



FARMERS TALK FOOD WASTE

Supermarkets' role in
crop waste on UK farms

**FEED
BACK**

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This report examines the systemic role that supermarkets play in the overproduction and subsequent waste of food on UK Farms. Food waste represents an ecological catastrophe of staggering proportion: food production is the single greatest environmental impact humans have on the planet, and wasted food, if it were a country, would rank as the third largest emitter of greenhouse gases after China and the US (FAO, 2013).

Food waste begins at the first stage in the supply chain: on the farm. While the exact scale of food waste on farms has not been systematically quantified, available research indicates that it is widespread and costly. WRAP's most recent research suggests that a conservative estimate of farm level food waste is 2.5 million tonnes, representing a lost produce value of £0.8 billion (The Grocer, 2017).

Our research and investigations in supply chains, both in the UK and around the world, have consistently shown that supermarkets' business practices drive waste. Trading practices, including order cancellations, last minute changes to forecasts, retrospective changes to supply agreements and the use of cosmetic specifications to reject produce, all cause food to be wasted. Some of these trading practices may be considered 'unfair', that is to say, they deviate from commercial good conduct and good faith (European Commission, 2016).

Produce rejected for cosmetic reasons, such as being the wrong shape, size or colour, was the biggest reason for food waste identified by farmers in this research. Supermarket contract practices were also identified as a major cause of waste. Due to natural uncontrollable factors like weather and pests, farmers cannot control the final quantities they produce. To avoid risking the loss of contracts, farmers must meet buyers' orders in full – to guarantee this, they must overproduce. The inflexibility of supermarket contracts has normalised overproduction and the resulting waste.

This report draws on Feedback's extensive research into supply chain food waste, our experience with farmers established through our Gleaning Network (see box) and a survey conducted with UK farmers in 2015. This report reveals the key role supermarkets play in causing food waste on farms, transferring risks and costs to farmers in ways that often endanger their livelihoods. It highlights a dangerous power imbalance in the food system: a concentration of power among large retailers that allows them to burden farmers with both food waste and the associated costs. Supermarkets have over 85% of the market share of grocery stores in Great Britain (McKevitt, 2017). The farmers we surveyed said that as a result of this market concentration they had fewer outlets for lower grade and surplus produce.

This report highlights one of the ways in which our current food system is not working, and the urgent need to move toward food supply chains that are fair, discourage overproduction, and work within planetary boundaries.

INTRODUCTION

One third of food grown globally is never eaten — a shameful waste of land, water and resources (FAO, 2011). Recent research has highlighted that reducing food waste is the third most effective solution to fighting climate change, after refrigerant management and onshore wind turbines (Hawken, 2017).

Feedback's investigations in international supply chains revealed that supermarkets dictate the terms and conditions by which food is grown, harvested, and transported. Farmers often throw away large amounts of their product because of inaccurate forecasting, cancelled or altered orders, and overproduction in order to meet strict cosmetic standards (Colbert, 2017). Supermarkets dictate strict cosmetic specifications to farmers meaning they will buy fresh produce that fits exacting size, shape and colour specifications – regardless of the nutrition, taste and value of the food. Last minute order cancellations by supermarkets leave many farmers without any compensation and with no market to sell their food to.

Some of the practices Feedback identified in this research, such as last-minute cancellations, are examples of unfair trading practices. In 2001, the UK's Office of Fair Trading responded to concerns from the Competition Commission in relation to unfair trading practice by the major grocery retailers, by drawing up the Groceries Supply Code of Practice. This Code was amended in 2009 to reflect continuing concerns, and in 2013 an ombudsman was established, the Groceries Code Adjudicator, to oversee compliance with the Code, with Christine Tacon appointed as Adjudicator. The Groceries Code Adjudicator's remit includes direct suppliers, but not indirect suppliers, such as farmers who use middlemen to sell their produce to retailers.

Feedback's investigations into international supply chains are complemented by our work with UK farmers, through our Gleaning Network. Our experience visiting farms across the UK to put surplus to good use has shown us first-hand the scale of food waste that occurs on farms, largely unseen to the public.

In 2015 Feedback conducted a survey of farmers through our own contacts, and through the mailing lists of Farming Online, the National Farmers Union and LEAF – Linking Environment and Farming (see Appendix - Methodology). This report draws on the results of this survey, secondary research, our direct experience of farm-level food waste, and conversations with farmers we work with. In particular, we highlight the experiences of two farmers, Sarah and Geoff.

Sarah (not her real name) grows strawberries, apples and pears on her UK farm. We have not used her real name because, like many farmers, Sarah fears reprisal from her buyers if she were to publicly criticise their methods, particularly in the form of lost contracts. The Groceries Code Adjudicator's annual surveys have consistently found that suppliers operate within a 'climate of fear' due to highly imbalanced market power between retailers and suppliers, which prevents them speaking out: in 2017 nearly half (47%) of suppliers said fear would prevent them raising an issue with their buyer (Groceries Code Adjudicator, 2017).

