

# FACTFILE: GCE NUTRITION & FOOD SCIENCE

## FOOD WASTE



### Food waste

#### Learning outcome

- Examine the role of the following as contributors to the problem of food waste and associated packaging waste:
  - primary producers;
  - food manufacturers;
  - retailers; and
  - consumers.

#### Course content

##### Food Waste

Food waste represents a significant problem due to the volume of waste that is produced each year. The vast majority of food waste ends up in a landfill site and although food items degrade naturally over time, the process releases a great deal of methane gas. Methane is considered to be more harmful to the environment than carbon dioxide because it can trap heat within the atmosphere. Food waste is problematic from an ethical and economic standpoint. Hundreds of tonnes of good food is wasted by the UK food industry and consumers each year. At the same time, millions of people are struggling to afford to eat.

##### Associated packaging waste

The majority of plastic used for packaging within the food retail industry is single use and not recycled. Instead, this packaging is thrown away.

Activities such as littering, poor waste management or illegal disposal of waste alongside natural processes such as wind can cause single use plastic packaging to pollute the environment. In addition, ocean circulations and gyres (rotating ocean currents) redistribute plastic waste and create immense masses of plastic.

The presence of plastic packaging within marine and land environments can entangle and be ingested by wildlife causing starvation, suffocation and infection. Food packaging waste that is not recycled, is landfilled or incinerated. Both options produce greenhouse gases.

It is not only plastic packaging that can be a problem. Glass bottles, for instance, are much heavier than plastic and are therefore far more polluting to transport. Glass can be recycled but most of it is not. Paper bags tend to have higher carbon emissions than plastic bags and are more difficult to re-use.

Each form of packaging uses a lot of resources such as energy and water to produce. Its manufacture often generates greenhouse gas emissions as well as wastewater and/or sludge containing toxic contaminants.

| Food Value Chain          | Reasons for food waste   |
|---------------------------|--|
| <b>Primary Producers</b>  | Pest and disease, severe weather, inefficient harvesting, difficulty forecasting demand, high retailer standards, over-production, economical implications of harvesting substandard produce.                                  |
| <b>Food Manufacturers</b> | Poor order forecasting, inefficient factory processes, preparation losses, poor storage, contamination, damages.   |
| <b>Retailers</b>          | Non aesthetically pleasing, beyond expiry date, supply/demand challenges, over-stocking, damaged goods.  |
| <b>Consumers</b>          | Over buying, promotional incentives, short expiry dates, poor storage and rotation, lack of value for leftovers, limited practical cookery knowledge and skills. Cheap staple foods, undervaluing produce and impact of waste. |

### Primary producers

Primary producers face many challenges. Waste at production stage is commonplace and occurs throughout each stage of production. During the planting of seeds losses can be experienced due to pest infestations and severe weather. Weather at any stage of production can impact upon crop growth and the yield produced. The harvesting of the crops can cause damage and loss due to inefficient machinery and of course there are many regulations and standards that the primary producer must meet in relation to quality and appearance. High retailing standards and consumer expectation mean that farmers are selective in their harvesting with many preferring to leave substandard crops which can be reintroduced into the land as fertiliser rather than lose out completely when retailers reject already harvested substandard produce.



### Food Manufacturers

Food wastage occurs during the processing and manufacturing of foods. The preparation of foods such as peeling, washing, slicing and trimming often leads to inevitable waste. However incorrect

storage of foods prior to processing can also lead to avoidable wastage. Further losses are generated in the handling of food and by shrinkage in weight or volume contamination. During processing stock is often damaged, and spillages can occur, machinery and equipment can break down resulting in delays and substandard produce which doesn't meet retailer standards. At times poor order forecasting can be to blame for food wastage.



Food manufacturers use packaging to contain the food, present it attractively and to ensure safe and hygienic transport of the food. However excessive use of secondary and tertiary packaging has been heavily criticised recently. Disposal of these packaging materials can contribute to land and water pollution. The Courtauld Commitment has focused on the reduction of packaging across the food and drink sector since 2005.

### Retailers

Retail management is driven by customer loyalty and satisfaction. Visibly stocked shelves and fresh produce attract customers and it is this supply and demand process which often leads to food waste. Retailers face pressure from sales targets and integral to this is forecasting demand and ensuring that the

demand is met. It is challenging for retailers to predict sales; weather, consumer trends, calendar events and the seasonality of food add to this challenge.

Retail stores do discard large quantities of food. Reasons for wastage include, over stocking and foods that have reached their expiry date. Unfortunately it is the case that many retailers have policies that mean that such waste must go to landfill rather than redistribution. It can also be the case however that before food even reaches the shelves it has been rejected due to poor transportation conditions, resulting in damaged stock, or even the worrying concern that consumers won't accept irregular fruit and vegetables and so only perfect produce is displayed.

### Consumers

Over purchasing of food is often blamed for consumer wastage. Failure to plan ahead and a fear of running out of food can lead to consumers buying more than they need. It could be, however, that supermarket offers and promotions lure consumers into impulsive purchasing decisions which ultimately lead to wastage. Cooking, preparing and serving excess food may also be as a result of poor planning and an attitude of "it's better to have



too much than too little". This, accompanied by varying degrees of practical competency, means that the food which could have been eaten is wasted. Furthermore incorrect storage of food leads to deterioration and a failure to consume food within the expiry date means that consumers often waste food unintentionally. In contrast larger pack sizes and 'buy one get one free' (BOGOF) offers often lead to inevitable wastage on the part of the consumer. A generation of consumers with less knowledge and experience of food shortages and 'growing their own' can mean that some consumers have a lack of appreciation for the implications of food waste. Cheap staple foods such as bakery goods are often discarded due to various reasons one of which could be the desire for fresh produce and a lack of knowledge of what to do with food that is nearing or has past its best. Consumers have also been criticised for having unrealistic standards, irregular fresh produce is rejected perhaps in part by the retailer's decision to only stock the most perfect products.

Consumers may not recycle or dispose of packaging materials appropriately to avoid materials reaching landfill sites. Consumers have the option to choose foods with minimum packaging such as loose fruit and vegetables and to support companies where the consumer can fill their own containers.





## Revision Questions

- 1 Discuss the role of the consumer as a contributor to food waste and associated packaging waste.
- 2 Explain how primary producers contribute to the problem of food waste.
- 3 Discuss the environmental impact of food packaging waste.

