

YFC Agri- Learning



PACK 2

Created by Senior Members of
Norfolk YFC

**READ THE BOOKLET AND ANSWER THE QUESTIONS FOR EACH
SECTION**

PARENTS WILL RECEIVE THE ANSWERS ONCE COMPLETED!

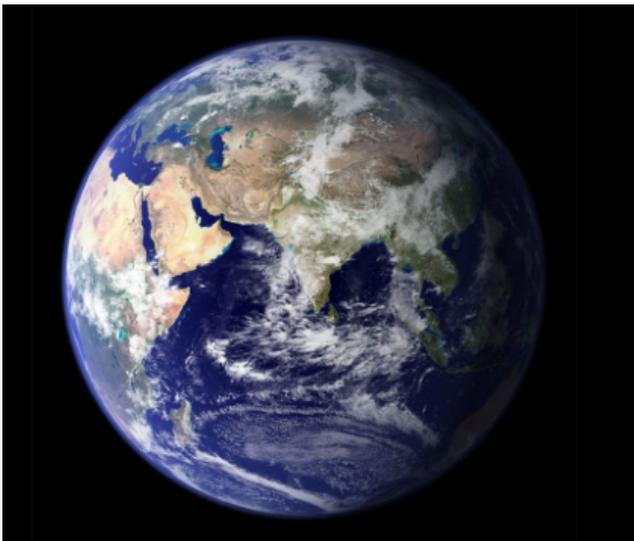


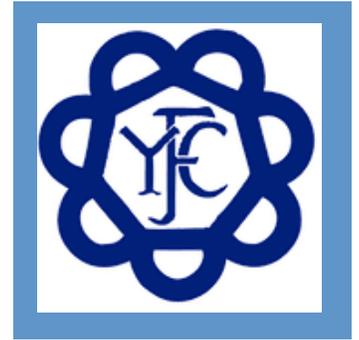
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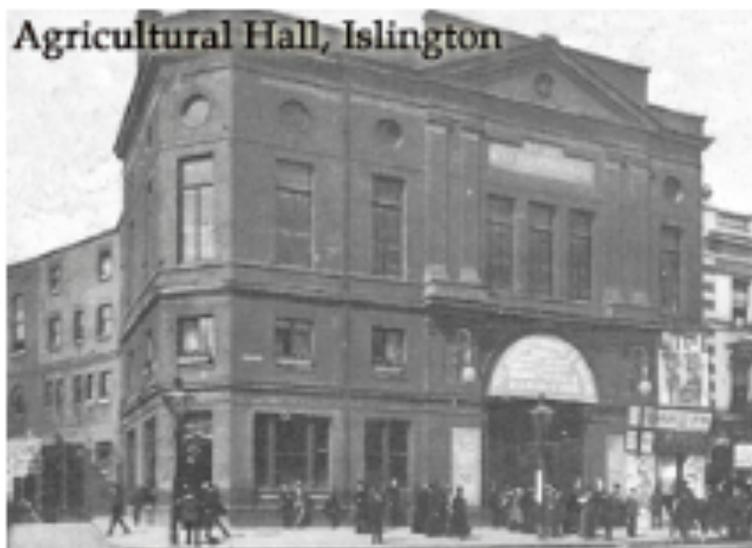


The NFU is the most successful representation body for agriculture and horticulture in England and Wales.

Known as 'The Voice of British Farming', the NFU states that it "champions British farming and provides professional representation and services to its Farmer and Grower members." It negotiates with the government and national organisations on behalf of English and Welsh farmers.

On December 10th 1908, a meeting was held in an ante-room at the Smithfield Show to discuss whether a national organisation should be formed to represent the interests of farmers. The outcome was the National Farmers Union (NFU).

The first President, Colin Campbell, worked tirelessly to get new branches off the ground, encourage membership and establish the NFU's credibility with Government, at a time when farming was going through the longest and deepest depression in its history, as imports of cheap grain and frozen meat flooded in from abroad.