Geoff Philpott, a brassica farmer in Kent, is one farmer Feedback works with through our Gleaning Network who did decide to speak out. In February 2017 Geoff was featured in a Feedback campaign which ultimately led to supermarkets



Fresh produce rejected for cosmetic reasons

UNFAIR TRADING PRACTICES AND FOOD WASTE

The European Commission defines unfair trading practices as “practices which grossly deviate from good commercial conduct, are contrary to good faith and fair dealing and are unilaterally imposed by one trading partner on its counterparty” (European Commission, 2016). Examples of unfair trading practices include unilateral or retroactive changes to contracts without both parties agreement, unfair termination of contracts, or threat of this, and the shifting of costs or risks from one party to the other. Not all unfair trading practices in food supply chains cause food waste, however, given food's perishable nature and the vagaries of agricultural production, waste is a frequent by-product, and a cost, of a market structure in which retailers hold outsized power. Food waste can also occur through trading practices which are not unfair: for example, cosmetic specifications, while a major cause of waste, are not an example of unfair trading so long as they are clearly stipulated and agreed to in the supplier contract. Human or technological error causing food safety issues are also an example of causes of food waste that are not directly related to unfair trading (Colbert, 2017).

WHAT IS THE GLEANING NETWORK?

Feedback's Gleaning Network coordinates volunteers, farmers and food redistribution charities to rescue fresh fruit and vegetables at risk of going to waste on farms across the UK, and direct this fresh, nutritious food to people in need. In 2017, our Gleaning Network rescued 92 tonnes of fresh fruit and vegetables, the equivalent of 1.15 million portions.

including Tesco and Aldi agreeing to stock and sell more cauliflowers during a glut to reduce the level of waste occurring.

Since beginning our work with UK farmers in 2013, Feedback has noted a dearth of reliable quantitative data on farm-level food waste. WRAP's Courtauld 2025 has committed to measure on-farm food waste by 2018 (WRAP, 2016), to set as a baseline for targeted reduction as part of the commitment. WRAP's most recent research suggests that a conservative estimate of farm level food waste is 2.5 million tonnes, with the associated cost being £0.8 billion (The Grocer, 2017). A 2011 WRAP study showed that supply chain waste is generally less than 10%, though it can approach 25% for some products: these estimates are based on interviews rather than quantitative data.

Lack of research on farm-level food waste is particularly striking when compared to consumer food waste, which has been extensively measured and commented on. We have consistently argued that the scandal of food waste goes far beyond what consumers throw in their bin. With supermarkets driven to reduce food prices, and the environmental costs of waste externalised, the food system drives both overproduction in fields and overconsumption, or over-purchase in stores, with associated waste both pre and post-retail. To understand how to fix this system, we need to turn our attention to waste that occurs before food reaches a supermarket shelf. We need to address the ways high concentration of power in the hands of retailers has created an unfair food system, that depletes rather than nourishes the planet.

A volunteer on a gleaning day



SCALE OF FARM LEVEL FOOD WASTE

Estimating the level of farm waste nationally is challenging. Farmers surveyed for our research reported an average 10–16% food wastage on typical years, equal to around 22,000–37,000 tonnes: enough food to provide 150,000 to 250,000 people with five portions of fruit and vegetables a day for a whole year. Extrapolated to a national scale, this represents a huge loss of valuable nutrients, and the water, chemical and energy inputs that went into producing them. The FAO (2011) estimates that almost 60% of food waste in Europe occurs before the consumer level – with 49% occurring at the farm and post-harvest level.

Food waste in primary production has been measured by WRAP for two key crops: strawberries and lettuce (WRAP, 2017). Using on-farm data collection, a web survey, and farm interviews, their research estimates that £30 million worth of strawberries and lettuce ended up as waste in the UK in 2015. The results show that 19% of lettuces were unharvested – representing a loss of 38,000 tonnes. 9% of strawberry crops are wasted – equivalent to 10,000 tonnes. The main causes of this were a mismatch in supply and demand or cosmetic and quality related.

The large scale of farm level food waste reported in WRAP's research is supported by a recent study on tomato waste in Australia. The research highlighted that between 68.6% to 86.7% of undamaged, edible, harvested tomatoes were rejected as outgrades (produce not meeting cosmetic specifications) and wasted (McKenzie, Singh-Peterson and Underhill, 2017). A Flemish study also showed high level of waste: 449,000 tonnes of food was wasted in the agricultural sector in 2016, of which 74% was edible (Roels and Van Gijsegheem, 2017).

High levels of waste in the supply chain were also observed in WRAP's 2011 fruit and vegetable resource maps.

PRODUCT	FIELD LOSS (central range)	GRADING LOSS	STORAGE LOSS	PACKING LOSS	RETAIL WASTE
Strawberry	2-3%	1%	0.5%	2-3%	2-4%
Raspberry	2%	No data	No data	2-3%	2-3%
Lettuce	5-10%	No data	0.5-2%	1%	2%
Tomato	5%	7%	No data	3-5%	2.5-3%
Apple	5-25%	5-25%	3-4%	3-8%	2-3%
Onion	3-5%	9-20%	3-10%	2-3%	0.5-1%
Potato	1-2%	3-13%	3-5%	20-25%	1.5-3%
Broccoli	10%	3%	0%	0%	1.5-3%
Avocado	No data	30%	5%	3%	2.5-5%
Citrus	No data	3%	No data	0.1-0.5%	2.5-5%
Banana	No data	3%	No data	0-3%	2%

Food waste on farms was brought to public attention in 2015 when Hugh Fearnley Whittingstall's BBC programme, 'War on Waste' featured a farm wasting on average 20 tonnes of parsnips a week due to cosmetic specifications (The Telegraph, 2015).



