**JSS 1**

**WEEK 1**

**CLASSIFICATION OF CROP ACCORDING TO THEIR USES**

Food and feed for ourselves and our livestock. Those crops include:

1. CEREAL: Cereals or grain crops belong to the grass family. We grow them for their seed examples are maize, sorghum (guinea corn), millet, rice, wheat and acha.
2. LEGUMES (PULSE): The seed of these crops are eaten and are a good source of plant proteins. Examples are soya bean, cowpea, groundnut and bambara.
3. SUGAR CROPS: Sugar crops are grown to make sugar which we eat. The two major sugar crops are sugarcane and sugar beet.
4. BEVERAGES AND STIMULANTS: Beverages stimulant are crops whose products are used for making non-alcoholic drinks or used to increase our body activities. Examples are cocoa, tea, coffee, kola nut and tobacco.
5. ROOTS AND TUBERS: Root and tuber crops are crops that store food materials in underground parts of the plant. Examples are cassava, sweet potatoes, yams and cocoyams
6. FRUIT: Many crops produce fruits. The fruits are eaten fresh or canned. Examples are mango, orange, banana, cashew, pawpaw, guava and pineapple.
7. FORAGE CROPS: Farmers grow forage crops to be used mainly as feed for farm animals. Examples are elephant grass, gamba grass and alfalfa: Most food crops for examples cowpea are also grown as forage crops. In this case, the crops are harvested before they are mature to feed livestock’s. Such crops include, maize, sorghum, millet, groundnut, soya beans and cowpea.
8. LATEX CROPS: These are crops which provide some white sticky sap (latex) from their stem or fruit. Examples are rubber and para rubber.
9. FIBRE CROPS: These are crops which are usually threat like and from which fibre is obtained. It can be processed to make clothing materials. Examples; are cotton, sisa, jute, kenaf e.t.c. fibres may be obtained from fruits, stem and leaves of these crops.
10. OIL CROPS: These are crops whose seeds or fruit can produce oil when processed. Examples include oil palm, coconut, soya beans, groundnut, cotton and sun flower.

**WEEK 2-3**

**FORMS OF FARM ANIMALS**

1. WORK ANIMALS: These are animals used as a source of labour from doing farm work such as tilling the soil and carrying farm produce. Some breed of cattle are exceptional as work animals to perform certain farm operation. Other animals such as donkeys and camels are used to carry load from place to place
2. DIARY ANIMALS: These are farm animals reared mainly for milk production. Some breed of cattle is the major dairy animals because they are good milk producers. However, sheep and goat can also be kept for milk production
3. BEEF ANIMALS: These animals are kept for meat production, almost all farm animals are kept for the purpose of feeding on their flesh e.g. sheep, cattle, goat, pig, poultry and fish all produce flesh eaten as food for man.
4. GUARD ANIMALS: These animals are kept for security purpose for instance dogs are kept to protect his owners and guard his properties or farm compound. They can be trained to track down thieves.
5. POULTRY (BIRD): These are domesticated bird. They produce meat and eggs used as food. The common of poultry are chicken, duck, guinea fowl, turkey and geese
6. PET ANIMALS: These are animals kept in houses as pet. They are kept at home for pleasure rather than for work or food. Dogs, fats, fish can be kept as pets
7. AQUATIC ANIMALS: These are animals that live in water. Hence they are domesticated in water environment fish is the most important aquatic animal to man some breeds of fish has been domesticated by man. Examples are cat fish, tilapia and so on.

**WEEK 4 – 5**

**GENERAL CHARACTERISTICS OF FARM ANIMAL**

**CHARACTERISTICS OF CATTLE**

1. It has large body size
2. It is a ruminant that grazes on herb and pasture
3. It has four pairs of hoofs on each limb
4. Male and female have horns
5. Calves at least once in a year
6. Produces a calf in one parturition
7. The udder has four glands
8. Well formed earlobes
9. The gestation period is between 283-305 days
10. Their puberty age ranges between 8-12 months

**GENERAL CHARACTERISTICS OF GOATS**

1. They are very hard and can survive unfavourable environment conditions
2. They have medium size
3. Male and female have horns
4. They are vey prolific and can produce kids three times in two years
5. Have unturned tail
6. They are reared mostly for meat, skin, milk and fibre
7. They are the most acceptable breed of farm animals
8. Male is often with beards
9. The gestation periods between 145, 154 days or 4-5 month
10. They are mostly reared on the extensive system

**GENEREAL CHARACTERISTICS OF SHEEP**

1. They have medium size with long legs
2. Have long thin tail which hang down
3. The ear lobes are long and dropping
4. They are grazers and can also scavenger on relish of road size
5. They are kept mostly for meat, wool, fleese and milk purposes
6. Leather from sheep hides are sued to make shoe, gloves and jackets
7. They seem to be very stupid in appearance and behaviour
8. The gestation period is between 151-154 days or 51/12 months.
9. Only the males have horns, but the female are polled
10. Twining is very common (Delivery of twins).

