

Production of Striga-resistant Sorghum

Reducing costs of Striga control measures



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INSPIRING GREATNESS

Striga infestation



The problem of Striga infestation is increasing disproportionately in the sorghum growing areas of Africa, especially in drier regions of the continent. The infestation particularly affects smallholder farmers who grow sorghum and other cereal crops under marginal environments, with erratic rainfall and poor soils, and who cannot afford to fertilise their crops. Several control methods have been recommended to reduce Striga infestations however, the costs of implementing some of these measures are high, and this hinders their adoption by smallholder farmers and results in continued high crop losses.





Advancements at UKZN

The University of Kwazulu-Natal (UKZN) has developed sorghum strains resistant to a parasitic weed known as Striga. The strains were developed by inoculating sorghum seeds with a biocontrol agent, *Fusarium oxysporum* f.sp. *strigae* (FOS), and promising lines were selected, controlled crossed and subjected to quantitative plant breeding analysis. This process resulted in sorghum varieties that express traits preferred by farmers with enhanced sorghum growth and productivity while significantly suppressing the growth and development of various Striga weed species.

The adoption of the UKZN Striga resistant seeds is critical to integrated Striga management and reduces the high cost of employing current control measures.

For farmers who experience crop losses due to Striga infestation, the adoption of Striga resistant sorghum will increase crop yield, increase productivity and reduce costs associated with the control of Striga infestation.

Opportunity

Improved sorghum productivity has multi-fold socioeconomic benefits, including:

- A boost in sorghum production and supply to the sorghum industry which will enhance export to various countries.
- Low crop losses and reduced cost of infestation control which will increase net returns for the farmers.
- Job creation through seed multiplication and distribution.
- Increase in livelihoods and food security.
- Increased Sorghum production which can contribute to economic growth and development.



Applications

Production of Sorghum, with preferred farmers' traits and enhanced growth and productivity, particularly in semi-arid regions of sub-Saharan Africa.

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