Strawberries harvested on a gleaning day.

Our research has revealed cases where supermarkets have used cosmetic specifications to reject food, where the real problem may be falling customer demand:

“Imagine a supermarket will say it wants 10,000 packets of strawberries. On Monday and Tuesday the food is accepted. On Wednesday the food is rejected. When produce is not selling well – perhaps it's been raining and nobody is buying strawberries – the supermarket rejects the consignment, but there is no difference in the actual strawberries. Believe me, I have seen it happen time and time again...”

”An anonymous European strawberry producer, supplying UK supermarkets (Colbert, 2017)

“That's not just a few sackfuls of parsnips, it's not a skip-load. It's a colossal mountain of them - enough to fill nearly 300 shopping trolleys. And, more importantly perhaps, to feed 100,000 people with a generous portion of roast parsnips.

”Hugh Fearnley Whittingstall (2015)

CAUSES OF FOOD WASTE ON FARMS

HOW SUPERMARKET CULTURE DRIVES WASTE

Food waste is a symptom of overproduction, in which supermarkets play a systemic role. Feedback's own investigations in international supply chains revealed that suppliers to UK supermarkets are forced to throw away vast amounts of food. This stems from overproduction to ensure farmers can meet order quantities once losses due to cosmetic standards are accounted for and to ensure that orders are met in full and on time despite unpredictable ripening patterns. By transferring the commercial risk of overproduction onto farmers, and by accepting the very large environmental consequences of a food production model that prioritises consistent, high availability over minimal waste, supermarkets have created a system which is synonymous with waste.

The fact that you cannot uncouple the current supermarket model from waste is evident from the limited success of food waste initiatives by supermarkets, with WRAP's study showing that retailers have only managed to reduce their food waste by 15% from 2007 to 2015 (WRAP, 2017a). Even Tesco, a company that has made a public commitment to reducing and publicly reporting on its food waste, saw the food waste tonnage in its operations actually increase in 2016, coming to a staggering total of 46,684 tonnes (Tesco, 2017). This figure does not include the more significant waste in the supply chain before it reaches the stores. Despite good intentions, the current supermarket model is synonymous with waste. The following sections set out specific variables which influence how and why waste occurs on UK farms.

1. COSMETIC SPECIFICATIONS

Supermarkets dictate strict cosmetic specifications to farmers meaning they will buy fresh produce that fits exacting size, shape and colour specifications – regardless of the nutrition, taste and value of the food.

Cosmetic outgrading for the farms we surveyed varied widely, with some farmers reporting a loss of up to 40% of their crop due to cosmetic standards, while others did not report waste due to this practice. On average, 7.4% of the respondents' crop was not sold to primary markets because of cosmetic standards. The majority of respondents believed that the reason for overly stringent cosmetic specifications was "consumers are fussy over appearance", with about 66% of the respondents who reported that fussiness causes waste believing that this is driven primarily by retailers. One anonymous farmer who responded to our survey said that they waste on average 25% of their carrots, mainly at packhouse level. Some carrots are rejected because of rotting or pest damage, but a large amount are simply too small, large, or wonky. This amounts to 1,750 tonnes of their carrots per year equal to nearly 22 million portions. To put that in perspective, that's more than Asda donated to charity in 2016 (1,100 tonnes) – wasted on one farm in one year. These outgraded carrots are sent back to the farmer from the packhouse. The situation is similar in Belgium, where a survey of Flemish farmers highlighted two thirds of farmers were not able to sell produce because it did not meet cosmetic specifications (Roels and Van Gijsegheem, 2017).

SURVEY RESULT: Of farmers who answered the question 4 in 10 said that "Retailers use cosmetic standards as an excuse to reject produce when they can get a lower price elsewhere or their demand has fallen."

“

For supermarkets, what matters is how something looks, not just edible quality. At the end of the day we waste a lot of perfectly edible food.

”

UK Importer (Colbert, 2017)

Pears collected on a Feedback gleaning day



SURVEY RESULT: Of farmers who answered the question 4 in 10 reported that “Supermarkets taking over a larger share of the UK retail market from wholesale markets and grocers has led to less outlets for lower grade produce.”

The National Farmers Union (NFU) gave evidence to the House of Lords in 2014 that retailers demanded that Gala apples had to be at least 50% red in colour. This resulted in 20% of the crop being wasted. The rejected apples could not go to the juice market because the prices were so low (House of Lords, 2014). Such waste due to cosmetic specifications was also reported by farmers in the EU, with the Flemish study confirming the NFU's estimate that on average 20% of apples were wasted because of cosmetic specifications (Roels and Van Gijsegheem, 2017).



Apples being sorted for redistribution.

2. NORMALISED OVERPRODUCTION AND WASTE

One of the biggest drivers of waste at the farm level is the need for farmers to overproduce to ensure they can supply supermarkets. As outlined above, overproduction is a normalised aspect of supplying retailers, who have created a climate of fear that if producers undersupply them, they will take their custom elsewhere.

SURVEY RESULT: Of farmers who answered the question 6 in 10 reported that “Farmers overproduce because there is pressure to always meet buyer orders, or risk losing contracts. It is difficult to find outlets for the surplus.”

