

## **The challenges of grain protection in sub-Saharan Africa: the case of diatomaceous earths**

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Environmental and safety concerns have created a global drive towards reduction in pesticide use and subsequent withdrawal of some that are considered hazardous, hence increasing the pressure to seek alternatives; and grain protectants have not been spared. Farmers in sub-Saharan Africa (SSA) have repeatedly indicated their concerns about the safety of synthetic insecticides for grain protection. The use of diatomaceous earths (DEs) is one option that has been identified by research as a possible alternative. However, the operationalisation of the DE technology is still constrained by a number of factors including: product availability; product stewardship; applicability on cob maize; high humidity in some parts of SSA which renders the DEs less effective; occurrence of the Larger Grain Borer, *Prostephanus truncatus* in some countries which requires higher concentrations of DEs for effective control; and grain marketing standards in central storage systems which need to be revised.

This paper discusses these challenges in a scenario where on-farm grain storage for household food security will continue to characterise smallholder farming in SSA; more so with the marketing liberalisation era and frequent droughts in some parts of Africa. At commercial level, the withdrawal of methyl bromide means that central storage systems need to consider other grain protection methods in addition to phosphine; such as use of DEs.

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