Agricultural 'Acts'

The NFU has made representations on behalf of farmers and growers in England and Wales on the following laws and many more;

Protection of Animals Act 1911

Whilst there are many Acts of Parliament which are concerned with the welfare of animals, this can be seen as the main and most important Law - the one which underpins, and forms the basis of, most other animal welfare legislation. The main reason for the existence of other legislation is to ensure the welfare, and make illegal the ill-treatment, of animals.

Offences of cruelty

- 1 If any person—
 - (a) shall cruelly beat, kick, ill-treat, over-ride, over-drive, over-load, torture, infuriate, or terrify any animal, or shall cause or procure, or, being the owner, permit any animal to be so used, or shall, by wantonly or unreasonably doing or omitting to do any act, or causing or procuring the commission or omission of any act, cause any unnecessary suffering, or, being the owner, permit any unnecessary suffering to be so caused to any animal; or
 - (b) shall convey or carry, or cause or procure, or, being the owner, permit to be conveyed or carried, any animal in such manner or position as to cause that animal any unnecessary suffering ; or
 - (c) shall cause, procure, or assist at the fighting or baiting of any animal; or shall keep, use, manage, or act or assist in the management of, any premises or place for the purpose, or partly for the purpose, of fighting or baiting any animal, or shall permit any premises or place to be so kept, managed, or used, or shall receive, or cause or procure any person to receive, money for the admission of any person to such premises or place ; or
 - (d) shall wilfully, without any reasonable cause or excuse, administer, or cause or procure, or being the owner permit, such administration of, any poisonous or injurious drug or substance to any animal, or shall wilfully, without any reasonable cause or excuse, cause any such substance to be taken by any animal; or
 - (e) shall subject, or cause or procure, or being the owner permit, to be subjected, any animal to any operation -which is performed without due care and humanity ;

such person shall be guilty of an offence of cruelty within the meaning of this Act, and shall be liable upon summary conviction to a fine not exceeding twenty-five pounds, or alternatively, or in addition thereto, to be imprisoned, with or without hard labour, for any term not exceeding six months.

- 1 For the purposes of this section, an owner shall be deemed to have permitted cruelty within the meaning of this Act if he shall have failed to exercise reasonable care and supervision in respect of the protection of the animal therefrom :

Provided that, where an owner is convicted of permitting cruelty within the meaning of this Act by reason only of his having failed to exercise such care and supervision, he shall not be liable to imprisonment without the option of a fine.

National Parks and Access to the Countryside Act 1949

The National Parks and Access to the Countryside Act 1949 is an Act of the Parliament of the United Kingdom which created the National Parks Commission which later became the Countryside Commission and then the Countryside Agency, which became Natural England when it merged with English Nature in 2006. The Act provided the framework for the creation of National Parks and Areas of Outstanding Natural Beauty in England and Wales, and also addressed public rights of way and access to open land. The Act was passed in 1949 with all-party support, as part of the reconstruction of the UK by the Labour government after World War II.

The Act followed reports by:

- A Government committee chaired by Christopher Addison (later Viscount Addison) in 1931,
- John Dower, secretary of the Standing Committee on National Parks, to the Minister of Town and Country Planning in 1945, and
- a Government committee chaired by Sir Arthur Hobhouse in 1947, which proposed 12 national parks.

The first 10 British national parks were designated as such in the 1950s under the Act in mostly poor-quality agricultural upland. An eleventh 'national park' in the Norfolk and Suffolk Broads was set up by a special Act of Parliament, the Norfolk and Suffolk Broads Act, in 1988 (strictly speaking, this is not a national park, but the differences are sufficiently small that this entity is always regarded as being "equivalent to" a national park). The New Forest was designated a national park on 1 March 2005.