This result is consistent with the experience of Feedback's Gleaning Network – farmers overproduce to hedge against risk, which means when there is good weather and the crop is abundant, supply massively outstrips demands. The price for their crop crashes, meaning it is not cost-effective to harvest the product, so it is often ploughed back into the field or fed to livestock.

SURVEY RESULT: Of farmers who answered the question 9 in 10 reported that “Overproduction leads to greater price volatility.”

SARAH'S EXPERIENCE

Sarah produces apples and pears, which are primarily wasted for cosmetic reasons - being too big or too small, having marks and blemishes on them, or being the wrong colour. Sarah says that her farm produces more than they expect to sell to supermarkets to offset the expected outgrades and believes that cosmetic specifications have got stricter over the past 5-10 years. If apples and pears are not the perfect shape, they have to be sold for about half the price to wholesale.

“

From my experience, when I used to supply the supermarkets you generally grew about a third more than you thought you would sell, just to make sure that the supermarket buyer didn't have a tantrum if you ran short, and so routinely you have more than you can sell and so you just mow it off and plough it in – that's the normal thing to do.

”

Guy Singh-Watson, Riverford Organic

“

They (supermarkets) daren't not have product

”

Farmer Trevor Bradley
(The Times, 2017)



“

We are passionate about our winter crops, but I can't see a way forward at the moment, I can't stand to see them in the field going to waste, so I'm just going to chop them up.

”

Geoff Philpott (The Times, 2017)

3. SUPERMARKET FAILURE TO MARKET SEASONAL PRODUCE

Supermarkets fail to market local seasonal produce. Certain weather conditions can lead to gluts which is compounded by the problem of overproduction. A cauliflower glut occurred in the UK in 2017 which resulted in large amounts of cauliflowers going to waste. Geoff Philpott reported 100,000 cauliflowers going to waste after his buyer dramatically reduced their order at the same time as a big glut occurred (Feedback, 2017a). Another farmer, Trevor Bradley, reported wasting 25,000 cauliflowers a week because there was no market for them (The Times, 2017).

Following a Feedback campaign to bring Geoff's story to public attention, several supermarkets including Tesco and Aldi committed to marketing cauliflowers during the glut, to absorb some of the surplus produce. Tesco sold 220,000 extra cauliflowers at 79p each (The Grocer, 2017b) and Aldi sold 500,000 extra cauliflowers at 29p each (The Grocer, 2017c) – a total of 720,000 cauliflowers saved.

SURVEY RESULT: Of farmers who answered the question 8 in 10 respondents reported that “Weather produces gluts leading to price collapse’ and ‘Gluts of imports into the UK sometimes make it difficult to find outlets for produce.”

4. CANCELLED OR ALTERED ORDERS

A significant driver of waste is the difference between buyers’ forecasts and confirmed orders, including last-minute order cancellations.

SURVEY RESULT: Of farmers who answered the question 8 in 10 reported that “Retailers chop and change what proportion of their stock they buy from different suppliers in search for cheapest offer, which leads to more unpredictable demand.”

SURVEY RESULT: Of farmers who answered the question 8 in 10 reported that “Differences between buyers’ forecasts and confirmed orders, like last-minute order cancellations, make it difficult to find alternative buyers for produce before it deteriorates.”

The Groceries Code Adjudicator, Christine Tacon, remarked in November 2017 that farmers have reported that they are forced to plough produce back into the ground because of last-minute order cancellations (The Grocer, 2017a). A recent Groceries Code Adjudicator survey of suppliers shows that 20% of respondents said they experienced variation of supply agreements and received no compensation for forecasting error (Groceries Code Adjudicator, 2017).

SURVEY RESULT: Of farmers who answered the question 7 in 10 did not agree with the statement “Costs incurred from on-farm wastage and returned produce, which arise from order forecasting errors, are compensated by the buyer.”

SARAH'S EXPERIENCE:

Sarah's farm has experienced order cancellations. Once during the apple season, they were promised a share of an order, but then this was halved at the last minute.

“

If the retailers only knew just how much waste their forecasting was generating, they would surely do something about it.

”

Supplier reported to Christine Tacon, Groceries Code Adjudicator (The Grocer, 2017a).

5. CONCENTRATION OF POWER AMONG SUPERMARKETS

The UK food retail market is one of the most concentrated in Europe, despite recent new entrants to the market in the form of discount retailers Aldi and Lidl.

Nearly half of respondents reported that industry concentration in retail has led to less outlets for surplus produce, like traditional grocers and markets. This is consistent with Feedback's Gleaning Network's experience talking to farmers, many of whom say anecdotally that supermarkets taking over the vast majority of UK food retail from smaller shops and markets has meant less flexible buyers willing to stock seasonal and diverse produce according to what is available.

Supermarkets' dominant market power has played a powerful role in depressing the prices farmers get for their produce (This is Money, 2014). All survey respondents who supplied one of the major supermarkets (Tesco, Sainsbury's, Asda and Morrison's, as well as Aldi and Lidl) reported roughly similar levels of waste.

SURVEY RESULT: Of farmers who answered the question 8 in 10 reported that "Generally low farm-gate prices increase the risk of it not being cost-effective to harvest produce."

Pumpkins harvested on a gleaning day.





