

## THE EFFECTS OF DRYING ON SOME SELECTED ENGINEERING PROPERTIES OF SOAKED BROWN-SPECKLED AFRICAN YAM BEAN SEEDS

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### ABSTRACT

This research investigated the effects of drying on some selected engineering properties of soaked brown-speckled African yam bean seeds. The research was borne out of the fact that a number of process parameters like soaking time, drying, etc, have not been linked to the engineering properties of soaked brown-speckled African yam bean seeds and as a result, it becomes overwhelmingly important to investigate whether any such relationship exists between them. Freshly harvested brown-speckled African yam bean seeds purchased from the market were subjected to manual cleaning, soaking in water for 90minutes, 180minutes, 270 minutes, 360minutes, 450minutes and 540minutes and drying of the soaked samples at a fixed temperature of 60<sup>0</sup>C for 5hours. For each process parameter, the engineering properties of the samples (brown-speckled African yam bean seeds) were taken and the data generated was plotted against soaking time. The variations observed in each process parameter as soaking time increased could not in any way be interpreted as the desired link hence the use of statistical techniques to analyse the data to show whether drying has any significant influence on the engineering properties of soaked brown-speckled African yam bean seeds. The results of the statistical analysis showed that the chosen process parameters significantly influenced some of the engineering properties the brown-speckled African yam bean seeds. This implies that brown-speckled African yam bean seeds unloaded from a dryer and conveyed for further processing would ultimately cause equipment adjustment due to the significant changes that have taken place in its sizes, mass, true density, volume, bulk density and porosity.

**Keywords:** African Yam Bean, Engineering Properties, Soaking time, Drying.