**GENERAL CHARACTERISTICS OF PIGS**

1. They have a high deposit of fats hence their association with ponds or water because of catabolism.
2. They are very prolific producing 8-16 piglets at a time
3. They can farrow twice in a year
4. The gestation period is very short, it is 114 days (3monts, 3 weeks and 3 days)
5. They have high feed convertibility
6. They can produce at any time
7. They are monogastric animals and are mostly omnivores in natures
8. The neck is short and fixed i.e. the neck is immovable
9. The tail is short and coiled.

**WEEK 6**

**IMPORTANT OF FARM ANIMAL**

1. FOOD AND FEED: The major importance of farm animals is the provision of food protein which is essential to good health
2. EMPLOYMENT: Livestock production constitutes a full time occupation for some farms. These farmers derived all their product for these animals as milk, eggs and wools
3. CLOTHING: Sheep are used both for the production of meat and wool. The farmers remove the wool, using an instrument called shears (shearing) from the animals just at the beginning of the hot weather every year. The woll is sold to the textile industry where it is used in making materials such as woolen dresses, cardigans, pull over socks and hats.
4. WORK: In Nigeria, large farms and animals like cattle (e.g. Red Bororo) are used for ploughing the field in the Northern parts of the country. Other animals such as the donkey and camel are used to carry heavy loads from place to place.
5. MANURE: While grazing farm animals e.g. cattle drop their faeces on the field. The faeces constitutes a good source of organic manure (Farm yard manure which enriches the soil for subsequent crops.
6. PLEASURE AND PROTECTION: Some animals are kept mainly for pleasure, racing or protection of their owners. Animals such as cats are kept for pets. Also animals kept in the zoo are kept for reaction and pleasure of the visitors.

Horses are kept for racing and riding during ceremonies occasions, dog is sued to protect, its owners against thieves or other invaders and it is also used for hunting small wild animals by hunters.

**WEEK 7**

**WEEDS**

A weed is a plant that grows in a place where it is not wanted e.g. a vegetable plant growing on a cassava plot is a weed.

**CHARACTERISTICS OF WEEDS**

1. HIGH PRODUCTIVE CAPACITY: Weed posses high productive capacity and are always the first to emerge and grow when necessary condition are provided. They have many seeds. For examples a single grass head may produce thousands of seeds.
2. HIGH RESISTANCE CAPACITY: They are capable of withstand adverse conditions because of their tough protective seed coats e.g. seeds of some legume
3. ABILITY TO REGENERATE: Some weeds are capable of regenerating and therefore very difficult to eradicate commelina species, elephant grass and spear grass are examples of weeds that possess this characteristics
4. EARLY DISPERSED: Weed seeds possess various devices for dispersal. These include spines, hook, parachute of hair, wind with which they are easily be dispersed e.g. tridax, goat weed and des modium.
5. HIGH COMPETITIVE AND AGGRESSIVE GROWTH HABIT: Weed possess highly competitive growth habit and can easily smother crop for example spear grass, elephant grass can easily over run a farm if not regularly checked.

**USES OF WEEDS**

1. FOOD: Some weeds are used as food for man e.g. African spinach (Amarathus coudatus) cochurs olitoris e.t.c
2. ANIMAL FEEDS: Some weeds are used as food for feeding farm animals e.g. guinea grass, sedge and elephant grass
3. MEDICINE: Most weeds are medicine. Drug can be extracted from such weeds e.g. lemon grass.
4. EROSION CONTROL: Weeds are used for control tiny erosion e.g. Bahama grass.
5. SOURCE OF ORNAMENTAL: Weeds are the major source of ornamental crops e.g. e.g. pride of Barbados, carno lily, rose, croton and hibiscus.

**CLASSIFICATION OF WEEDS BASED ON LIFE CYCLE**

Weeds are grouped in three classes. These include

(i) Annual weed (ii) Biennial weed (iii) Perennial Weed

**ANNUAL WEED**

These are weeds which complete their life cycle in one year. They grow, reach maturity and die within a year. Annual weeds include fridax plant, goat weed, spigelia and so on.

**BIENNAIL WEEDS**

These are weeds that complete their life cycle in two years. The first year is used by the crops to grow and store food. Reproduction and maturity take place in the second year. Example of biennial weeds are wild carrot, yellow rocket.

**PERENNIAL WEEDS**

These are weeds that take more than two years to complete their lifecycle or ripe for harvesting perennial weeds include giant star grass, guinea grass, carpet grass, centxo and tropical kudzu.