Parsnips going to waste on a UK farm

OUR RECOMMENDATIONS

Food waste on farms is an avoidable part of growing and selling produce. Action by policy-makers and retailers is necessary to address the market structures and practices which cause waste, both due to unfair trading practices and other causes. Feedback makes the following recommendations.

TO SUPERMARKETS

› Relax cosmetic standards and extend cosmetically imperfect ranges:

Supermarkets should experiment with relaxing cosmetic standards in their main ranges, in order to test customer response. Small tweaks to cosmetic specifications, for example on colour coverage on fruit like apples or pears, may make a big difference in terms of how much of a crop a farmer is able to sell.

In addition to relaxing cosmetic specifications on their main ranges, supermarkets should extend their ranges of cosmetically 'imperfect' ranges. A recent survey by the Women's Institute (2017) found that '90% of WI members said that they would be happy to buy fruit and veg which is blemished or misshapen'.

Furthermore, supermarkets should provide transparent data, verified by third parties, to demonstrate whether these lines are having a significant impact on reducing waste.

Cosmetically imperfect food that cannot be included in wonky ranges should be considered for inclusion in products such as processed foods (for example, ready meals).

Supermarkets should publish their cosmetic specifications and their crop utilisations percentage to enable comparisons to be made between retailers.

› Introduce clear food waste reduction in the supply chain targets and publicly report on progress:

Retailers must commit to publishing independently-audited data on the food waste produced in their operations and through their supply chain. Currently, Tesco is the only supermarket to provide publicly available data which includes a model of estimating waste occurring in their supply chain. We commend Tesco's approach of working with their top 24 suppliers to commit to 50% reduction in waste by 2030 (Tesco, 2017a) and recommend that other supermarkets find similar ways of collaborating with suppliers on waste reduction.

› Pay farmers a fair price:

Lower grade fruit and veg lines should not be developed to the extent where they are undercutting demand for higher quality produce, as this will erode farmer income. Supermarkets should aim to sell top quality produce at standard

'WONKY VEG' RANGES

Many supermarkets have taken steps to introduce product ranges to increase crop utilisation. In 2016, Tesco introduced the "Perfectly Imperfect" range of cosmetically imperfect fruit and vegetables. This range has led to Tesco taking 95% of its suppliers strawberries, increased from 85%. Tesco's apple utilisation has risen to 97% (The Grocer, 2016). In February 2016, Asda rolled out its wonky veg boxes to 250 stores, with 10,000 of their 5kg boxes stocked per month - this equates to 600 tonnes of produce saved per year (HuffPo, 2016). Other supermarkets including Morrisons and the Co-op, carry 'wonky' ranges, though a survey by the Women's Institute in 2017 found that 'only 29% of supermarkets surveyed carried a dedicated wonky fruit and veg range, with 68% of these stores offering only one or two products' (WI, 2017).

prices where possible, and sell anything below this quality through value ranges, processing and other means.

› Minimise supply and demand fluctuations for farmers:

Supermarkets need to take on more of the risks of the unpredictability of the weather and market, rather than leaving these risks mainly to farmers. They also need to minimise unpredictability caused by their own practices. They can do this by:

- Implementing whole crop purchasing, as advocated by WRAP (Spray, 2013). Whole crop purchasing involves retailers buying the entire crop, regardless of cosmetic standards, from producers, then using produce that is not of sellable quality in other parts of their supply chain (such as processed foods). This reduces the risk of overproduction, as farmers are assured of a market for all of their crop, regardless of cosmetic appearance.
- Guaranteeing orders, or developing more collaborative order forecasting including giving a range of possible forecasts to avoid overproduction to ensure farmers can meet orders.
- Eliminating unfair trading practices, such as last-minute order cancellations, and complying with the Groceries Supply Code of Practice.
- Marketing produce to customers to absorb extra supply when there is an unexpected glut. Costs associated with additional marketing or promotions should not be passed onto suppliers.
- Providing reassurance to suppliers that a shortage on order volumes due to weather or ripening patterns will not affect their trading relationship, and sticking to this in practice.



Onions collected on a gleaning day

TO UK POLICY MAKERS

› Measure food waste occurring on farms:

Measurement of food waste is vital to a precise cost-benefit analysis of proposed food waste solutions, and for prioritising actions on food waste and which sectors to focus on (European Commission, 2010). Feedback supports WRAP's commitment to benchmarking pre-farm gate food waste by 2018, and recommends that the government publish the results of an equivalent analysis to the regular 'Household food waste in the UK' on a regular basis. Consistent measurement should also include qualitative examination of the causes of food waste, taking a whole supply chain approach including analysis of power relations across the supply chain.

› Set targets to halve UK food waste from farm to fork:

The UK's current national food waste targets, known as the Courtauld Commitment 2025, are based on a voluntary agreement to cut waste by 20% between 2015 and 2025. These targets do not include food waste occurring in farms. Feedback recommends the extension of food waste reduction targets to cover farms.

We recommend that the UK government adopt a national target to reduce UK food waste by 50% from farm to fork by 2030, in line with the World Resources Institute's recommendation that it is best practice to interpret SDG 12.3 as halving food waste from farm to fork. The current Courtauld 2025 agreement is not sufficiently ambitious to meet SDG 12.3 (see box) if it is interpreted as farm to fork - Tesco themselves called for businesses to go beyond Courtauld and to meet 50% reductions farm to fork by 2030 (The Grocer, 2017d).

