

Working together to succeed with push-pull

Margaret Ombul is a member of the Pioneer Self-help Group. Since forming in 2011, the group has gone from strength to strength, and push-pull has been key to that success. All 21 members have adopted. They have a demonstration plot on Margaret's farm and are using cuttings from it to expand the plots on their own farms. They also have a 'bank' of disease-resistant Napier grass which they are using to replace unhealthy plants and provide clean planting materials to other community members.

When they first took on push-pull, few of the group members had any livestock, so they sold their push-pull fodder to

neighbours. Eventually, thanks to the quantity of fodder they were producing, the Pioneer group also received dairy cows from the NGO 'Send a Cow'. The heifer that Margaret received from the project has just calved, and she will pass the calf on to another member.

The Pioneer members agree that they used to work much harder, on much larger plots, to produce less maize and sorghum. Cultivating push-pull means that they can save time for other things. They also say that selling desmodium and reducing soil erosion are other benefits of push-pull.

Why has the group been so successful? "Our objectives are clear," says Margaret. "We are committed, and we have full participation. And we share the work, so that none feels overburdened."



What is push-pull?

Push-pull is a farming system where a cereal crop is intercropped with the legume desmodium, and the plot is surrounded with Napier or brachiaria grass for control of stem borer and striga. If well-established, the plot produces a high yield of healthy cereal crops. The desmodium and Napier or brachiaria grass also provide nutritious and quality feed for animals.

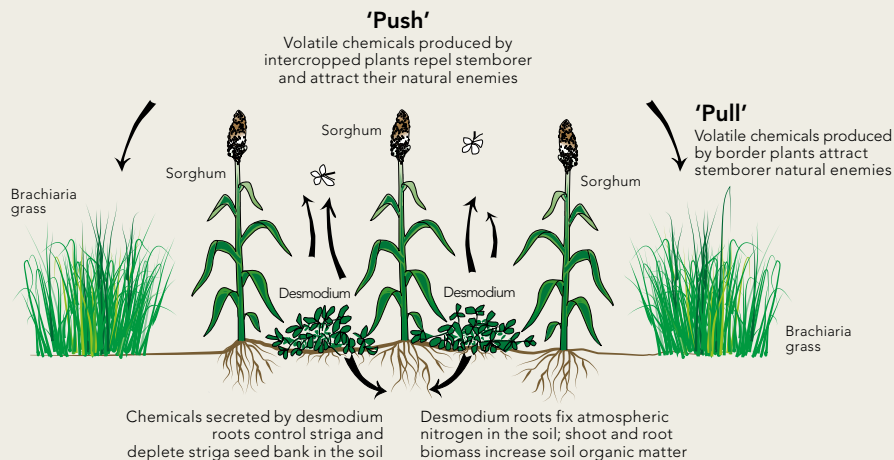


Using the push-pull system for planting stops the damage caused by striga and stem borer.

How does push-pull work?

Push-pull stops stem borer attacking food crops by using rows of desmodium planted between the rows of cereal plants, and a border of Napier or brachiaria grass planted around the plot. Desmodium is a 'push'

plant, which pushes the moth away from the food crop when it is time for it to lay its eggs. Napier and brachiaria are 'pull' plants, which attract the moth so that it lays its eggs away from the crop.



Push-pull stops striga taking away nutrients from the food crop because natural chemicals in the desmodium stop the roots of the striga from growing and attaching themselves to the roots of the crop plants.

On top of dealing with stemborer and striga, using push-pull helps soil health and

fertility. Desmodium fixes nitrogen, adds organic matter to the soil, conserves soil moisture and enhances soil biodiversity, thereby improving soil health and fertility. It provides ground cover and, together with the border of Napier or brachiaria, protects the soil against erosion.

What do the push-pull plants look like?



In this push-pull plot, there is a row of sliverleaf desmodium between each row of maize, and a border of Napier grass.



In drier areas, the best plants for push-pull are greenleaf desmodium (left) between the rows of crop, and brachiaria grass (right) around the border.

How do I start using push-pull?

1. Clear your land during the dry season and prepare the soil to make it very fine. Demarcate the push-pull plot to plant three rows of Napier or brachiaria grass around the border of the plot, as shown in this drawing.



2. Plant alternate rows of desmodium and food crop. The rows of the food crop should be 75cm apart. Make sure that you start and finish with a row of desmodium. You will need 1kg of desmodium seed for 1 acre of land. Plant desmodium with the rains for maximum germination.
3. Early weeding is very important for establishing a push-pull plot. Weed once when the crop is three weeks old and once when the crop is five weeks old. This photo shows a push-pull plot of maize, desmodium and brachiaria just after the second weeding.
4. Trim desmodium after three and six weeks so that it does not overgrow in between the maize plants.



To learn more about how to get started with push-pull please contact:

Director General, International Centre
of Insect Physiology and Ecology (*icipe*)
Tel: +254 (20) 8632000
E-mail: icipe@icipe.org

Push-pull programme leader, *icipe*-Mbita
Suba District, Kenya
Tel: +254 (59) 22217/18/95
Website: push-pull.net