

2. Cut the rhizome into pieces (optional).

Into small pieces, I used a sanitized knife to cut the ginger 2.5 cm wide. After cutting, I placed the pieces in a dry location for three days **10/11/2015 – 13/11/2015** to allow them to heal. On the third day, I noticed a protective cover ‘callus’ over the cut surface, this callus serve as a shield which reduces the risk of infection.

3. Planting

I planted each piece of ginger 2 feet in density. I used larger pieces to save space.

Maintenance

Each morning I provided my plants with sufficient water.

- Capsicum annum

Peppers are thirsty plants! They need a moderate supply of water from the moment they sprout. However, peppers won't tolerate a saturated soil that waterlogs their roots. The soil must drain well, yet hold enough moisture to keep the plants in production.

- Carica papaya

After the rain stops, I watered the papaya trees regularly, preferably once every two days. Papaya trees should not be flooded until their root systems are well established.

- Zingiber officinale

I watered lightly right after planting. I checked the soil daily and water just before it dries out completely. Watered logged soil will quickly rot ginger plants, so reduce watering.

Field maintenance

Method of weed control: Hand weeding is the safest and least damaging to the crop. Mechanical control is effective during early growth. However, Mechanical cultivation usually requires supplementary hand weeding for removing weeds in the rows.

Plantain field management (Musa spp)

In this session I explore the following concepts:

- Ring weeding
- Herbicide application and spraying

Plantains are starchy staple foods, which are fried, baked, boiled, roasted and consumed alone or together with other food.

- Ring Weeding

This is a mechanical control method. The removal of un-wanted plants 2feets round a plantain stand.

- Herbicide Application and spraying

I mixed herbicide (force up) with 60ml of pure water and soil. Using a bailer,I filled the knapsacks sprayer & spray 2 feet round the plantain stand. Two days later weed had dried off.

Mulching

I mulched each transplant with dead leaves. The presence of the mulch is important, because it can protect the soil from being washed away by rainfall and prevent excessive evaporation from the soil.

Fertilizer application

- Capsicum annumm

Don't over fertilize

I noticed that some pepper plants developed lush foliage (lavish production of pepper leave). This could be at the expense of fruit production. Peppers are light feeders. I worked compost fertilizer into the soil prior to transplanting, that's probably sufficient. I applied organic fertilizer 1 foot in a ring form 5/11/2015.

suckle piglets will also bite and injure one another. The simple practice of clipping the teeth as soon as possible after birth prevents these problems.

- When to clip the teeth

The piglet's teeth should be cut as soon as possible after its birth. The teeth can be cut when the pig is only 15 minutes old. The sow and her young should be separated for as short a time as possible. In order to clip the teeth you will need either a pair of tooth clippers, or pliers or forceps.

You will need someone to help you separate the sow and her young. You will also need a box containing bedding and a clean empty pen.

Clipping the teeth

1. If the sow is not tied up separate her from her young and place her in another pen. Take care as the sow with a litter can be dangerous.
2. Corner the young pigs and keep them together or place them in a box.
3. Hold the head and press the corner of the piglet's mouth so that the jaws open.
4. Place the clippers on either side of one pair of teeth making sure that the tongue is not in the way. Tilt the head so that the pieces of the teeth will fall out of the mouth.
5. Cut the teeth as close as possible to the gums. Inject the piglet with iron dextran to prevent piglet anemia.
6. Clean the clippers before using them on another piglet. Operate on the rest of the litter and when you have finished put the piglets back with their mother immediately. Keep young piglets warm.

The biggest enemies for Grass cutter is snakes and soldier ant. Make sure their house are built in a safe place and must be way of human thieves. To protect them from the invasion of soldier ants, you may pour black engine oil around their houses especially at night during raining season mostly.

The floor should be overlay with dry soft grasses to protect their feet from being hurt and to provide them soft cushy playground condition.

Feeding the Grass cutter

Grass cutter is herbivorous animal meaning their source of food is mainly from the bush, that's why they are more comfortable in the bush where their food could easily be found. Their major food is elephant grass or napier grass, they also love sugar cane mainly for their feeding, guinea grass, gamba grass, congo grass.

According to experience at Songhai Delta, hygiene and good feeding are most important factor for successful, profitable Grass cutter farming, you can also fatten the male with broilers finisher or broilers starter feed to help attain market weight within a short period of time.

The root and pitch of oil and coconut palms, bark of fruits such as half ripen pawpaw, plantain, pineapple, mango etc. are their delight. Food crops such as groundnut, rice, maize, tubers like cassava, sweet potato etc. also make part of their food.

Weaning time

With good adequate feeding, the Grass cutter kids can be weaned between 4 – 8 weeks, but as a family they can be with the mother for 4 month, the kids can be separated from their mother between 5 -7 month and placed with a male to mate with them. The weaned animal can be mated at the age of between 7 – 8 months from birth. Indefinite mating is expected to have taken place when the weaned male grass cutter is 7 months old and the female is 8 months old. The indefinite mating period is 140 days, but if after 160 days of separation from the male, there is still no sign of pregnancy, and then the female should be taken back to the male for proper mating. Usually, there should be an extra male that can serve the same purpose.

Market for grass cutter

The market for grass cutter is very big. Grass cutter meat is probably the most desirable animal meat in the market. Everyone loves it and it sells very fast. Big restaurant use it to prepare high priced delicacies. Full meat of a mature grass cutter goes for N 4,500 and marketers who trade on it are always in demand of it.

Communication in work place

Communication is the sending of a message to a recipient that must receive, understand and act upon it. Communication can be verbal or nonverbal; uncomplicated and clear. Ensure that the recipient receive the message correctly - avoid faulty execution of a task.