› Extend the remit of the Groceries Code Adjudicator to cover indirect suppliers:

Currently the Groceries Code Adjudicator's powers only cover direct suppliers, meaning that the Adjudicator is powerless to support improved trading relationships between supermarkets and farmers who supply them indirectly (for example, via middlemen). Smaller producers, with low market share and consequently less market power, are more likely to be indirect suppliers, and need to benefit from the same reporting and investigatory powers the Groceries Code Adjudicator extends to direct suppliers. See Figure 1.

VERTICAL EXTENSION OF THE GCA'S REMIT

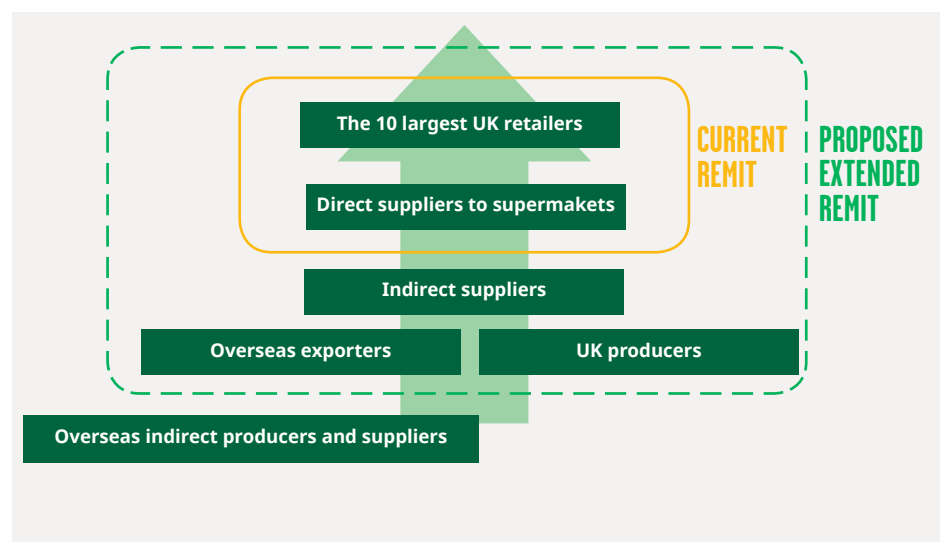


Figure 1: Extension to the Groceries Code Adjudicator's remit (Traidcraft, 2017).

TO FOOD WASTE INITIATIVES

> Voluntary international food waste reduction targets should aim to halve food waste from farm to fork:

In the wake of growing awareness of the damaging effects of food waste on the planet, several non-governmental organisations have set international targets to reduce food waste. Feedback recommends that all international targets on food waste be extended to include food waste from across the supply chain, including pre-farm gate food waste. The Champions 12.3 group provides a suitable definition: 'One should interpret Target 12.3 (see box) as covering the entire food supply chain, from the point that crops and livestock are ready for harvest or slaughter through to the point that they are ready to be ingested by people' (Champions 12.3, 2017). There are strategies to reduce farm-level food waste in some of these initiatives, but lack of data prevents concrete targets being set. Therefore, we recommend clear timelines for research to create baselines, and that targets be set based on these. Voluntary business agreements should also seek to ensure that their signatories do not focus solely on food waste in their own business, but also in businesses affected by their policies (such as their suppliers).

We strongly encourage the UK and all other countries to set a target to reduce their food waste by 50% by 2030 from farm to fork in line with the WRI's recommended interpretation of SDG 12.3 of halving all food loss and waste "from the point that crops and livestock are ready for harvest or slaughter through to the point that they are ready to be ingested by people" (Champions 12.3, 2017).

CONCLUSION

Our experience with farmers consistently shows that supermarket practices drive waste at the farm level. Supermarkets need to be held responsible for the full extent of the waste they cause in food supply chains – not just the waste that comes from their stores. To reduce food waste, we need to look at the systemic issues that drive food waste at a farm level. Previous efforts at farm level have focused on technological innovations to address issues such as pest control and storage, however there is no technical fix to the current asymmetry of power in the food supply chain. Addressing 'non-technical' food waste will require retailers to review their trading practices and policy-makers to examine the wider market structures that frame these practices, to protect farmers and prevent waste. Feedback will continue to work with UK farmers to identify positive and practical solutions to end food waste on farms.

FOOD WASTE TARGETS

A variety of voluntary initiatives have set and monitor food waste targets both in the UK and around the world. Some of the most prominent initiatives include:

COURTAULD 2025

The UK's national voluntary agreement, covering food waste as well as associated sustainability issues such as water use in the supply chain and greenhouse gas emission intensity of products. Courtauld 2025 commits signatories, which include some of the largest food businesses in the UK, to a 20% reduction in their food and drink waste arising in the UK between 2015 and 2025. Courtauld 2025 is administered by WRAP.

We encourage businesses to be more ambitious than Courtauld. Tesco themselves called for businesses to go beyond Courtauld and to meet 50% reductions farm to fork by 2030 (The Grocer, 2017d).

SUSTAINABLE DEVELOPMENT GOAL 12.3

The Sustainable Development Goal 12.3 was one of 17 goals adopted by the UN's General Assembly in September 2015. Goal 12 seeks to "ensure sustainable consumption and production patterns." The third target under this goal (Target 12.3) calls for cutting in half per capita global food waste at the retail and consumer level, and reducing food losses along production and supply chains (including post-harvest losses) by 2030.

