

Learning new skills through push-pull

When Dorcas Josephat's husband was disabled by an accident in 2011, she and her five children shouldered the burden of farm work. That year, she attended a training on push-pull and women's role in agriculture, delivered through a local extension centre funded by the Diocese of Tarime, Tanzania. The training triggered the formation of a women farmers' group. Dorcas and some other members got permission from their husbands to plant push-pull.

The first half-acre Dorcas planted with push-pull was far from her house, but close to a

river and a road. Many people saw the fine crop of maize and fodder and asked her about it. Dorcas remembers that she "began to become popular." She also began to develop her skills in reaching out to other farmers and showing them how to use push-pull.

Dorcas was eventually elected as a farmer-facilitator and planted a plot nearer the house. She says that the "most positive things about push-pull are that my eyes are opened as a woman, and that I have extra income." She makes money from selling her maize, surplus fodder, and the milk her cows produce on their better diet. Daily milk production has risen from below 10 litres a day to between 15 and 18.



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.

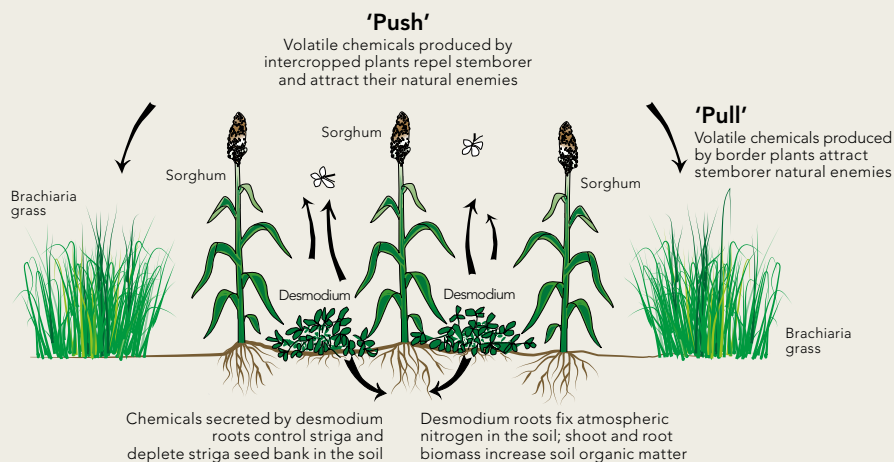


Using the push-pull system for planting stops the damage caused by striga and stem borer.

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.

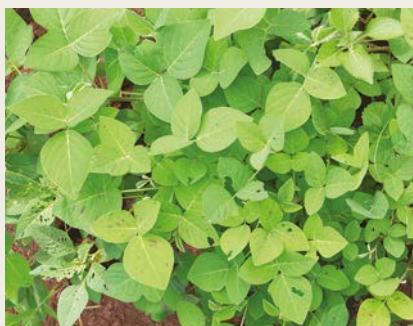
On top of dealing with stemborer and striga, using push-pull helps soil health and

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:

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