The communication system on a farm must be simple (for the sake of unskilled workers) to ensure that the activities will take place. The communication can come about as:

- Meeting to discuss activities on daily, weekly, two weekly or monthly intervals.
- Written memos.
- Daily instructions.
- Pre-planned schedule.
- Direct communication.
- Written reports.

The elements of good communication

The message must be clear and unambiguous to avoid misinterpretation.

Feedback – it is important that the “receiver” will report back to the “sender” to give account on completion of the “message”.

After inspecting the job (to over or well done) the farmer can communicate another task to the worker via the supervisor or directly.

Quality-management system

There are various models available to use and developing its own system or adapt a system to suit their needs. The following is necessary in a quality management system.

- Knowledge of the product

Everybody involved in the production process must be informed and aware of what exactly is expected for a product's quality. It should be a team effort and everybody involved in the process must get feedback regarding the achievement of their goals.

Every worker in the process must thus take ownership of his\her work, knowing what their contribution will be in achieving a desired product.

- Performance or quality standards

Every worker in an agricultural enterprise / business must know exactly what is expected from him\her and what standard of performance is required from them. To achieve this, the workers

This experience is dated: 23/01/2016 – 4/03/2016 at Songhai Delta Amukpe

Duration: 6months

6weeks industrial training program on agro biological production, livestock production and management skills

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female flowers do not reach the stage of maturity. During the first 6 weeks from pollination, up to 70% of flowers fall off. At harvest time or after 11-12 months from fertilization, an average fruit set of 30% is common.

Types of coconut

1. Tall coconut: has bigger nut but few number (6-7yr before it flowers)
2. Dwarf has smaller nut but more in number (2-3yrs before it flowers)

Departments visited

- Extension
- Plant Breeding
- Plant Physiology
- Seed Production
- Agronomy
- Nursery
- Chemistry
- Plant Pathology
- Entomology
- Bio chemistry
- Plantation Management
- Harvesting
- Livestock
- Agricultural Engineering
- Agricultural Economics
- Agricultural Meteorology

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Drought tolerance studies

Factors for increase productivity

- Increase in farm size
- Improved management practice
- Soil amendment practice (soil test)

Plant tissue culture

Apart from regeneration based on cross pollination, other method of getting an improve breed of the oil palm and other mandate crop through tissue culture.

Tissue Culture: it is the invitro micro-propagation of plant in an asceptic condition.

4. SEED PRODUCTION DIVISION (S.P.D)

In this department we explore the following concepts:

- Bagging
- Controlled Pollination

Objectives

The seed production division (SPD) is an experimental division whose objective is to produce viable seeds for the nursery. They carry out this objective through the following methods;

1. Bagging
2. Controlled pollination

Bagging

From an already matured Dura palm with female inflorescence whose stigma has not been opened yet. The aim of bagging is to prevent uncontrolled pollination.

1. Using a pruning knife, cut open the two layers covering the female inflorescence. The outer layer is soft while the inner layer is tough.
2. Wrap cotton with Aldrin dust (DDT – an insecticide) at the base of the stalk. In a situation where the stalk is not visible, you could create an artificial stalk by removing the finger of inflorescence.
3. After that, you must spray the already open inflorescence with Formalin to eliminate any infection.
4. Then cover the inflorescence with a terelyne bag. A terelyne beg has in it a cellulose window for photosynthesis and act as a window for inspecting the development process.
5. It takes about seven days for the female inflorescence to be ready to accept pollen

Note: it is the same procedure for the male inflorescence to this point.

Tools used for marking out

- Marking out tools
- Ranging pole
- Measuring tape
- Pegs
- Rope
- Gunter chain

10. HARVESTING

In this department we explore the following concepts:

- Oil palm form
- Type of fruit
- Maturity
- Harvesting team
- Tools used for harvesting
- Harvesting precautions
- Qualities of a good harvester
- Harvesting problem and remedy

Harvesting of oil palm bunch

Cut of mature and ripe bunch of oil palm. Harvesting needs much time and much care, because only those fruit clusters which are cut at the right moment yield a lot of good-quality oil. You must go through the plantation many times to pick the ripe clusters. A cluster is ripe for harvesting when the fruits begin to turn red, and when 3-6 fruits drop to the ground. If you wait too long before harvesting the clusters, harvesting takes much more time, because you must pick up all the fruits that have dropped to the ground. The fruits will also yield less oil, and the oil will be of less good quality.

If you do not wait long enough before harvesting the clusters, the fruit will not be ripe enough. It will be more difficult to separate the fruits from the clusters and the clusters will yield less oil.

Oil palm form

There are 3 types of Oil Palm fruit. The 2 major types are

1. Dura: have large kernel, viable embryo, contains very small quantity of oil

N I F O R provide regularly and care that is planned - which is often very different than with urgent care that is not planned.

Castration

Castration of non-human animals is intended for favoring a desired development of the animal or of its habits, or preventing overpopulation. The removal of male testicle.

Importance of castration in farm animal

1. Animal grow faster
2. Prevent indiscriminate mating OR prevent overpopulation
3. Reduce aggression and subsequent injury

Clipping

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Deworming

Deworming (sometimes known as worming or drenching) is the giving of an anthelmintic drug (a wormer, dewormer, or drench) to animal to rid them of helminths parasites, such as roundworm, flukes and tapeworm.

12. AGRICULTURAL ENGINEERING AND METEOROLOGICAL STATION

In this department we explore the following concepts:

- Machine tools to form parts to produce equipment
- Small scale processing equipment

Objectives

To fabricate small, medium and large processing machine

Machine tools used in the fabrication of oil palm processing equipment

1. Hydraulic Guillotine Machine