CONSUMER GOOD'S FORUM FOOD WASTE RESOLUTION

The Consumer Goods Forum passed a resolution in 2015 to halve food waste within the operations of its members by 2025.

BIBLIOGRAPHY

Champions 12.3. (2017). Guidance on interpreting sustainable development goal target 12.3. Available at: <http://flwprotocol.org/wp-content/uploads/2017/08/Champions-12.3-Guidance-on-Interpreting-SDG-Target-12.3.pdf>

Colbert, E. (2017). Causes of food waste in international supply chains. Feedback. London: Feedback.

European Commission. (2010). Preparatory study on food waste across EU 27. Technical report. Brussels: DG Environment.

European Commission. (2016). Unfair business-to-business trading practices in the food supply chain. COM (2016) 32 final. Brussels: European Commission.

FAO. (2011). Global food losses and food waste. Rome: Food and Agriculture Organisation.

FAO. (2013). Food wastage footprint: Impact on natural resources. Rome: Food and Agriculture Organisation.

Fearnley-Whittingstall, H. (2015). Viewpoint: The rejected vegetables that aren't even wonky. [online]. BBC News. 28 October 2015. Available at: <http://www.bbc.co.uk/news/magazine-34647454>

Feedback. (2017). "Gleaning Network". [online]. Available at: <https://feedbackglobal.org/campaigns/gleaning-network/> [Accessed 14 Dec 2017].

Feedback. (2017a). Show cauliflowers some love (blog). Feedback News. 24 March 2017. Available at: <https://feedbackglobal.org/2017/03/show-cauliflowers-love/>

The Grocer. (2016). Sales of new Perfectly Imperfect fruit & veg are 'flying' at Tesco. Available at: <https://www.thegrocer.co.uk/home/topics/waste-not-want-not/sales-of-wonky-fruit-and-veg-are-flying-at-tesco/536837.article> (Accessed 10 Jan. 2018).

The Grocer. (2017). From farm to food waste: the pre-farmgatefight. . Available at: <https://www.thegrocer.co.uk/home/topics/waste-not-want-not/from-farm-to-food-waste-the-pre-farmgatefight/559044.article> (Accessed 17 Dec 2017).

The Grocer. (2017a). Forecast and promo failures drive waste warns Tacon. Available at: <https://www.thegrocer.co.uk/home/topics/waste-not-want-not/forecast-and-promo-failures-driving-waste-warns-tacon/560504.article/> (Accessed 16 Jan 2018).

The Grocer (2017b). Tesco to sell more cauliflowers at 79p following bumper crop. Available at: https://www.thegrocer.co.uk/home/topics/waste-not-want-not/tesco-to-sell-more-cauliflowers-at-79p-following-bumper-crop/550360.article?utm_source=Daily+News+%28The+Grocer%29&utm_medium=email&utm_campaign=2017-03-22&c=O4rl3xMcTwI26l1giACDKg%3D%3D (Accessed 24 Jan 2018).

The Grocer (2017c). Aldi chops cauliflower prices to 29p following bumper crop. Available at: <https://www.thegrocer.co.uk/home/topics/waste-not-want-not/aldi-chops-cauliflower-prices-to-29p-following-bumper-crop/550926.article> (Accessed 24 Jan 2018).

The Grocer. (2017d). Tesco asks companies to go beyond Courtauld 2025. Available at: <https://www.thegrocer.co.uk/home/topics/waste-not-want-not/tesco-asks-companies-to-go-beyond-courtauld-2025/559372.article> (Accessed Jan 17 2017)

Groceries Code Adjudicator. (2017). GCA - Annual Survey Results 2017. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/623564/GCA_Annual_Sector_Survey_Results.pdf

Gunders, D. (2012). Wasted: How America Is Losing Up to 40 Percent of Its Food from Farm to Fork to Landfill. Natural Resources Defense Council.

Hawken, P. (2017). Drawdown: The Most Comprehensive Plan Ever Proposed to Reverse Global Warming. London: Penguin.

House of Lords. (2014). Counting the Cost of Food Waste: EU Food Waste Prevention. European Union Committee. 10th Report of Session 2013-14. HL Paper 154.

HuffPost UK. (2016). After Asda's 'Wonky Veg Box', This Is What Britain's Other Supermarkets Are Doing. [online] Available at: http://www.huffingtonpost.co.uk/2016/02/05/wonky-veg-policy-at-supermarkets-tesco-sainsbury-morrisons-co-op-aldi_n_9169362.html [Accessed 10 Jan 2018].

Marks, S. (2017). Brussels declares war on supermarkets. [online]. Politico. 10 September 2017. Available at: <http://www.politico.eu/article/carrefour-tesco-asda-sainsbury-leclerc-intermarche-brussels-declares-war-on-supermarkets/>

McKenzie, Tara J.; Singh-Peterson, Lila; Underhill, Steven J. R. (2017). "Quantifying Postharvest Loss and the Implication of Market-Based Decisions: A Case Study of Two Commercial Domestic Tomato Supply Chains in Queensland, Australia." *Horticulturae* 3, no. 3: 44.

