

PRACTICE ABSTRACT n° 5

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Control of stem borer moths and striga weed in cereals using “pull-push technology”

Push–pull technology is an inter-cropping strategy for controlling agricultural pests by using repellent "push" plants and trap "pull" plants. Cereal crops like maize and sorghum are often infested by stem borers.

Arrangements and roles of the different plants

To control stemborer moths and striga weeds in cereal gardens, Napier grass and desmodium legume are inter-cropped with the cereal crop (Figures 1 and 2). Desmodium is planted in between the rows of maize. It produces odor that repels stemborer moths, hence protecting maize. Napier grass is more attractive to stemborer moths than maize, and it ‘pulls’ the moths to lay their eggs on it. However, Napier grass does not allow stemborer larvae to grow and survive on it. Napier grass produces a sticky substance that traps stemborer larvae, causing them to die, protecting the cereal crop.

Desmodium, planted between the rows of a cereal, like maize, also helps to reduce striga weed. Chemicals produced by the roots of desmodium are responsible for suppressing the Striga weed. Therefore, Striga does not grow where desmodium exists. As a legume, desmodium also fixes nitrogen in the soil and thus acts to enrich the soil. There are at least four basic spatial arrangements used in inter-cropping:

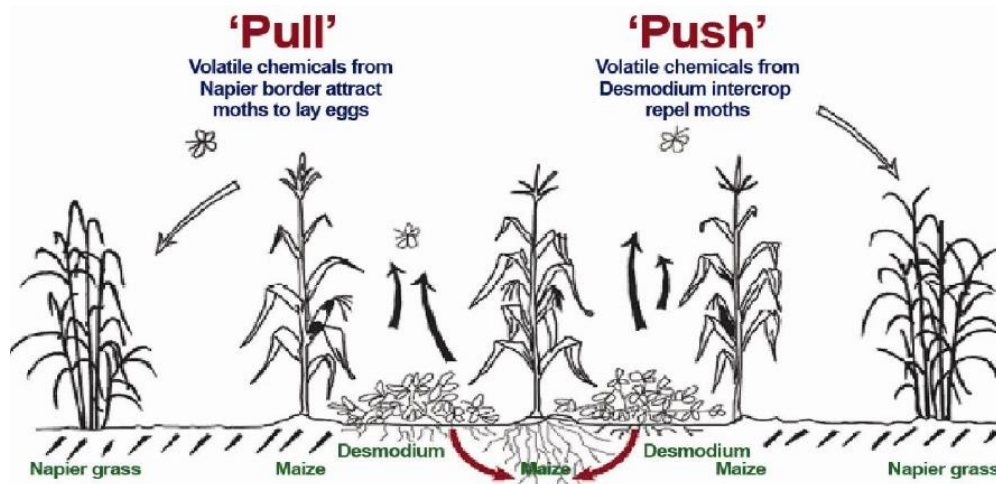


Figure 1: Demonstration of how the inter-crop facilitates the push and pull mechanism



Figure 2: Layout of the pull and push technology in maize production