Push-pull
Improving Livelihoods
MAMA JANE'S LIFE HAS IMPROVED AFTER ADOPTING PUSH-PULL. HER WOMENS GROUP WANTS TO KNOW HOW SHE DID IT.

Mama Jane should share with us her secrets to success. Since the past three harvest seasons she has become wealthier and healthier.

Oh yes, even her crop seems to be happier. What have you been up to?

Yes, Mama Jane. Share with us the secrets to your success!

Well, it all started one Saturday afternoon when mama Rose came visiting me...

Mama Jane, What is the problem?

My problems are "Kayongo" (Striga) and stemborers. They destroy my crops every season.

Look at your maize plant. Striga has attached itself to the roots sucking away the nutrients for the plant. Stemborers are also damaging the maize.

I can see that the poor soil is also affecting your crop.
Striga and stemborers may destroy up to 100% of your maize crop. Haven't you heard of the Push-pull farming system?

What is Push-pull?

Come, let's go to my shamba.

AT MAMA ROSE'S SHAMBA...

Wow! What a lovely crop of maize. How come your field has no stiga?

Because I use the Push-pull system. After three years I now harvest 12 bags on my half acre plot, and there is no striga or stemborer. Look! The soil even looks moist and soft.

Desmodium kills striga. Also stemborers don't like the smell of desmodium. Stemborers like to lay their eggs on Napier grass instead of maize.

What does it do to the soil?

Did you know desmodium also adds fertility to your soil?
I know of Napier but what is desmodium and how do I establish a Push-pull field?

Desmodium is a fodder legume. My son will show you how to plant a Push-pull field.

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Using pegs and ropes, we measured the first plot of 21m x 21m. A push-pull plot can be as small as 10m x 10m, or as big as any shamba.

We cleared the land, ploughed...

and broke down the soil until it was fine.

We used a string to measure and ensured that we had a square. We put pegs at opposite sides of the square at intervals of 75cm each. When we finished marking the plot with pegs and strings it looked like this.

ESTABLISHING A PUSH PULL PLOT

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TO PLANT NAPIER GRASS

Dig holes along the demarcated lines ready for planting.

1. Did holes at each peg on border of the marked plot.

2. Apply one teaspoonful of triple super phosphate fertilizer or 2 hand-fulls of well decomposed farmyard manure in each hole.

Bana is the best variety of Napier grass for use in Push-pull. Follow these steps when planting Napier grass in your Push-pull plot.

1. Did holes at each peg on border of the marked plot.

2. Apply one teaspoonful of triple super phosphate fertilizer or 2 hand-fulls of well decomposed farmyard manure in each hole.
Place a three node cane into each hole at an angle of 30° to 40° all facing one direction.

Cover with soil ensuring that two nodes of the cane are well covered.

AVOIDING NAPIER GRASS DISEASE
Select healthy Napier grass for planting. Do not plant Napier grass that has stunt disease.

Repeat steps 1 to 4 for the second and third rows, ensuring that the rows are 75cm apart and 75cm between the plants within the rows.

If you are using root splits, place them upright into the planting holes and cover with soil.

Your newly planted napier grass field should look like this.

It looks neat!

Next, we planted desmodium. We mixed 300g of silverleaf desmodium seed with fine sand; one part desmodium to two parts dry sand.

Mix 3 parts sand to 1 part desmodium seed.
We drilled desmodium in the furrows at 75cm row-to-row distance.

Drill fertilizer or farmyard manure along furrows, mix with soil using a stick, without covering or disturbing the furrow.

We planted maize between desmodium rows.

After one week I noticed that my maize crop was doing well.

WEEDING AND CROP MANAGEMENT

Early weeding is very important for the successful establishment of a Push-pull plot. We carried out the first weeding when maize was 3 weeks old, and second weeding when maize was 5 weeks old. It is important to distinguish between desmodium and weeds.

Desmodium at three weeks

Desmodium at five weeks

Hand weeding desmodium

My first maize harvest was 3 bags from the 21m x 21m plot.

For the past three years I have harvested 12 bags each season from my half acre plot.
AT MAMA JANE’S SHAMBA, 4 MONTHS AFTER PLANTING PUSH-PULL. A DAIRY FARMER CAME CALLING

Greetings ladies! Mama Jane could you sell me some Napier grass from your shamba?

No way Mr. John I can’t do that.

Actually you can!

Just harvest the Napier one row at a time, starting with the inner row. Give the harvested row time to grow before harvesting the next row.

Why is Mr. John interested in the Napier?

It is to feed his dairy cow.

I will buy a dairy cow. I now have enough Napier to feed one.

When I finally bought my cow. 

This is good progress! Feed it on desmodium too. It will increase milk production. Mix three buckets of Napier with one bucket of desmodium.
You harvest desmodium seeds for future use or for sale. Wear polythene over your clothes to prevent the pods sticking to you.

Thresh desmodium seeds on a stone using an old rubber shoe.

Winnow the threshed seeds.

We may now proceed to my shamba I will show you how to harvest desmodium.

Harvest desmodium after harvesting maize from the field. During the first season do not harvest desmodium until it has established well.
Why don't you just let your cow graze in this field?

Because direct grazing destroys desmodium and Napier grass.

Trimmed desmodium will regenerate for the next planting season.

Thank you for your experience Mama Jane. I think we should start a bulking site to provide desmodium seed to new members.

Let's keep dairy goats and cows there will be enough fodder from push-pull.

Let's have a farmer field school (FSS) to teach all new members about Push-pull.

Let's partner with the local cooperative to sell them maize and milk, and desmodium to the seed company.

THE END
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