Below are other acts the NFU have been involved in forming;

- Milk & Dairies Act
- Agriculture Act
- Corn Production Repeal Act
- Wild Birds Protection Bill
- Land Drainage Act
- Creation of Milk Marketing Board
- Agricultural Holdings Act
- Tomato & Cucumber Marketing Scheme Order
- Wool Marketing Act
- Potato Marketing Scheme
- Agriculture Safety, Health & Welfare Provisions Act
- British Egg Marketing Scheme Order

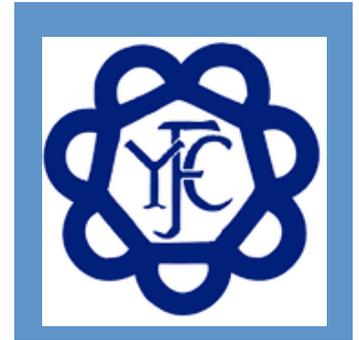
- Water Resources Act
- Plant Variety & Seeds Act
- Commons Registration Act
- Tractor Cab Regulations
- Equal Pay Act
- Control of Pollution Act
- Badgers Act
- Finance Act
- Wildlife and Countryside Act
- Animal Health Act
- Pesticides Regulations
- BSE Order
- Crop Residues Burning Regulation
- Environment Act
- Prohibition of Export of Live Bovine Animals from the UK
- Food Standards Agency
- Water Framework Directive
- Countryside & Rights of Way Act
- Gangmasters Act

NFU Challenge!

Pick 2 Acts from the list above and write 5 key points about each act and why the acts are important for the Agricultural Industry.

GEOGRAPHY

UK



Agriculture is not the same across the world, however it is the most widespread human activity (we need farming to provide food for us to eat). Farming is classified on many different things, below tells you more about farming in different countries across the world.

Farming in the UK uses ~69% of the country's land area. About 1.5% (476,000) of the country's workforce work in agriculture. The UK produces >60% of the food the country consumes, which means they are reliant on imports from other countries. Activity is concentrated in rural areas such as East Anglia (crops) where the topography is flat for farming and South West (livestock). Wheat is the most common crop grown.

The UK has begun shifting towards organic farming to attempt to gain profits and many farmers have diversified into biofuels and low carbon energy generation mechanisms to assist mitigating climate change.



USA

Agriculture is a major industry in the US and the country is a large exporter of food. Farmers and ranchers make up 2.5% of the US workforce. There are around 2 million farms today. Extreme weather in the US results in ~90% of crop losses which has negative impacts. The most common crops are Wheat and Soyabean. The US has the biggest livestock industry in the world, with cattle and sheep ranching being the most popular. In the US the ranching and livestock industry is growing faster than any other agricultural sector in the world.



China

China ranks first in the worldwide farm output, producing lots of crops. Farms in China are small, <90% being less than 2.5 acres. About 35% of the country's workforce work in agriculture. Rice is the dominant crop grown in the south, but the country still grow common cereals in the north and centre. China also diversifies into forestry and fishing as their topography limits area suitable for cultivations.



Complete The Blanks

Farming is one of the _____ industries across the world. However, farming practices in countries across the world can be very _____.

_____ ranks first in worldwide farm output. Approximately ____ of the country's population work in agriculture. ____ percent of farms in China are less than 2.5 _____. The most dominant crop grown in the south is _____. But in the north and centre _____ are still grown. Farming in China differs from the rest of the world primarily due to its uneven _____.

Approximately ____ of the UK's land area is used for agriculture. About 1.5% of the country's _____ work in the industry. The UK _____ less than 60% of the food the population consumes, meaning they're reliant on _____. The most common crop grown in the UK is _____. The UK has begun diversifying into _____ farming and _____ to assist mitigating _____.

_____ is a major industry in the US. Farmers and _____ make up 2.5% of the workforce. _____ weather events can damage crops resulting in negative impacts. One of the most common crops grown in the country is _____. Cattle and _____ are common animals to be seen on ranches. The _____ and ranching industry are _____ rapidly, faster than any other agricultural sector in the world.

Words to fill in the blanks

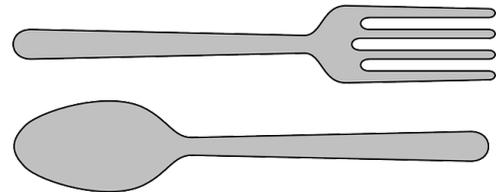
Growing	Livestock	Sheep	Biofuels
Agriculture	Acres	90	Extreme
Soyabean	35%	Ranchers	Biggest
China	Different	Rice	Topography
Cereals	Workforce	69%	Imports
Produces	Wheat	Climate change	Organic



FROM FIELD TO FORK

THE SUPPLY CHAIN

FOOD PROCESSING IN THE BEEF AND DAIRY INDUSTRY



The Beef Industry

Cattle from the beef and dairy industry are used in meat production. Beef suckler herds produce prime bred steer and heifer beef calves to finish for slaughter or sell as store cattle to other farmers to fatten up to 30 or up to 36 months of age. Cows that have foot problems, such as lameness, poor genetic breeding traits or difficulty getting into calf (infertility issues) are classed as cull cows as they lower herd performance, are sent to the abattoir for meat. The same principle applies to mature bulls also.

