines** and **Peaches.**

- **Broccoli** and **Cauliflower** have been combined because import and export data group these two. However, the opportunities for UK grown vary significantly between the two. Cauliflowers are available for more of the year than broccoli.

- There are no disaggregated production data for **garlic** and **sweetcorn** but qualitative data suggests these are UK grown to some extent. Import and export data are not available for spring onions but qualitative data suggests they are imported from mainland Europe and beyond.

We have not investigated the impacts of the scenarios on exports, largely because primary exports are very low (as compared to re-exporting) for fruit and veg compared to other food sectors (see Figure 3).

British fruit and veg: viable but vulnerable

So, what can the government do to mitigate these price effects? Can we simply grow our own as some might have us believe? And what role could the new Agriculture Bill play in helping to avoid a collapse in demand for fruit and veg, which would be disastrous for our health and the NHS. First, we need to understand our starting point and describe the current state of British production of fruit and veg.

Very productive

The horticulture sector in Britain is highly productive. Horticulture currently only takes up 3.4% of the cropped arable land but delivers 25% of the value of arable crops (DEFRA, 2017). Over the last 30 years, the overall area planted to both fruit and veg has declined, but this overall trend masks a significant increase in land devoted to fruit grown (including within glasshouses). Overall, however, levels of production have increased slightly, reflecting significant productivity gains across soft and tree fruits.

Not reliant on subsidies

Unlike other sectors of farming, fruit and veg growers in the UK have benefitted very little from the farming subsidies from the EU. The latest data on farmer incomes (for England only) show that horticulture farms got on average £5,300 in 2015/16 from EU payments, while dairy farms received £24,000, cereal farms £36,900 and poultry farms £8,800 (see table 3). While this means that many horticulture businesses are economically more sustainable than other sectors of farming, this lack of public support combined with an extremely competitive retail environment means that margins for producers are generally extremely small (1-3%) and businesses can only survive if they are producing very efficiently and on a huge scale (British Growers, 2017). Risk also tends to be passed down to the growers from the supermarkets, through, for example, late changes to orders, which further compounds the threats to business viability.

Table 3: Percentage of farm business income from various sources, by farm type, 2015/16 (DEFRA, 2016a)

	Agri-environment payments		Basic payments scheme	
	Income (£)	% of farm business income	Income (£)	% of farm business income
Grazing livestock (lowland)	4,200	35%	12,900	107%
Mixed	6,000	33%	21,400	120%
Grazing livestock (LFA)	9,800	51%	17,700	93%
Specialist pigs	2,500	11%	10,400	47%
All types	5,500	17%	21,100	67%
Horticulture	1,400	4%	3,900	11%
Cereals	6,000	17%	30,900	87%
Dairy	3,700	9%	20,300	48%
General cropping	8,400	13%	36,700	58%
Specialist poultry	1,600	2%	7,100	7%

In need of matched financing for capital and R&D investment

However, there has been a particularly important financing mechanism for horticulture which has channelled resources from Europe's Fresh Fruit and Vegetables Aid Scheme to Producer Organisations (PO), which operate like cooperatives. These cooperatives can apply for resources on a matched funding basis to support capital investments in productivity, marketing activity and R&D. Moreover, by collaborating through a PO, growers can collectively justify and access negotiating skills and increase their marketing power, counteracting some of the imbalances along the supply chain (British Growers, 2017). The increase in production of strawberries by 250% in Britain has been attributed to the scheme. Currently there are 33 POs based in the UK (representing about 38% of the UK fruit and vegetable sector) who are receiving matched funds amounting to an estimated £30million per year.

Table 4: Casual labour costs per farm, England, 2015/16 (Farm Business Survey, Rural Business Research)

	Casual labour costs, average per farm (£)
Cereals	£1937
General Cropping	£9147
Horticulture	£40,568
Grazing Livestock	£2815
Poultry	£5724

Dependent on migrant labour

More than other sectors of farming, fruit and veg growers require tens of thousands of workers to deal with the seasonal nature of production (Table 4). Horticulture employs 12% of England's agricultural labour force and at least 35% of its casual/seasonal labour force, which is made up primarily of migrant workers from the rest of Europe (Schoen & Lang, 2016).

While mechanisation is happening apace, robotic fruit harvesting, for example, is at least 5 years away from commercialisation and initially will only be afforded by the largest grower businesses.

This reliance on seasonal labour has made the sector particularly vulnerable to the uncertainties over immigration (The Guardian, 2017).

