

Influence of Geographical Location and Time of Planting on Pest Densities and Yield of Peanut Varieties in Ghana

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Peanut (*Arachis hypogaea* L.) has received international attention as food and cash crop. The high oil and protein content in the peanut make it an important food and cash crop. However, in Ghana, potential yields of most peanut varieties are usually not attained on farmers' field due to damage caused by soil arthropod pests. Hence, the objective of this study was to determine the effect of variety \times planting time \times location on pest density and yield of peanuts in Ghana. A $3 \times 3 \times 2$ factorial study laid in split-split plot design was used. Location (Nyankpala, Wa and Kumasi) was the main plot, time of planting (early may, mid-May, early June) as sub-plot and variety (Chinese and Sarinut 2) as the sub-sub-plot. The results showed that white grubs (*Lachnosterna serrata*), millipedes (*Aphistogoniulus corallipes*), wire worms (*Gonocephalum* spp.), termites (*Macrotermes* spp., *Microtermes* spp.), plant hoppers (*Empoasca* spp.) and aphids (*Aphis craccivora*) were the major pests of peanut in all 3 locations. Generally, pest numbers were highest at Nyankpala and lowest at Fumesua. Across locations, pest numbers were highest in June planting and lowest in May planting. Also, infestation in Chinese was higher than Sarinut 2. In terms of damage, Chinese planted at Fumesua recorded the highest damage, irrespective of the location. Pod damage decreased with delayed planting at Fumesua. In contrast, this variable decreased with delayed planting up to May and increased afterwards, at Nyankpala and Tanina. There were significant location \times variety interactions for pod yield, with Chinese planted at Tanina recording the lowest yield while Sarinut 2 sown at Fumesua was highest. Irrespective of the location and variety, delayed planting of peanut resulted in decreased pod yield. In conclusion, early planting of improved varieties minimizes pest damage and increases pod yield, irrespective of geographical locations in Ghana.