A dairy cow needs to give birth to a calf in order to produce milk. A dairy cow can be crossed with a beef bull to produce a dairy crossbred calf. These calves can then be reared for meat production. Cows that do not benefit the milking herd with their low milk production levels and infertility issues are culled.

Young beef bulls from the dairy and beef industry are reared on cereal based diets and fattened up to 16 months of age.



At birth, calves are registered with the British Cattle Movement Service (BCMS) and given a passport with an individual number personal to them. Calves are tagged in each ear with their number within 20 days of age.

Cattle are transported to one of the 278 abattoirs in the country in specially designed livestock lorries and trailers. For long journeys hauliers require an Animal Transport Certificate.



Please can you draw what you think a cattle passport looks like!

Think about what information it might tell you.



Did yours look similar to this one?

Cattle Passport
Pasport Gwartheg

British Cattle
Movement Service
Electronic System

Ear tag / Tag clust:
UK123456400011

Breed /Brid: **HOLSTEIN FRIESIAN**

Sex /Rhyw: **MALE**

Born /Ganwyd: **01 08 2011**

Genetic Dam /Mam Eneid: **UK123456700007**

Sire /Tad: **UK123456300003**

Issue Date /Dyddiad cyhoeddi: **09 08 2011** Version /Fersiwn: **01**

Please check the details are correct, if not amend and return to BCMS. Gwiriwch fwy y manylion yn gywir, os heb yfwrdd gwrthodwch os heb hysbysu a'r ddiwydwr ar QSIGP.

Movement history / Hanes Symud

Location /Lleoliad	Address /Cyfeiriad	Date on /Dyddiad cynneddi	Date off /Dyddiad ymadael
012345678-01	1001 CUMBRIA ROAD, DERRMOT HOME, WORKINGTON, CUMBRIA, CA14 2DD	01 08 2011	

To be completed by keeper on receipt of passport / I'w gwblhau gan geidwad ar dderbyn pasport

Place your holding address label here
Rhowch label cyfeiriad eich dalriad yma

Signature /Llofnod

Date of movement OFF holding / Dyddiad YMADEIL i'r dalriad

Signature /Llofnod

Death details / Manylion y farwolaeth

Reported electronically / SOG this box

Place your holding address label here
Rhowch label cyfeiriad eich dalriad yma

Date of DEATH / Dyddiad y FARWOLAETH

Signature /Llofnod

Please remember to return the animal's passport to BCMS within seven days of the animal's death
Cofiwch dychwelyd pasport yr anifail i QSIGP o fewn saith diwrnod o farwolaeth yr anifail

British Cattle Movement Service
Drosoddwr Symud Gwartheg Prydain
Cumbria Road, Workington, Cumbria, CA14 2DD
General helpline / Cyffwrddir: 0845 050 1214
Cymraeg: 0845 050 3436
Email / Cyfeiriad e-bost: bcms-enquiries@bcms.rpa.gov.uk

Report births, movements and deaths electronically using:
Adroddwch ar aneddiadau, symudiadau ac marwolaethau yn electronig gan ddefnyddio:
• CTS Online / SOG Ar-lein: www.bcms.gov.uk
• CTS self service line: 0845 011 1212
• Llofnod Human Resources SOG: 0845 011 1213
• Or using a farm software package / Neu'n defnyddio pecyn meddalwedd fferm

For TSE use only / At ddefnydd TSE yn unig

Born / Ganwyd: **01 08 2011**

UK123456400011

TRACEABILITY

Traceability relies heavily on efficient livestock identification and movement recording. This system of identification and tracing of farm livestock is a way of managing the risk of animal disease. All of this information is very important so that we can trace the meat product back through the supply chain right back to the farm it was born on. This is a legal requirement as it is vital in protecting public health.

