

SUBJECT: AGRICULTURAL SCIENCE

WEEK: 10

TOPIC: STORAGE OF FARM PRODUCE

CLASS: JSS2

TERM: 3RD TERM

DEFINITION OF STORAGE

Storage is the process of keeping agricultural products for future use as food, raw materials, fuel or for sale is known as storage. It is necessary to keep the produce in a form as near as possible to its original state. This latter process is known as preservation.

AIMS OF STORAGE

1. To ensure that food is available all through the year at affordable prices
2. To reduce, to the barest minimum, the amount of food spoilage caused by disease and pest attack.
3. To ensure that seeds needed for subsequent planting are stored in a viable condition.
4. To preserve the harvested product from loss of quality and poor sales.
5. To enable the farmer take advantage of a higher price during the off-season and, therefore make a profit.
6. Storage and preservation ensure an adequate supply of raw materials to industry for processing.
7. A farmer who has good storage structures in his farm can afford to cultivate more land.
8. To make certain food crops available all through the year.
9. Storage of livestock feeds and feeding stuff from getting spoilt.

FACTORS AFFECTING STORAGE

The following factors are known to affect storage of any particular agricultural produce.

1. Quality of the produce to be stored: The produce to be stored should be in good form, free from bruises and blemishes. Grains should be properly mature, shelled whole and dry, so that they can keep well in storage. Tubers and roots also store well when not wounded. Fresh fruits like mango, banana, orange, and pineapple should be quite mature but not too ripe before storage, and they can only be stored for short periods.
2. Moisture content: most crops produce are more prone to spoilage when their moisture content is high. They are easily affected by moulds and bacteria under such condition. Grains to be stored should have moisture content of between 10 to 14%. Fruits and vegetables must be stored in a state of high moisture content, so drying or storing form depends on the produce.
3. Relative humidity: The environment in which a produce is stored must be dry enough to maintain the moisture content of the stored products. If agricultural products are stored in a

wet environment, they get soaked and this may lead to spoilage by fungi insects and bacteria. Sometimes, seeds under stored germinate or sprout when condition are relatively humid.

4. Temperature: some farm products need to be stored under very low temperatures to preserve their food value. Meat and fish require cold storage at a temperature of 0 degree centigrade while fresh fruits and vegetables require 5 to 10 degrees. Plants products, most times, deteriorate very fast at very high and very low temperatures.
5. Insect, mite and pest: Insect, mites and pest attack both the stored material and wooden components of the storage structure; weevils are the commonest insects in grains. They attack seeds, and storage structures. They reduce seed weight upgrading, wet spot and moldiness loss of viability etc.
6. Rodents: Rodents are mammals that destroy stored materials and attack storage structure. They eat grains and waste the remaining parts. They are vectors. They also contaminate stored materials with their faeces, urine and carcasses.

METHODS OF STORAGE

There are various methods of storage, some of these are traditional, while others are modern, and they are:

BARNS: The most traditional and common method of storing fresh yam is barn storage .the barn consists of a network of horizontal and vertical poles .the walls are short and made of mud or cement blocks ,and the floor is made of thatch or shaded, to the shelter the yam from hazardous weather conditions. The yam tubers are tied individually to the framework of poles, with strings in such a way that there is minimal contact between the individual yam tubers.

CRIBS: Cribs are used for storing cereals, especially maize and guinea corn during the dry season .a crib is usually built from local wooden materials in either a rectangular or cylindrical shape and is thatch-roofed. The crib is raised 1.22m above the ground and supported on strong pillars .the crib is therefore, a raised platform which is rectangular in shape.

RHUMBUS: The rhumbus is a popular method of storage in northern Nigeria. It has a spherical or cylindrical shape with domed roof, and is made of mud walls.it is also built to rest on wooden or mud stilts to avoid flood. The rhumbus is used for storing dry grains which have not been threshed.

SILO: This is the most scientific, but an expensive method of storing grains.it is mostly used by government, large scale farmers and co-operative societies. Silos are cylindrical or rectangular in shape. They are made from aluminium, steel, plywood, rubber, re-enforced concrete or fibre glass materials, silos must be air-tight.

ASSIGNMENT

1. Defined the term storage
2. What are the methods of storage