

Managing Stemborer Using Push Pull

Recognize the problem

Maize stem borer is a major pest of maize in Ethiopia that attacks maize from the seedling stage to maturity and can cause total yield loss if not managed, especially if planted late. The young stem borer larvae cause windowing on the leaves. They later cause drying of growing tips (dead hearts) and holes in stems and cobs. Frass can be seen in the tunnels and holes made by the stem borers. Once the larvae enter the stem it is too late to manage the pest.

Background

Stem borers attack other cereal crops and grasses and can continue to survive in them, even in the absence of maize. One cycle of the stemborer takes 50-60 days to complete and there can be 1-3 generations in a year. Push and pull technology has been found to be very effective in managing the stem borers. Desmodium that is intercropped with Maize produces a smell that the borers do not like so they are pushed outside the maize while the Napier that is planted around the maize is very attractive to the adult moths for egg laying, but the larvae are not able to complete development because they are killed by the sticky substance on the Napier. The farmer can use Desmodium and Napier for controlling the stemborers and as livestock feed. Using this method, natural enemies can be conserved.

Management

- Establish a small plot (1/4 acre) of Desmodium as a vine source. Transplant the vines, with 1 row per 3 rows of maize
- The maize rows are spaced at 60 cm between rows and 30 cm between hills (2 plants per hole). Desmodium vines are planted between the maize rows
- Use recommended fertilizer rates at planting
- Plant maize in the remaining rows between the vines
- Immediately after planting the maize, plant 3 rows (for every ¼ ha) of Napier cuttings or splits at a spacing of 1 metre by 50 cm around the plot, 2 metres from maize/desmodium crop
- Harvest Napier 4-6 weeks after planting, starting from the first row, so that you don't cut all the Napier at once

Windowing caused by larvae.
(Photo by H Lemma, MoA,
Ethiopia)



The recommendations in this factsheet are relevant to: Ethiopia



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