Lairage

The lairage is where the cattle are housed before they are humanely slaughtered and looks similar to a livestock market.



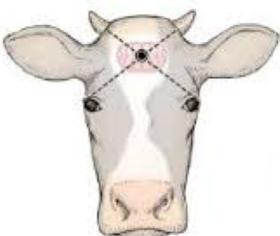
An official veterinarian, who is employed by the Food Standards Agency, checks the cattle when they are unloaded off the lorry or trailer. They assess the overall health and look for any injuries, lameness or swellings, signs of illness and disease.

The cattle are then penned on rubber mats or straw with access to water in their correct stocking densities to ensure they have enough space to lie down and move around the pen easily.

The farmer brings a declaration envelope containing all the passports, this is called the food chain information (FCI).

Once all the information has been scanned on to the computer, the cattle can then be drafted out of their pens and into the cattle race. A member of staff will read the ear tags using a tablet to make sure we have the correct animal and place a kill number sticker on it's back. If there are any identification issues the animal is drafted out of the race into an isolation pen.

Another member of staff will stun the animal using a captive bolt gun.



Animal Welfare

The welfare of all farmed animals is protected by the Animal Welfare Act 2006 which makes it an offence to cause unnecessary suffering to any animal. The Act also contains a duty of care to animals - anyone responsible for an animal must take reasonable steps to make sure the animal's welfare needs are met.

Farm assurance schemes promote high quality welfare standards. Accredited auditors visit farms and ensure they are complying with the high standards. Supermarkets require animals to be farm assured for at least 90 days before entering the food supply chain.



THE FIVE FREEDOMS OF ANIMAL WELFARE

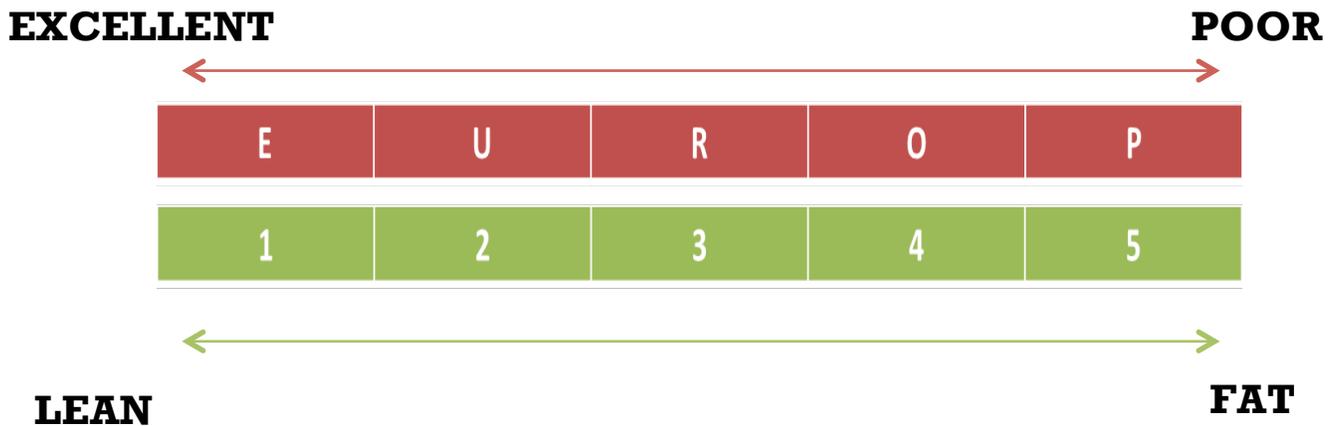
1. Freedom from hunger and thirst
2. Freedom from discomfort
3. Freedom from pain, injury and disease
4. Freedom to express normal behaviour
5. Freedom from fear and distress

