c. Stored Yam

SPROUT CONTROL PROCEDURE

Step 1: Raw material

Select matured freshly harvested yam tubers for curing.

Step 2: Cleaning

Clean tubers to remove dirt.

Step 3: Plant Extract

Prepare 600ppm potash solution by dissolving 600mg of potash (burnt cocoa pod) in one litre (1000ml) of water.

Step 4: Treatment

Dip apical portion (head) of the clean tuber into the plant extract for 2 minutes.

Step 5: Storage

Remove tuber from the solution after 2 minutes and store in improved yam barn.

SPROUT CONTROL FLOW CHART

Select freshly harvested mature yam tubers

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Clean dirt off yam tubers

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Prepare 600ppm potash solution

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Dip apical portion (head) into 600ppm potash solution for 2 minutes

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Remove from solution and store in improved yam storage structure

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Sponsorship:
GRATITUDE PROJECT

YAM SPROUT CONTROL

Reducing Yam Post-Harvest Losses

CSIR-FRI

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GRATITUDE, an EU funded project in collaboration with CSIR-Food Research Institute (FRI) and NRI of University of Greenwich focuses on gains from losses of roots and tubers along the value chain.

YAM SPROUT CONTROL

Yams (***Dioscorea*** spp.) are wide spread and are one of the major staple foods in most tropical countries. It is a high value crop and significant source of dietary energy in Ghana. Acreage under yam cultivation in 2011 was estimated at 403,798Ha with corresponding production of approximately 5,855,138MT with 27,000 MT for export. Per capita consumption of yam in Ghana is estimated at 42kg/annum. Ghana is the third largest producer of yams in the world, following Nigeria and Cote d'Ivoire. Yam production in Ghana is concentrated largely in the Brong Ahafo and the Northern regions constituting about 37% and 34% of the total yam production in Ghana, respectively. Yams are planted in February - April and harvested in August - November depending on the variety. Ideal rainfall condition for yam cultivation is about 1,000mm annually spread over 5 months. One of the major problems with yam is to find simple methods to prolong the dormancy period of tubers after harvesting and to break this dormancy when required. Low temperatures (15°C) together with fungicide treatment or ionizing radiation (0.08 – 0.12 KGy) have been reported to prolong the storage duration in yam. There is lack of success in prolonging dormancy

effectively by the application of sprout suppressant chemicals such as those widely used for potatoes. A likely reason for this is that in yam, sprouts are not formed until a late stage of dormancy and they originate from beneath the periderm, thus being protected from the effects of such treatment. A more promising approach to prolong dormancy and hence to increase storage life is by the application of plant growth regulators. Gibberellic acid (GA3) is well known to induce dormancy in yam tubers. Post-harvest problems with yams have been addressed in two different ways as direct prevention of losses or modification of the storage environment. Both ionization and cool storage reduce post-harvest losses to a negligible level, due to the almost complete inhibition of sprouting and a decrease in respiration. However, the high cost of the techniques make them not feasible in West Africa due to high costs and the need for high-tech equipment. Other methods had been direct prevention of losses by using pesticides and other pre-storage conditioning as in curing. In view of the influence of sprouting on post-harvest losses, efforts have been made to prolong dormancy by applying sprout regulators such as potash.

Figure 1.
Sprout Control Treatments of Yam

a. Prepared Solution

b. Dipped Yam