Table 5: Labour intensity of top UK grown fruit and veg (per ha)

High labour intensity	Medium labour intensity	Low labour intensity
Asparagus	Broccoli	Carrots
Beans	Brussels Sprouts	Onions
Cherries	Cabbage	Parsnips
Courgettes	Cauliflower	
Cucumbers	Celery	
Peppers	Dessert apples	
Plums	Kale	
Raspberries	Leeks	
Spring onions	Lettuce	
Strawberries	Mushrooms	
Tomatoes	Pears	
	Peas	
	Spinach	

Source: British Growers, personal communication.

In the period between 2017 and the date when new rules on immigration come into force, seasonal labour availability in the UK is likely to decline and become more expensive compared to competitor countries in the EU. This is due to two factors. First, the reduced strength of the British Pound means that wages paid in the UK to seasonal workers no longer carry as much value back home as they once did. Second, there is growing evidence that the UK is not seen as a socially desirable destination for seasonal workers since the Brexit vote. These pressures will impact both price and potentially availability of UK produce (if crops are left to rot in the fields and / or growers produce less).

Of our 50 fruit and veg favourites, the following crops are most likely to be affected by labour shortages: Lettuce, cucumbers, beans, asparagus, peppers, courgettes, spring onions, plums, cherries, strawberries & raspberries. These crops are currently grown in the UK but successfully compete with European produce on price. As labour costs increase and availability declines, it is likely that these UK grown crops will go up in price and will not be able to compete with produce from mainland Europe, though a weaker pound (affecting costs of imported produce) may to some extent mitigate these effects. British Summer Fruits estimate that if labour shortages led to an entire shift away from UK-grown to imported strawberries and raspberries, prices would go up by 37% and 50% respectively (British Summer Fruits, 2017).

The most concerning aspect of the labour problem, aside from the immediate impact on consumers, is the potential lasting impact it could have on sections of horticultural production. Businesses are working to such tight margins, that one failed season can put them out of business. The immediate problem of labour availability is very likely to affect the viability of many farmers growing these crops which will increase the UK's dependency on European suppliers just when it makes more economic sense to start to invest in UK horticulture (for the reasons outlined below).

Our current levels of self-sufficiency

For our 50 fruit and veg favourites (described above), we used DEFRA production, import and export data to determine levels of self-sufficiency for each of the products. These data, shown in Table 6, show what proportion of each product which we buy is UK grown – so, all our lemons are grown outside the UK, but 15% of our pears are UK grown.

Table 6: Self-sufficiency and market value for the Top 50 fruit and veg (ranked from lowest self-sufficiency to highest)

	Top 50	Self sufficiency	Market value £ million
1	Easy Peelers & Oranges	0.00%	£651.90
2	Grapes	0.00%	£810.30
3	Lemons	0.00%	£95.80
4	Nectarines & Peaches	0.00%	£160.40
5	Garlic	NPD*	£39.70
6	Sweetcorn	NPD*	£86.60
7	Avocados	0.00%	£168.90
8	Bananas	0.00%	£578.10
9	Grapefruit	0.00%	£33.90
10	Kiwis	0.00%	£46.70
11	Mangoes	0.00%	£52.60
12	Melons	0.00%	£150.10
13	Pineapples	0.00%	£41.90
14	Sweet Potatoes	0.00%	£76.10
15	Peppers	10.08%	£292.10
16	Pears	15.50%	£220.90
17	Plums	17.39%	£92.60
18	Tomatoes	19.64%	£744.30
19	Cherries	21.06%	£107.70
20	Cucumbers	24.46%	£201.90
21	Lettuce	29.99%	£205.80
22	Dessert Apples	30.51%	£878.70
23	Asparagus	32.36%	£78.00
24	Courgettes	33.69%	£68.00
25	Spinach	39.23%	£51.50
26	Celery	39.34%	£70.60
27	Mushrooms	45.72%	£402.30
28	Onions	49.02%	£209.20
29	Broccoli & Cauliflower	50.75%	£301.90
30	Brussels Sprouts & Kale	53.28%	£83.90
31	Raspberries	55.59%	£253.90
32	Beans	58.05%	£162.70
33	Strawberries	67.05%	£576.80
34	Leeks	69.13%	£74.60
35	Cabbage	92.07%	£92.40
36	Carrots	93.27%	£221.20
37	Peas	95.93%	£54.30
38	Parsnips	NI/ED**	£50.50
39	Spring Onions	NI/ED**	£84.10

Notes: Self Sufficiency = (productionx100/(production+imports-exports)

*NO PRODUCTION DATA **NO IMPORT/EXPORT DATA

We used this information to group the 43 products into 5 categories:

1. **The Hardy Heroes** - products which we eat all, or almost all "UK grown" throughout the year
2. **The Channel Hoppers** – products which we grow in the UK for part of the year, but due to growing conditions rely on produce from the rest of Europe for the rest of the year. These products rarely come from beyond the EU.
3. **The Brexit Boosters** - products which we grow in the UK but rely on European imports too, and we could grow more in the UK if we could become more competitive and/or if tariffs are introduced for EU imports.
4. **The EU Emigrants** - products which we may grow partially in the UK but we rely heavily on imports from both the EU and rest of the world.
5. **The Globe Trotters** - products we cannot grow in the UK and we only import from countries outside the EU.