**NEXT TIME YOU VISIT
THE SUPERMARKET LOOK OUT
FOR THE FARM ASSURANCE
STICKERS!**



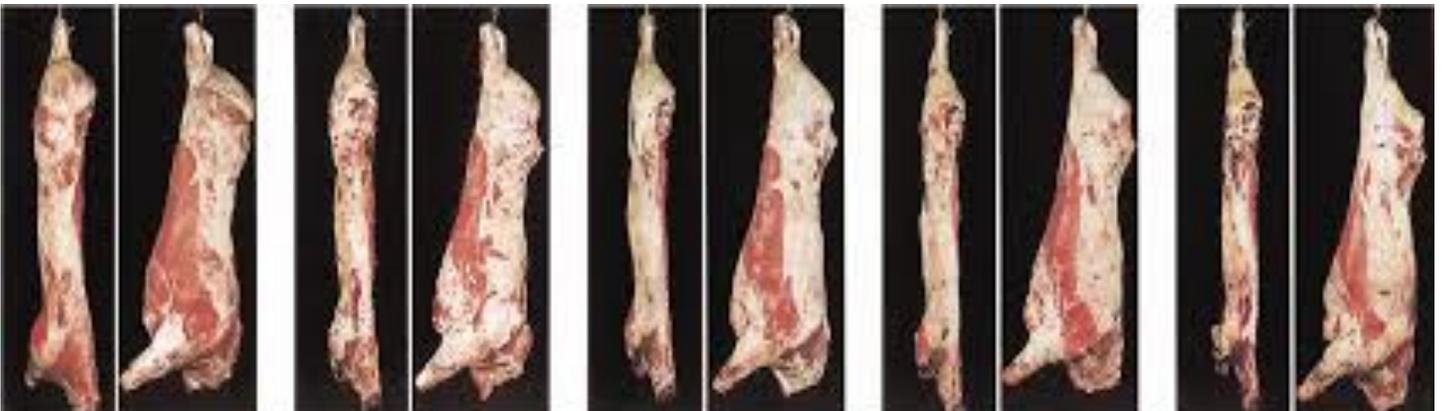
Carcase Classification

Once the animal is in the abattoir we now refer to it as a carcass. A camera takes a photograph of the carcass to measure the animal's fat class and conformation, which means shape. The camera takes 300 measurements of the carcass and then a grade is given to the animal depending on the EUROP scale.



Both sides of the carcass are also weighed to see how heavy they are. The farmer is paid for their animal based on the weight, grade and breed.

The lairage and grading checks categorise the animal into a certain job specification to determine which supermarket they are sold to.



ABATTOIR → BONING HALL → RETAIL

Carcases that pass the meat inspection stage are approved and stamped by qualified meat inspectors. Carcasses that don't are detained and thrown in the bin as they are not fit for human consumption. Carcasses are chilled in giant fridges for 36 hours before they are moved to the boning hall to be butchered into different cuts. Each half is sawed in half again into the forequarter and hindquarter. The hindquarter is chilled for a further 21 days to mature. Maturation is a process used to achieve meat eating quality, particularly tenderness and flavour. All the packaging and labelling happens in the retail department. Some sites operate a ready to cook room where flavour combinations and ready meals are developed. This is achieved by taste test panels.

All staff have to wear personal protective equipment (PPE) which include hard hats, ear defenders and chain mail when working with cutting equipment and gloves. They are also trained in knife skills, machine operations and food safety. Food safety is the main responsibility of the factory in order to restrict pathogens that cause food poisoning from multiplying. These include salmonella, clostridium, campylobacter, E.coli and viral pathogens. Onsite equipment is colour coded to stop cross-contamination, employees can only return to work 48 hours after their sickness has cleared, good hygiene including cleaning and disinfecting at all times, adequate ventilation and temperature control are ways that we can keep food safe.

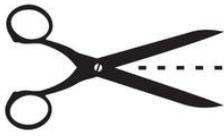
Q. Can you guess how many cows are slaughtered for food production per year in the UK?

A.