**COMMON WEEDS**

COMMON NAME BOTANICAL NAME

1. Spear grass Imperata Cylindrica
2. Guinea grass Panicum maximum
3. Elephant grass Pennisetum prupuren
4. Wild hemp sida spp
5. Water leaf Talinum triangulare
6. Goat weed Ageratum consoles
7. Stubborn grass Elaisina indica
8. P. W. D. Weed Tridax
9. Pig weed Boerhavia
10. Carpet grass Axonopus compressus
11. Pigeon pea Cajanus caja
12. Sensitive plant Mimosu pudica
13. Witch weed Striga senegalenis

**WEEK 8**

**PESTS**

Pest is defined as only living organism, plant or animal which can cause damage to our cultivated crop plant, farm animal and human. Examples of common pest include insect like grasshoppers and beetles, mammals such as rats and monkey and bird such as weaver bird.

**CLASSIFICATION OF INSECT PESTS ACCORDING TO THEIR FEEDING HABIT**

According to their mode of feeding insect pest are classified into three groups. These are:

1. Biting and chewing insect pests
2. Piercing and sucking insect pests
3. Boring insect pests

**BITTING AND CHEWING INSECT PESTS**

Insect pests in this group have mouth parts which are specially made for biting and chewing plat. The mouth parts of insect in this group consist of a pair of very hard biting jaws called mandibles, a second pair of jaw called maxillae, flat upper lip called the labrum and lower lip known as librum. The mandibles are sued to bite off and chew parts of the crop while maxillae are used to bite off and chew parts of the crops into the mouth. Examples of biting and sucking insects pests are crickets, grasshoppers, beetle, termites, army worm, mantils.

**PIERCING AND SUCKING INSECT PESTS**

The insects in this group have mouth part that are shaped like injection needles, called probaxix, hena, their mouth parts are adapted to pierce into plant parts and sucking the sap and juice of plant. Example of piercing and sucking insects include aphids, cotton stainer, mealy buds, white flies and capsids.

**BORING INSECTS**

These are insects that bore hole into plats tissues and seeds. Boring insects are also called burrowing insects. Examples of boring insects are beans beetles, weevils such as rice and maize weevil.

**CLASSIFICATION OF INSECT BASED ON THEIR LOCATION**

Based on location, insect pest are classified into two namely:

1. Field insect pests
2. Storage insect pests
3. FIELD INSECT PEST: These are insects that attack crop plant on the field that is before harvesting important field pest include:

i. Stem borers

ii. Fruit and seeders: Examples are beetle fruit, flies and fruit piercing mouth.

iii. Root feeders: Examples are yam beetles.

1. STORRAGE INSECT PESTS: This group of insect attack harvested products in store. Examples include bean beetle, weevil such as rice and maize weevils.

**WEEK 9**

**ECONOMIC IMPORTANCE, PREVENTION AND CONTROL OF INSECT PESTS**

Pest may cause damages to crops in the following ways:

1. Insect pest destroy field crops through their activities such as biting, chewing, boring and sucking
2. They cause reduce in the viability (germinating capacity) of stored produce
3. Heavy attack by insect pest may lead to total failure
4. They reduce the market of crops especially fruits and vegetables
5. Control of insect pest increase the cost of production
6. Some insect pest act as vectors of plant diseases.
7. Insects’ pests reduce the yield (quantity) and quality of crops either in the field store.

**PREVENTION AND CONTROL OF INSECT PESTS**

Generally, insect pests can be effectively controlled through the following measure.

1. Cultural control
2. Physical control
3. Chemical control
4. Prohibition
5. Quarantine
6. Biological control

**CULTURAL CONTROL**

This involves the use of good cultural practices in order to reduce or destroy insect population and to help crops escape insect attack. These cultural practices include:

1. Crop rotation
2. Tillage
3. Early planting
4. Adequate and regular
5. Planting resistant
6. Timely harvesting
7. Burning

**PHYSICAL CONTROL**

This involves the physical removal of insect pest from the farm. The following insect pest on the farm though: (i) Hand Picking (ii) Air tight storage

**BIOLOGICAL CONTROL**

This involves the introduction of the natural enemies of the insect pest. The pest enemies are introduced to feed on the insect pest thereby reducing the population of the pest. For instance ladybirds are introduced in an aphid infested farm to eat up the aphid.

**CHEMICAL CONTROL**

This is the used of chemicals to protect crops from insect attack and if the attack is established they are used to kill the insect pests at various stages of their life cycles. Chemical control is the most effective method of controlling insect pest and chemical used for insect control include:

1. Insecticide: These are chemical specifically used for controlling insect pests. They may be applied in the form of solid such as dusts or in the form of emulsion or sprays. Examples include Gammalin 20, Vector, Aldrin dust and so on.
2. Fumigants: These are insecticides which are in the form of vapour. They are usually enclosed in air tight containers. Examples include hydrogen cyanide, methy bromide and ethylene.

**QUARANTINE**

Quarantine is a period of isolation and observation imposed by law in imported materials include seeds, plants and animals. The materials are kept long enough to observe them for nay disease symptoms. If symptoms are detected, the materials are either destroyed or exported to the country where it was purchased at the expense of the importer.