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Business Plan on Yam Enterprise

Yam are starchy staples in the form of large tuber produced by annual and perennial vines grown in Africa. Worldwide yam production in 2007 amounted to 52 million tons of which Africa produced 96%. Most of the world's production comes from west Africa representing 94% with Nigeria alone producing 71%, equalling more than 37million tons, the remaining 30% is shared among Ghana, Cote d'ivoire, Togo and Benin Republic.

According to the International Institute of Tropical Agriculture, Nigeria accounted for about 70 percent of the world production amounting to 17 million tonnes from land area 2,837,000 hectares under yam cultivation. Yam, a tropical crop in the genus *Dioscorea*, has as many as 600 species out of which six are economically important staple species. These are: *Dioscorea rotundata* (white guinea yam), *Dioscorea alata* (yellow yam), *Dioscorea bulbifera* (aerial yam), *Dioscorea esculant* (Chinese yam) and *Dioscorea dumetorum* (trifoliate yam). Out of these, *Dioscorea rotundata* (white yam) and

Dioscorea alata (water yam) are the most common species in Nigeria. Yams are grown in the coastal region in rain forests, wood savannah and southern savanna habitats. Yam is in the class of roots and tubers that is a staple of the Nigerian and West African diet, which provides some 200 calories of energy per capita daily. In Nigeria, in many yam-producing areas, it is said that “yam is food and food is yam”. However, the production of yam in Nigeria is substantially short and cannot meet the growing demand at its present level of use. It also has an important social status in gatherings and religious functions, which is assessed by the size of yam holdings one.

Facts And Benefits Of The Yam Farming Business

1. Yams have been cultivated as early as 8,000B.C. in Asia.
2. The annual world production of yams is over 30 million tons.
3. Yams are a good source of vitamin C.
4. Yam is the common name for some plant species in the genus *Dioscorea*.
5. Yam is a good source of energy.
6. About 70% to 76% of the world's yam production is from Nigeria.
7. The world's second and third largest producers of yams are Côte d'Ivoire and Ghana.
The largest producer of yam in Nigeria is Benue State.
8. Yam takes a minimum of 14 weeks to mature.
9. Yam tuber yields per hectare can be up to or more than 21 tons per hectare.

SOIL TYPE

The best soil for growing yams are sandy soil, clay soil, loam, soil. Yams can be cultivated on most soil types once the yam holes are properly dug and filled with organic material. Similarly, organic matters improve soil structured acts as a slow release fertilizer and allows for optimal growth of the tubers. Adequate drainage, proper aeration, variable soil and sufficient moisture (not water logged) are other critical requirements for yam growth.

LAND AND SETTS PREPARATION

Yam is best planted within the month of February and April when the rainy season is just beginning.

Firstly, plough or dig the land up to a depth of 15-20cm. Dig pits of size 45×4×45cm at a distance of 1×1m. Fill up three fourth of the pit with topsoil. Plant the cut tuber pieces and completely cover the pit with leafy material to conserve soil moisture and maintain optimum temperature.

SETTS PREPARATION

Setts are whole tubers or tuber that is cut in pieces used for planting. If the tuber is small, it can be planted whole, but if it is big, it has to be cut in pieces to the size of 60g to 100g. As a rule, the bigger the sett used, the higher is the expected yield but shouldn't be too big, else you will be wasting resources. Setts should be taken from healthy tubers of healthy lands.

Appropriate sett size is not sliced while larger tubers are sliced into the desired sett

size so that each sett has sufficient skin surface area. Thus four types of setts are obtained and are named according to their position on the tuber as follows: Head setts, middle setts, and tail setts for the tuber pieces and whole setts for the whole tubers.

Lastly cut sides of the setts are treated with ash or with fungicide and air dried. After air drying, setts are either pre-sprouted or planted directly.

PRE-SPROUTING OF SETTS

The emergency period of most freshly prepared setts in the field last from three to twelve weeks, it is desirable to pre-sprout the setts before they are planted.

This procedure assures the emergence of setts when planted and minimizes expenses on weeding before sett emergency. To pre-sprout a sett, a shallow ditch is dug in a clear shaded area under trees, under bananas or under a shed constructed for purpose. Setts are placed side by side in the ditch and covered with dry grasses or dry banana leaves. In case where no ditch is dug, the setts can be placed side by side on the ground instead.

FERTILIZER APPLICATION

A hectare of yam well need about 128kg nitrogen (282kg of Indorama Granular urea). 17kg Phosphorus and 162kg potassium from the soil. The level of soil fertility in the field and the amount of fertiliser required can be determined by submitting the soil samples to any Agricultural Institute or to IITA for analysis.

Likewise, the assistance of the local farm management Technician must be sought regarding this.