IDEAL CONDITIONS FOR BACTERIA MULTIPLICATION

- **FOOD SOURCE - HIGH IN PROTEIN**
 - **MOISTURE**
- **WARMTH** (5 °C - 63 °C) OPTIMUM
BODY TEMPERATURE (37 °C)
- **TIME - MULTIPLY EVERY 10-20
MINUTES**



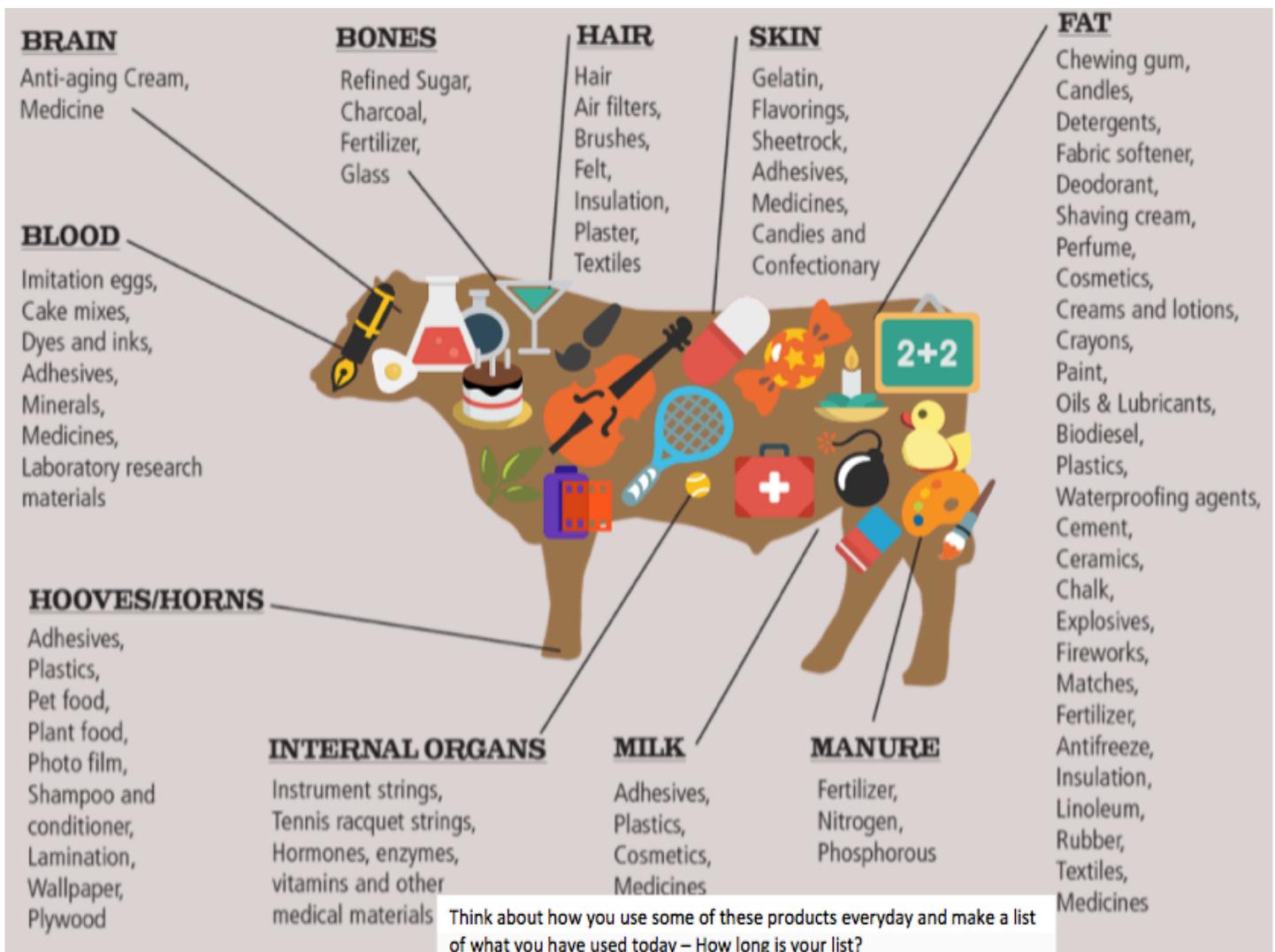
TRIM UP YOUR OWN CUTS OF BEEF AND PLACE THEM ON THE TEMPLATE





Products Made From Cattle

THERE IS NO WASTE FROM A COW!



