



Farm Mechanisation

for small Holder farming

Operations

- 1. Land clearing**
- 2. Soil tillage with the RS Power Hoe**
- 3. Seedbed preparation, making ridges with the RS Ridger**
- 4. Weeding with RS Weeder**

Benefits mechanized cultivation manual cultivation

1. Proper land preparation is very important to achieve better crop yields. Presently tillage and preparation of ridges for cassava is mostly done manually (hand hoe). Manual land preparation is hard work and inefficient. To improve efficiency in land preparation and to increase the cultivated land area farm mechanization is essential. Mechanization will not only save time, but also improve the soil texture and structure.
2. Four wheel tractors are often too expensive to hire and for a smallholder farmer unaffordable to buy, therefore we are introducing more affordable 2 wheel (pedestrian) tractors.
3. The new 2 wheel tractors will be operated by the private sector tractor hire service providers. Farmers are linked to the service providers through their associations. The farmers associations are negotiating reasonable fees for their members with the service providers

IFDC is training the service providers and the farmers on the benefits and advantages of using the tractors in cassava production compared to manual labour and the traditional tractor hire equipment

The training has stimulated the private sector to adopt the 2 wheel tractor hire service as a business and enhanced the potential among smallholder farmers to use the two wheel farm machinery in cassava production

Training covers:

1. Soil tillage methods that are being done with the RS Power hoe and seedbed preparation with the RS Ridger. The service providers

are also being trained on maintenance and repair of the new 2 wheel tractors to enhance adoption and use. The training has focused on the advantages and benefits of the two wheel tractor that include the following:

2. The 2 wheel tractors are easy to maintain and repair compared to conventional machines, they can be repaired locally without the need for special tools.
3. It takes much shorter time to repair the 2 wheel tractor compared to the 2 wheel equipment.



An RS Power Hoe in use

Functions and benefits of the RS Power Hoe.

1. The RS Power Hoe is simple soil tillage implement designed specifically for upland and swampy (loamy and clay) soils;
2. It goes at an approximate speed of 2.0 kilometers per hour (depending on soil conditions);
3. Can till one acre of land every 4 hours with a width of approximately 90cm, depending on soil condition and experience of the tractor operator.

4. Simple daily maintenance to ensure long operational life;
5. Tillage is done by spades that are adjustable in depth for different soil conditions;
6. Individual spades turn the soil rather than cutting (disc plow) thus reducing the prevalence of spear grass and other rhizome weeds;
7. Cuts into the top soil minimizing damage to the soil structure

Functions and benefits of the RS Ridger.

1. Operational speed is recommended at 6 kilometers per hour (for experienced users) creating a field efficiency of 2 hours per hectare;
2. Simple lifting of disc at the end of each row for turning;
3. The disc is adjustable allowing for adjustment for different soil conditions and crops; For cassava production ridges are recommended to be between 0.8 to 1 meter in width.



An RS Ridger in use

Functions and benefits of the RS Weeder.

1. Durable and simple to use;
2. Reduces the risk of skin contamination during spraying;
3. The weeder guard prevents the crop from inadvertent spraying;
4. The wheel propelled pump builds up the appropriate pressure allowing for optimal spraying;
5. The guard is adjustable from 20 cm to one meter to fit the width of the furrow.



An RS Weeder in use