3 HARDY HEROES:
PARSNIPS, CABBAGE, CARROTS

These are the fruit and veg for which we eat all or almost all UK grown (they have self-sufficiency >90%). These crops may get some new competition if a free trade agreement was set up with growing countries outside Europe, if they were produced more cheaply than in the UK.

However, even if crops have very high self-sufficiency, for example moving from 92% for cabbage or 93% for carrots to 100%, represents a considerable opportunity for British farmers.

7 CHANNEL HOPPERS:
MELONS, BRUSSELS SPROUTS & KALE, CELERY, LEEKS, STRAWBERRIES, RASPBERRIES

These are fruit and veg which we grow in the UK for part of the year (except Melons), but due to growing conditions rely solely on produce from the rest of Europe for the rest of the year. For these crops, it would be very difficult to expand UK-grown. The prices of these would go up in a WTO Rules scenario, unless there were new countries outside the EU which could supply them more competitively.

11 BREXIT BOOSTERS:
TOMATOES, CUCUMBERS, ONIONS, LETTUCE, MUSHROOMS, PEPPERS, SPINACH, COURGETTES, CHERRIES, BROCCOLI & CAULIFLOWER.

These are the crops which we grow in the UK but rely on European imports too, and we could grow more in the UK if we could become more competitive and/or if tariffs are introduced for EU imports. In the short-term prices would go up until there was sufficient investment in production in the UK. These crops are currently all grown in the UK and imported from Europe. A good number of these crops are grown in glasshouses or inside and so can often be produced year-round and are currently being imported from The Netherlands and Ireland (e.g. tomatoes, mushrooms) where climate is not dramatically different from the UK. Others are field grown and while the volume of UK grown could increase, it could not substitute imports entirely and therefore prices would be permanently affected for part of the year if tariffs were introduced (e.g. broccoli and spinach imported from Spain). Global warming could start to extend the growing seasons in the UK (and reduce them elsewhere) making some of these crops viable in the UK for longer periods.

See boxes for specific fruits and vegetables appearing in each category.

For 40 of our 43 most popular fruit and vegetables we rely on imports for part or all of the year (all except the Hardy Heroes). Up to 33 of these will be directly affected by the trade rules resulting from Brexit because we rely on imported produce from Europe to supply part or all of the market (the Channel Hoppers, Brexit Boosters and EU Emigrants). If we revert to WTO rules, at least 18 of will be immediately affected by tariffs between 9% and 13% for at least part of the year (the Brexit Boosters and Channel Hoppers) (see above).

These price rises potentially create opportunities for UK grown products to become more competitive. We estimate it would be possible to increase the UK market share of 16 of our 43 most popular fruit and veg if appropriate investments were made and the labour supply was secure (all Brexit Boosters and 5 EU Emigrants). This would in many instances, and if the latest technology were used, result in cheaper produce for the consumer in the long run and, given the perishability of fresh produce, also result in fewer food miles and a fresher, better quality product.

If the UK unilaterally removed tariffs on fruit and vegetables coming into the UK, prices for 7 of our most popular fruit and vegetables would decline and possibly a further 15 fruits and vegetables (the Globe Trotters and 15 EU emigrants), but phytosanitary checks and other technical barriers to trade could be newly introduced for European imports, thereby reducing trade efficiency and increasing cost.

15 EU EMIGRANTS:
SWEETCORN, GARLIC, PEARS, APPLES, SPRING ONIONS, LEMONS, NECTARINES & PEACHES, PLUMS, ORANGES & EASY PEELERS, ASPARAGUS, GRAPES, BEANS AND PEAS

These are crops which we import from both the EU and rest of the world. In a situation where WTO tariffs were introduced for European imports, imports of these crops could shift from coming from the EU to instead coming from the rest of the world. For the first five crops listed (Sweetcorn... spring onions), production in the UK could become more viable (in which case these five could join the list of Brexit Boosters). Shifting imports of these crops from Europe to other countries may open up significant risks to quality if the countries do not have the same standards of production (e.g. pesticide use) as are applied in the UK/Europe and if these standards are not maintained in UK law once we leave Europe.