Factory Departments

Health and Safety



The factory's health and safety department ensures that the workplace is safe for all members of staff to work in. They also ensure all correct PPE has been provided for and train people in first aid.

Engineering



Factories rely heavily on machines, so the engineering team play a vital role in keeping the line moving and being on hand whenever a break down occurs.

Planning

The planning department work closely with the sales and livestock team to ensure they supply the correct numbers of cattle to meet orders and demand from customers.



Information and Technology

There is a lot of technology on site that is used to record a lot of important data. It's the IT departments job to ensure that it is all in working order and running smoothly.



Security

Most sites operate 48 hour security which only allows authorised staff and visitors in. They also protect the site from thieves and animal activists.

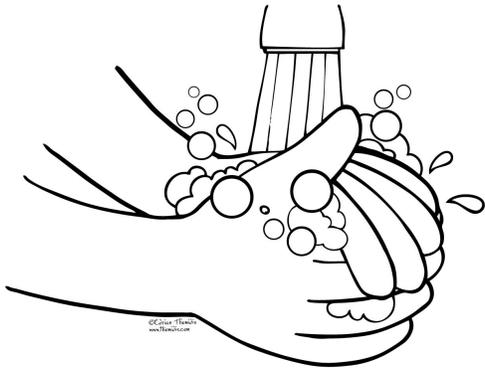
Technical and Research

The technical department carry out daily checks throughout the entire site to make sure that everything is operating correctly and product quality control, which includes temperature and pH checks.

The research department runs trials to find improved methods of production.

Hygiene

The hygiene department ensures at the end of every shift that all work stations and areas are clean. They also ensure all hand wash stations are full as it is vital that staff can sanitise their hands to ensure food safety. How long do you need to wash your hands for to make sure they are free from germs?



Agriculture

The agricultural department works closely with genetic companies to supply them with information that will improve breeding programmes to achieve the desired meat product in terms of flavour and texture.



Livestock

It's the job of the livestock team to source all the cattle required for each week's kill. They are the main point of communication between farmers. They work with farmers to book cattle in to ensure that the processing line does not run out.

Accounts



Farmers can be paid via cheque or bank transfer by the accounts department. They supply each department with a budget to spend. The accounts department is vital to ensure that the business remains profitable.

Sales

The sales department work closely with supermarkets, restaurants, hotels etc. to create orders.



Environmental

It's incredibly important to operate a sustainable business to aid in protecting the environment by reducing the companies carbon footprint, water and electricity usage and waste. Some sites use the fat as a source of energy or have water treatment plants which turns rainwater into clean water to use on site.

MAKE YOUR OWN BEEF BURGERS



Ingredients

1¼ kg lean beef mince
1 onion, finely chopped
140g breadcrumbs
100g mature cheddar, grated
small bunch parsley, chopped
1tbsp Worcestershire sauce
1 egg, lightly beaten with a fork
1 tsp mild chilli powder

Method

STEP 1

Tip the mince into a large bowl with the onion, breadcrumbs, cheese, parsley, Worcestershire sauce, egg, chilli powder, ½ tsp salt and some pepper.

Mix together well with your hands, then divide the mixture and shape into burgers.

Make sure they are all even in size.

STEP 2

Carefully, heat a griddle pan, grill or barbecue until hot, then cook the burgers for about 5-8 mins on each side.

Serve in a burger bun.

What toppings will you choose to top your burger with?

ENJOY!



REMEMBER TO SEND YOUR PICTURES TO THE NORFOLK
YOUNG FARMERS & COUNTRYSIDERS FACEBOOK – WE
WOULD LOVE TO SEE THEM!

QUIZ!

Q. What does BCMS stand for?

Q. How many days to farmers have to tag their calves?

Q. What are a sire and dam?

Q. Can you name 10 other non-related food products made from cattle?

Q. What three factors determine how the farmer is paid for their animal?

Q. What does PPE stand for? And why is it important?

Q. What are the four things that bacteria need to multiply?