B3Agriculture Biotechnology and Food Keywords

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| **Keyword** | **Definition** |
| **Chain of food production** | Every state of growing, transporting, storing and delivering food from farm to home |
| **Yield** | The amount of product obtained from a chemical reaction |
| **Skimmed milk** | Milk from which most of the butterfat has been removed |
| **UHT** | Ultra heat treated invoved heating milk to a high temperature for a short period of time to kill bacteria |
| **Pathogen** | Organisms that causes disease |
| **Cheese** | A protein rich food mage from fermenting milk |
| **Yoghurt** | The result of a fermentation of milk using lactic acid bacteria |
| **Fermentation** | Process of growing micro-organisms in fermenters |
| **Microorganisms** | Very small living organisms. May be fungi, (yeast or moulds) bacteria or viruses. |
| **Bacteria** | Microorganisms that consist of single cells without a nucleus. Some bacteria are harmful, many are useful. |
| **viruses** | The smallest type of microorganisms, viruses consist of genetic material inside a protein coat. They can’t reproduce outside a living organism |
| **Yeast** | A group of single celled fungi that can reproduce quickly by budding. Used to make beer and bread. |
| **Alcohol** | A functional group containing –OH group |
| **Food poisoning** | Illness caused by eating contaminated food containing microorganisms or toxins produced by microorganisms |
| **Environmental health officers** | A job role with responsibility for monitoring food at all stages of production to ensure public health and safety |
| **Bread wheat** | A cultivated wheat species used for making bread |
| **Spring wheat** | A variety of wheat that can be planted in spring for a late summer harvest |
| **Winter wheat** | Planted in autumn and survives the winter after germinating |
| **Durum wheat** | A variety of wheat with high levels of gluten |
| **Insecticide** | A chemical that kills insects |
| **Herbicide** | A chemical that kills plants / weeds |
| **Fungicide** | A chemical that kills fungi |
| **Fertiliser** | Chemicals or mixtures of chemicals that are put in the soil to help plants grow better |
| **Selective breeding** | Improvement of stock by choosing animals or plants to breed that show good combinations of characteristics |
| **Artificial insemination** | Putting sperm into a female without sex |
| **Sperm** | Male reproductive cells, gametes |
| **Hormone** | Chemical that is produced in an animal to controls the activity of another body part |
| **fermenters** | A large vessel in which microorganisms are grown to produce a useful product |
| **Mycoprotein** | A protein made by fungi |
| **Continuous culture** | A process of growing microorganisms continuously |
| **Batch culture** | A process of growing microorganisms in a batch. The fermenter is cleaned out before another batch is started |
| **lag phase** | Stage in the growth of a population of bacteria where the size of the population is not increasing |
| **Exponential growth** | A stage in the growth of a population where its size is doubling rapidly |
| **Stationary phase** | The stage of growth in a population of bacteria where the growth and death rates are the same. |
| **senescence** | The process of ageing, in bacteria where more are dying than are being formed |
| **Flow diagram** | A simplified diagram to show how complex machine is controlled using boxes and arrows |
| **Sensor** | An electronic device that sends a signal indicating the conditions in a controlled environment |
| **Automatic control** | A control system that does not need frequent action by people is automatic |
| **input** | An electronic device that sends a signal giving information about conditions at some point of a controlled system |
| **Processor** | An electronic device that delivers an output depending on the input it receives |
| **Output** | An electronic device that produces an electrical signal that can be detected and interpreted |
| **Data logger** | The process of keeping a record of data such as temperature level in a bioreactor |
| **Trigger voltage** | The voltage of an electrical signal in a control system that is at a level to trigger a reaction in another part of the system |
| **Comparator** | An electronic device that compares 2 or more electronic input levels and gives different outputs depending on the result |
| **Feedback loops** | Connections in control systems that make sure that they react quickly to changes |
| **Negative feedback** | A control system where a condition is monitored and the system reacts to reverse any change in the system. E.g. keeping a temperature constant |
| **Chymosin** | An enzyme that makes milk protein form clots |
| **Genes** | A length of DNA that codes fro a particular protein |
| **Enzyme** | A biological catalyst. Enzymes are very specific for the reaction catalysed. Enzymes are protein molecules. |
| **Protein** | A biological polymer made up of amino acids. E.g. muscle, enzymes, gluten |
| **Genetic modification (GM)** | The production of a new combination of DNA |
| **DNA** | A polymer that carries genetic information |