7 GLOBE TROTTERS:
GRAPEFRUIT, PINEAPPLES, KIWIS, MANGOES, SWEET POTATOES, BANANAS, AVOCADOS

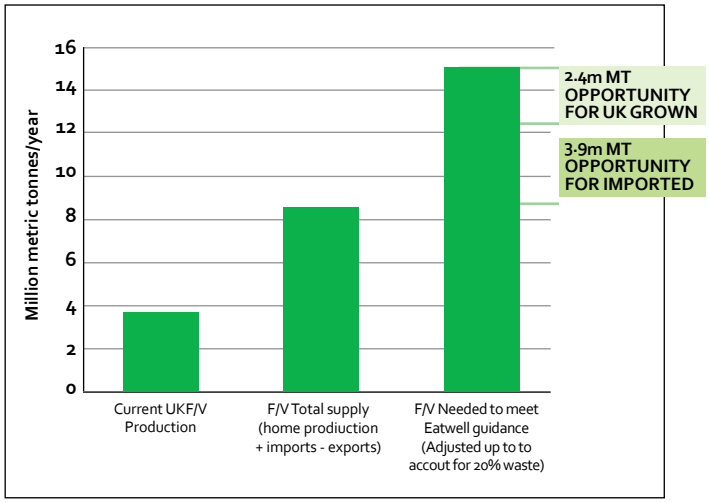
These are crops which we only import from countries outside the EU. Their prices are unlikely to change (over and above the effects of the exchange rate) unless we unilaterally reduce tariffs. Several of these crops are grown in low and middle income countries where pressures on prices driven by UK supermarkets can have substantial impacts on the sustainability of production and treatment of workers. If free trade agreements resulted in reductions in price of these products and a growth in the UK market, the knock-on effects on producing countries would need careful consideration.

There is significant opportunity to grow demand

In addition to substituting imports by making British horticulture more competitive, there is also an opportunity to achieve even greater gains in the British horticulture sector by driving up demand. This would bring benefits to the whole population, not just farmers. If we:

1. continue to reduce household and supply chain waste of fruit and veg (as we have committed to do within the Sustainable Development Goals) and;
2. maintain the same ratio of imports to UK production, and
3. we were to eat the amount of fruit and veg recommended by the Eatwell Guide, this represents a market opportunity for British horticulture of 2.4 MT, equivalent to a 66% growth in British production. This amounts to growing output from the sector from just under £2billion per year to £3.3billion(DEFRA, 2017). This creates a potentially huge opportunity to not only increase production of existing varieties but to expand the number of varieties grown to maintain consumer interest and engagement in British produce.

Figure 5: UK Fruit & Veg production, availability and requirements



Source: (Wrap 2016; DEFRA 2015b; Wrap 2012a; data prepared by Amber Wheeler)

Moreover, growing produce in the UK offers a real opportunity for British citizens to connect directly with the source and provenance of the fruit and vegetables they consume. Many small growing schemes which create very short supply chains between the producers and consumers create opportunities for a range of wider benefits including a smaller agro-ecological footprint, reduces refrigeration and packaging and much stronger connection and trust between people and the produce they are eating which in turn may help to stimulate demand as well as yield a wider set of social and community benefits (The Landworkers Alliance, 2017).

Conclusion and Recommendations

Because so many of the fruits and vegetables which we eat are grown outside, or harvested by people from outside, the UK, we can expect to see the compounded effects of three shocks on their price. Food inflation has already pushed up prices by more than 2%, a No-Deal Brexit scenario will add at least a further 3-4%, and restrictions in the seasonal labour market will add to these increases. These price hikes come at a time when diet-related disease is the number one priority for the NHS, as it is generating unsustainably high health care costs.

Agricultural policy is now being rewritten so we have an opportunity to place public goods at the heart of Britain's new policy framework. This briefing paper has explained why it is important that a better recognition of the value of horticulture would deliver tangible gains for the British public by helping to mitigate price rises of a group of products which are critical for our health, and for tackling diet-related disease.