APPLICATION OF INORGANIC FERTILIZERS

The recommended amount of fertiliser is split into two, one-half applied about one month after emergence and the other half applied about two months after the first application. Likewise, the band method of fertiliser application is used, with the fertiliser being placed about 10cm away from the plant.

APPLICATION OF COMPOST

Yams respond well to organic fertilizers like compost (a mixture of decayed organic matter composed of plant part and animal manures. The compost is mixed with the soil while the field is being prepared or it is placed just below the spot where setts are to be planted.

TRAILING

Similarly, trailing is essential to expose the leaves to sunlight. Trailing has to be done within 15days after sprouting by coil rope attached to artificial support in the open areas or to trees where they are raised as an inter crop. When grown in open areas, trail to a height of 3-4m. Trail the vines properly as when side shoots are produced.

WEED CONTROL IN YAM FARMING

Controlling weeds for the first 6 weeks to 8 weeks after planting is important. Use a contact herbicide in the furrows during growth and manually remove weeds from around the plant. Selective herbicides can be used to control grass weeds and manual methods can be used to control broad-leaved weeds.

PEST AND DISEASE

The major disease problem of yam is Anthracnose (*colletotrichum gloeosporioides penz*).

Anthraco nose is normally seen as small black spot between the leaf veins. Some infection can coalesce to form massive belighted lesions. This disease can be significantly managed using a number of cultural practices with a combination of timely chemical controls as listed below.

1. Firstly soak the yam sett with recommended copper fungicide prior to planting and drench the planting holes with fungicide after planting.
2. Spray the veins upon shoot emergence.
3. Alternate fungicide to prevent the build up to chemical resistance.
4. Encourage healthy plants by ensuring adequate levels of nutrients
5. Sanitize the field by raking and removing fallen leaves prior to cultivation to reduce the source of the inoculum.
6. Intercrop with corn
7. The corn helps to move the spores up and away from the yam leaves reducing the infection rate.
8. Lastly, inspect the field continuously and rogue out infected plants, especially at the windward side of the field.

HARVESTING

Yam mature between 9month to 10months after planting, When the vines are completely dried up. The yellowing or drying up period of the foliage usually start around November and last until February the following year. Dig out the tuber without causing injury.

Generally, a yield of 10-15 tonnes per hectare for white yam and 16-25 tonnes for water yam are obtained by following prescribed management practices.

The harvested yams are stored by tying them with ropes. Similarly, they have a shelf life of about 5 months. Warehouses where they are stored should be made rodent-proof with a metal base and wire netting. Rotten buds and sprouted buds should be removed.



When harvesting is done, take your product to the market and make sales. Yam farming is lucrative as yam is a very important commodity in the market and sells very fast.

MARKETING

Marketing of yam is not difficult because it has a ready market. You can store them until harvest time has long past then you sale them for more money. In all adding value to a produce would yield greater profit. You can process the yam to flour or export them whole to international markets.

If you only focus on the challenges, you may likely never start out and therefore lose out on all the accruing benefits. Let's take a look at some of the major challenges that affect yam farming in Nigeria:

1.Lack of experience of the farmer. Most farmers just stumble upon the idea of yam farming, develop some interest and jump in without seeking professional help, even when they have no experience. To solve this, it is necessary that farmers that fall into this category seek knowledge from professionals or visit practicing farmers for advice.

2.Pests and diseases. There are several pests and diseases that could be of detrimental effect to the crop. It is therefore suggested that the farmer seeks more pest and disease resistant varieties when preparing for planting. Weed control. Weeds are a menace and could drastically reduce the crop yield. The farmer should therefore seek out ways to efficiently deal with weeds on the farm, especially while the crops are in the initial stage of growth.

3.Financial challenges. Getting money to run ideas is one of the major challenges plaguing businesses generally the world over. Low finance will mean that a major part of the business will suffer. It is therefore suggested that the intending farmer develops a business plan which will guide him on how much he needs for

the business. It will also help in attracting the attention of investors and banks who might provide loan facilities.

Other challenges include, marketing challenges, low purchasing power of customers, crowded supply chain.

IMPORTANT NOTE

Firstly, Tubers especially those intended to be used as setts for next season planting are harvested at the later part of the period.

Tubers intended for consumption or for the market are sometimes harvest earlier, even before foliage yellowing sets in.

Secondly, a hoe or a similar hand tool is used to dig around the tuber to loosen it from the soil. Then the tuber is lifted and clinging soil particles are removed.

Lastly, the vine is cut at the base to complete the harvesting.

CONCLUSION

Yam is lucrative a 100 by 100 plot of land can produce up to 10,000 tubers. A tuber will cost not less than #200. When you multiply it with 10,000 tubers the gain will run into hundreds of thousand. The best cultivar to plant is hybrid yam seedlings.