

# Fascinating Food Facts

## 1. Apples

**Origin and growth** - Apple trees belong to the rose family. They have evolved attractive fleshy fruits that encourage animals to eat them. The seeds pass through the animal's digestive system and are dispersed. Apples originated in the forests of Western Asia. Bears and other creatures may have spread their seeds. Early farmers brought the apple to Turkey around 6500 BC and it came to Britain with the Romans. Over 7,500 varieties have been bred over the centuries. Apples are a long-term crop costing over £4000 per acre to establish.

**Food value** - Apples are a '5-a-day' fruit, providing vitamins for a healthy body. Demand for organic apples is very high and they sell quickly. Organic apples do not keep as well as conventional fruits.

**Problems** - Various flies, moths and weevils have larvae that attack apple fruits. Using sticky traps or trunk bands to capture the adults can protect the apples. Birds are predators of the insects and can be a useful control. Organic apples are not sprayed with insecticides.

## 2. Carrots

**Origin and growth** - Carrots are the swollen roots of an 'umbellifer' plant. Sugar is stored in the root as a winter reserve of food for plant growth the following year. Seeds need to be set in light soil so that tapering roots can grow. Peaty fenland soils grow the best flavoured carrots. Seeds are sown in late Spring and small carrots are ready to be pulled in August. Most of the crop is harvested in October, but later carrots are covered with straw to protect them from frost.

**Food value** - Carrots are a '5-a-day' vegetable, providing vitamins for a healthy body. They are a very popular vegetable and can be eaten cooked or raw.

**Problems** - Carrot root flies lay eggs on the young plants. Their larvae eat holes in the swollen roots. Planting strong-smelling onions with carrots can confuse the carrot root fly! A dangerous time is when seedlings are thinned as the fly can smell the pulled up seedlings, and home in on the roots. Rows of carrots may be covered by a thin fleece which allows light and rain to pass through, but keeps carrot root flies out.

## 3. Peas

**Origin and growth** - Peas came originally from West Asia but spread into Europe by the Bronze Age. People ate dried peas that could be kept over the winter and they have been found in Egyptian tombs. From 1700 fresh garden peas have been popular in Britain. Pea plants together with clover and vetch are legumes, which means that they 'fix' nitrogen from the air using bacteria in their root nodules. Most plants take nitrogen from the soil but legumes leave the soil richer so that they are a valuable part of the crop rotations. Dried seeds are set directly into their growing positions and may fruit within 80 days.

**Food value** - Peas are a '5-a-day' food and a good source of protein, carbohydrate, vitamins and minerals. Peas must be tinned or frozen quickly as they deteriorate rapidly.

**Problems** - Peas are susceptible to damage from birds. Bird scaring devices are the only form of deterrent.

#### 4. Lettuce

**Origin and growth** - Lettuce grew in the Mediterranean and was found to be edible by the first people that colonised the area. The Romans first ate lettuce as a dessert but later applied a dressing and used it as an appetite stimulant. Lettuce plants are related to thistles. Varieties have been bred with larger leaves, more leaves, different coloured leaves and different flavoured leaves. Lettuce plants are grown from seed each spring. They are delicate plants and need to be kept weed free. Great care is needed not to damage the plants during harvesting.

**Food value** - Lettuce is a five a day vegetable containing vitamins and minerals. Lettuce should be eaten crisp and fresh, as wilting leaves have begun to lose their nutrient value.

**Problems** - Seedlings are grown in protected conditions, as they are delicate. Rabbits and caterpillars frequently eat the growing lettuces.

#### 5. Potatoes

**Origin and growth** - Wild potatoes grow only in the mountains of Central America where the Incas cultivated them. European explorers brought potatoes back to Europe but they aroused suspicion, as they were not mentioned in the Bible. Eventually the potato became popular and is now grown across the world in a wide variety of conditions.

**Food value** - The potato tuber grows underground attached to the root and is a winter food store for growth the following spring. Early new potatoes are sweet as they contain sugars. These later turn to starch so that main crop potatoes are less sweet but can be stored for longer. Potatoes provide carbohydrate energy, vitamins and minerals including Vitamin C. They are not one of the '5-a-day' vegetables. Green potatoes are poisonous as are the other parts of the plant. Potatoes are part of the plant family that includes deadly nightshade.

**Problems** - Click beetle larvae called wireworms eat into potato tubers. Birds feed on their eggs and larvae. Potato Blight occurs in warm, wet late summer conditions. The plants develop brown patches then blacken and die. The tubers may be affected. This happened in the Irish potato famine of 1845. Scab causes marks on the skin of the potato. It is caused by dry soil with a little humus so potato plants need a rich soil and irrigation in dry periods.

#### 6. Milk

**Origin and growth** - All mammals produce milk from their mammary glands to feed their young. Most of the milk that we drink comes from cows. Over the last few years cows have been bred to produce much more milk than they would do naturally. People also tend to drink goats, sheep and even camels milk. To produce a maximum yield of milk a cow

needs to eat up to 100 kg of grass in one day. Selective breeding and good nutrition has meant that cows produce around 6000 litres of milk a year. This is more than double the amount that an average cow produced in 1945. Milk has been used for hundreds of years to produce yoghurt, cream, butter and cheese.

**Food value** - Milk is an excellent source of protein and many vitamins and minerals especially calcium. Calcium is particularly important for the development of strong bones. In humans the bones continue to strengthen until the age of 30 to 35. All milk-based products should ideally be refrigerated.

**Problems** - Cows are usually allowed to graze outdoors in the summer and are taken into barns in the winter. Cows are treated with antibiotics to combat various diseases.

## 7. Chicken

**Origin and growth** - Chickens originated from the jungles of Asia. Over many centuries chickens have been bred to produce more meat and lay a greater number of eggs. Modern breeds of chicken can lay over 200 eggs a year. Chickens are generally hatched in incubators and often sold to the farms that raise them from day-old chicks.

**Food value** - Chicken is known to be a good source of protein. Chicken meat must be refrigerated and eaten fairly quickly unless it is frozen.

**Problems** - Chickens produce a vast amount of manure. The chicken waste may be used as a fertilizer, or as a base for mushroom growing compost or it may even be burnt as fuel. There is a chicken manure power station near Thetford in Norfolk. Intensively farmed or 'battery' chickens are prone to many diseases that need to be treated with antibiotics. Organically farmed chickens have fewer diseases.

## 8. Wheat

**Origin and growth** - Wheat was grown 10,000 years ago in the Middle East's 'Fertile Crescent' where agriculture has its origins. It was grown across Europe and was central to the expansion of the Roman Empire from the 4th Century BC onwards. Wheat flour has always been the preferred choice for those who could afford it. Until the 19th Century most of the population often had to make do with a lower grade mixture of grains, beans and nuts. Over the last 200 years milling technology has made white wheat bread available to everybody.

**Food value** - Wheat is a good source of carbohydrate and proteins. It also contains many vitamins, although some of these can be lost in the refining process that makes white flour. Wholemeal flour is a far better source of nutrients. Stone-ground flour using older technology with revolving millstones has the greatest nutritional value. In this method the oils from the germ are evenly distributed and the absence of heat avoids turning the oils rancid. Wheat allergies are a growing problem and it has been suggested that this is due to the over-refinement of flour. Harvested grain should be stored on a clean concrete floor or in a silo that has been designed specifically for organic grain.

**Problems** - Much of the best flour in the UK is made from strong wheat that is grown in Canada, although it can be grown in the rich fertile Fenslands.