We recommend specifically:

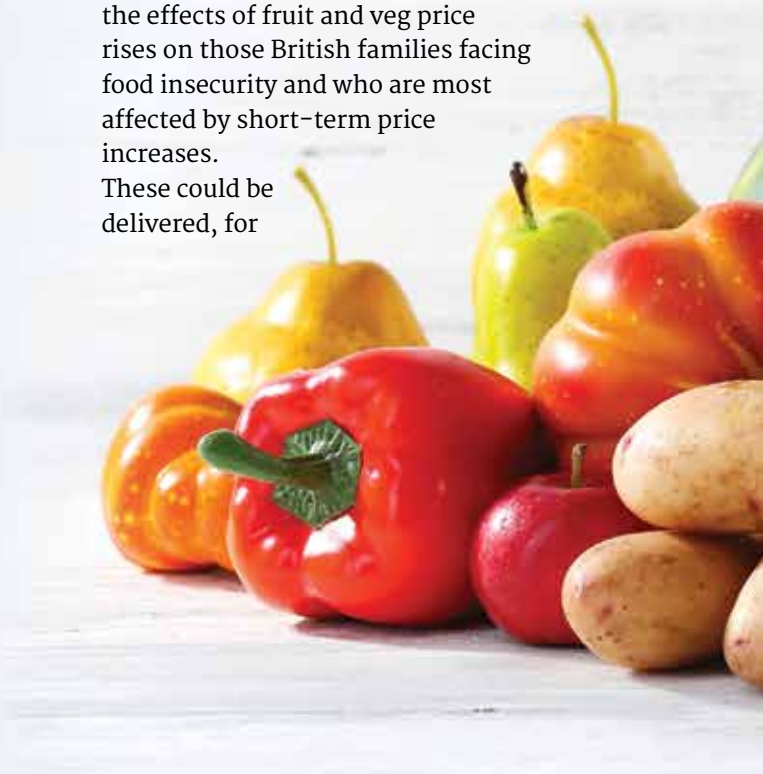
Mitigate immediate threats to British horticulture

1. The government takes immediate steps to mitigate the current threats to British horticulture by:
    a. Putting in place measures to secure a supply of seasonal labour;
    b. Strengthening the Groceries Code Adjudicator's role – which is currently being reviewed - to protect primary producers from unfair trading practices which pass risk down the supply chain, rather than spread it fairly. The Adjudicator's role needs to be extended to cover all parts of the supply chain and not just those who are the immediate suppliers to supermarkets.

2. Retailers expand their efforts to support whole crop purchasing and introduce more flexible standards to manage production and quality variations, in order to reduce waste and increase farmer productivity.

Ensure horticulture is prioritised in the Agriculture Bill

3. Ministers develop a clear vision for British horticulture which seizes the opportunities Brexit will bring for increasing productivity and keeping fruit and vegetables affordable and accessible for all. This should include a package of support within the new Agriculture Bill which is aimed at improving health and well-being, to run alongside efforts to improve the environmental impact of farming. This would serve to correct existing and potential market failures associated with the high externality costs of our food system born by the health service, and offer genuine public good for public money. This could include:
    a. Financial incentives and grants to support farmers to move into, or start horticultural production; young farmers; and growers with smaller farms who prioritise innovation, ecological growing techniques and direct engagement with customers, but are unable to deliver the efficiencies of scale needed to compete with the established large-scale growers. This could include support for peri-urban growing schemes.
    b. Improving access to land for new entrants in horticulture by safeguarding and rebuilding the County Farms network and investment in skills in ecological production methods.
    c. Incentives to stimulate demand and mitigate the effects of fruit and veg price rises on those British families facing food insecurity and who are most affected by short-term price increases. These could be delivered, for



example, through an expansion (in value and eligibility) of the Healthy Start scheme which provides vouchers for fruit and vegetables to mothers and young children on a low income, and an expansion of the school fruit and veg scheme to cover state-funded nurseries, and /or piloting of veg prescription programmes in deprived areas. Each could have a specific focus on British produce.

d. Adoption and expansion of the Producer Organisation scheme to support a range of matched funded capital investments to increase productivity and competitiveness in horticulture (including for glasshouses, irrigation, machinery, orchard planting etc). This would also allow for increased investment in labour-saving technologies where they exist.
e. Developing a new R&D and Innovation strategy aimed at strategic increases in productivity of specific crops (the Brexit Boosters) so the UK becomes a world leader in these crops.

Support a more concerted effort to drive up demand for fruit and veg to tackle diet-related disease

4. DEFRA supports supply chain measures to increase demand for fruit and veg including:
    a. through public procurement (and strengthening the Government Buying Standard's Balanced Scorecard on fruit and veg) and working with local authorities and other commissioning groups to ensure British grown fruit and veg are more prominent in meals served in schools, hospitals, prisons, and for the armed forces;
    b. support to a new marketing fund (potentially co-funded with retailers and producers) for British fruit and veg to allow single product advertising when in season. Currently in 2015, £280 million was spent advertising soft drinks, confectionary and snacks, while only £16 million was spent on fruit and veg advertising.

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Esmée Fairbairn Foundation aims to improve the quality of life for people and communities throughout the UK both now and in the future. They do this by funding the charitable work of organisations with ideas and ability to achieve positive change.

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