McKevitt, F. (2017). Lidl becomes the UK's seventh largest supermarket. [online]. Kantar.com. 22 August 2017. Available at <https://uk.kantar.com/consumer/shoppers/2017/september-kantar-worldpanel-uk-grocery-share/>

Roels, K and Van Gijseghe, D. (2017). The impact of cosmetic quality standards on food losses in the Flemish fruit and vegetable sector. Summary report. Department of Agriculture and Fisheries. Brussels: Flanders government.

Spray, A. (2013). Securing crop supply through whole crop purchasing. Action plan. Product Sustainability Forum.

APPENDIX - METHODOLOGY

This report draws on Feedback's investigations into food supply chains both in the UK and across the world, combined with responses from a survey of UK farmers in 2015 and case studies from our conversations with UK farmers. It also includes research from WRAP, the Groceries Code Adjudicator and other relevant research articles and reports.

SURVEY DETAILS

The survey was anonymously completed online by respondents via Survey Monkey, between April 2015 and December 2015. The survey was sent out primarily through two channels:

1. Mailing lists of UK farming organisations
2. Individual farms who are contacts of Feedback's Gleaning Network.

The mailing lists the survey was sent out via were:
Farming Online
NFU – National Farmers Union
LEAF – Linking Environment and Farming

The farmers surveyed represent 2.6% of the UK's fruit and vegetable production - they produced a total yearly tonnage of 227,266 across several different crop types. This compares to total UK horticultural crop production in 2014 of 8,721,000 tonnes, based on the 2014 statistics from DEFRA and the Agriculture and Horticultural Development Board.

As contacts of the Gleaning Network might be considered more likely to have higher food waste, we disaggregated the data to check the Gleaning Network contacts were not skewing the results. On the contrary, on average years the gleaning respondents wasted slightly less than the other respondents. Only 6 of the respondents were gleaning contacts. The highest response rate came from the Farming Online mailing list. The response rate was low, with 30 responses from the mailing lists, and 36 respondents in total.

ELIMINATING BIAS

To avoid any potential bias to farmers from leading questions, survey questions were kept neutral, and a broad range of positive and negative statements about supermarkets and buyers were given. The farmers' responses were broadly in line with the kinds of responses seen to annual YouGov surveys commissioned by the Groceries Code Adjudicator.

The Telegraph. (2015). Hugh Fearnley-Whittingstall's war over wonky parsnips. [online] Available at: <http://www.telegraph.co.uk/news/bbc/11966676/Hugh-Fearnley-Whittingstalls-war-over-wonky-parsnips.html> [Accessed 10 Jan. 2018].

Tesco PLC. (2014). Food waste hotspots. [online]. Available at: https://www.tescopl.com/files/pdf/responsibility/food_waste_hotspots.pdf [Accessed 10 Jan. 2018].

Tesco PLC. (2017). UK Food Waste Data. [online]. Available at: <https://www.tescopl.com/little-helps-plan/products-food-waste/uk-food-waste-data/> [Accessed 10 Jan. 2018].

Tesco PLC (2017a). Tesco suppliers join forces to tackle global food waste. [online]. Available at: <https://www.tescopl.com/news/news-releases/2017/food-waste-suppliers-champions-123-dave-lewis-tesco/> [Accessed 10 Jan. 2018].

This is Money. (2014) Supermarket price war is 'killing off' food producers as shops squeeze suppliers to cut prices at the checkout. [online]. Available at: <http://www.thisismoney.co.uk/money/news/article-2847190/Supermarket-price-war-killing-foodproducers-shops-squeeze-suppliers-cut-prices-checkout.html> [Accessed 17 Dec. 2017].

The Times. (2017) Farmers get the cauliwobbles. [online]. Available at: <https://www.thetimes.co.uk/article/farmers-get-the-cauliwobbles-mpsds2bkt> (Accessed 10 Jan. 2018).

Traidcraft. (2017). Discussion document: changes to the Groceries Code Adjudicator. [online]. 20 September 2017. Available at: <http://www.traidcraft.co.uk/media.ashx/strawman-proposal-on-extending-the-gca.pdf> [Accessed 10 Jan. 2018].

Women's Institute. (2017). Wasted opportunities: How supermarkets can help tackle food waste. London: Women's Institute.

WRAP. (2011). Fruit and vegetable resource maps. London: Waste Resources and Action Programme.

WRAP. (2016). The Courtauld Commitment 2025 to transform UK food and drink. [online]. 15 March 2016. Available at: <http://www.wrap.org.uk/content/courtauld-commitment-2025-transform-uk-food-and-drink>

WRAP. (2017). Work underway with retailers, farmers and growers to tackle food waste on farm. [online]. 28 September 2017. Available at: <http://www.wrap.org.uk/content/work-underway-retailers-farmers-and-growers-tackle-food-waste-farm> [Accessed 10 Jan. 2018].

WRAP. (2017a.) Estimates of Food Surplus and Waste Arisings in the UK.

Zachran Jidlo. (2017). Struggles and opportunities in using "crooked" agricultural production. Available at: <http://zachranjidlo.cz/wp-content/uploads/Struggles-and-opportunities-in-using-22crooked22-agricultural-production.pdf>

Feedback enables the regeneration of nature by reducing the demands placed on it by the food system. To do this, we challenge power, catalyse action and empower people to achieve positive change.

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