

On-farm pre-treatment of yam tubers to extend shelf life

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Abstract. Yam is an important staple in Ghana and other West African countries such as Benin, Togo and Nigeria. In Ghana, it is mainly consumed in the urban centres and used for various food preparations. In recent times it has become an important non-traditional export crop second only to pineapples. Its major drawback is post-harvest storage/ handling that affects availability, quality and affordability. Pre-treatment of yams prior to storage is considered as one way to overcome the problem. On-farm pre-treatment studies were carried out using three varieties of yam, Pona (Pu), Labareko (Ko) and Lobare (Lo). These were pretreated by dehydrating in the solar chamber dryer for 2 months. Physical observation and sensory evaluation of samples were carried out at various moisture reduction points. Moisture, ash, crude fibre, crude protein, carbohydrate and dry matter of the dehydrated products were determined relative to the fresh samples. Dehydrated samples were then stored for 5 months in yam storage barns traditionally used by farmers. Results of pre-treated samples showed enhanced taste at higher levels of dehydration with decreased mealiness with significant differences between the samples. Pu was the most acceptable variety followed by Ko and Lo. Samples had low crude fibre, ash and protein levels. Moisture content was in the range 64 - 71.35% with appreciable dry matter and carbohydrate levels. For the shelf life studies all varieties could store up to 7 months but Pu had relatively higher rots with Lo having the least. Lo had the highest sprouting (75%) while Ko and Pu had sprout levels of only 18.5 and 20%, respectively.