

Climate Adapted Farming Methods (CAFM) Project in Zambia



Discing – Conventional Tillage Method

All the land is tilled in readiness for planting. Fertilizer application and planting is done after discing. Soil is exposed to erosion (no soil cover). More time and fuel are consumed. Expensive tillage method. Not recommended as a MCA tillage method.



Ripping Tillage Method

One of the recommended CA tillage methods. Only area to be planted is tilled. Fertilizer application and planting done after Ripping. Minimum soil disturbance is practiced. Relatively cheaper, saves on time and fuel used.

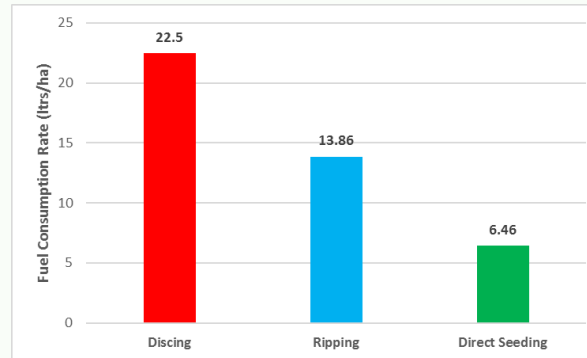


Direct Seeding

Highly recommended MCA tillage method. Row opening, fertilizer application and planting are done at once. Minimum soil disturbance is enhanced. Saves much on time and fuel usage. The cheapest tillage method. Highly recommended tillage method.

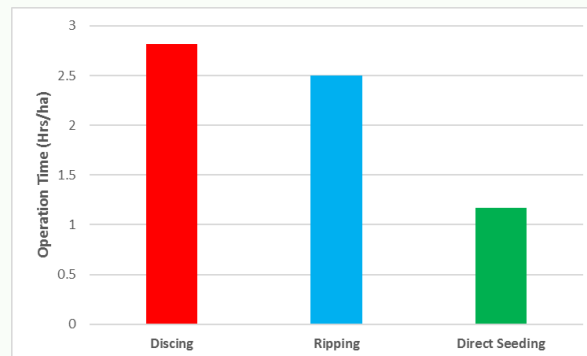
Fuel Consumption

- **Discing**, much fuel is used because the whole field has to be disced. This is conventional tillage method which is not recommended when practicing MCA.
- **Ripping** also uses more fuel but less than when compared to discing.
- **Direct seeding** uses the least amount of fuel. Since row opening, fertilizer application and planting are done with one run, fuel saved can be used on other farm operations.



Time Consumption

- **Discing** uses most time, because after discing rows have to be marked before fertilizer application and planting.
- **Ripping** uses more time, because after ripping the farmer comes again to plant in the ripped rows.
- **Direct seeding** uses the least time when compared to the above two tillage methods. It is because fertilizer application and planting are done during planting row opening.



Weed Control Management

- Soon after planting, pre-emergent herbicides have to be applied to 'kill' weed seeds.
- The application of herbicides suppresses weed growth thereby reducing crop-weeds nutrient competition.
- Weeds are not allowed in the field as they reduce yields drastically if not controlled.



Top Dressing Application

- A tractor drawn fertilizer spreader is recommended for commercial production, to save on time in the field.
- Top dressing fertilizer has to be applied at the correct rate and at the right time to ensure potential optimum crop yield.

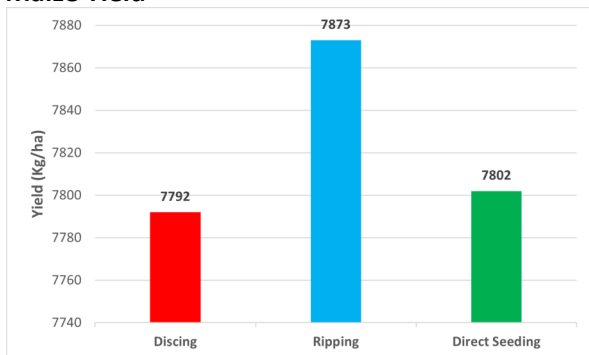


Disease and Pest Control

- Scouting for diseases and pests is a highly recommended management activity to be done.

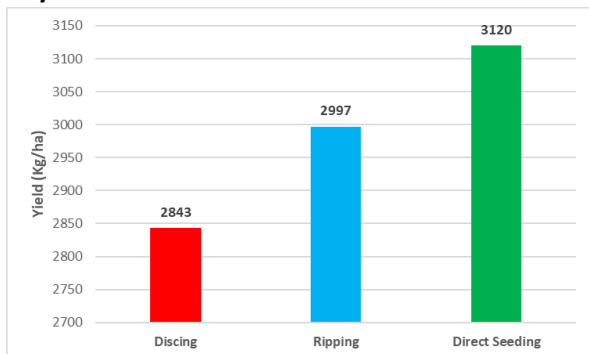
- When the threshold for diseases and pests is reached, control has to be done in time using recommended chemicals and pesticides.
- Uncontrolled diseases and pests reduce output hence little returns will be realized.

Maize Yield



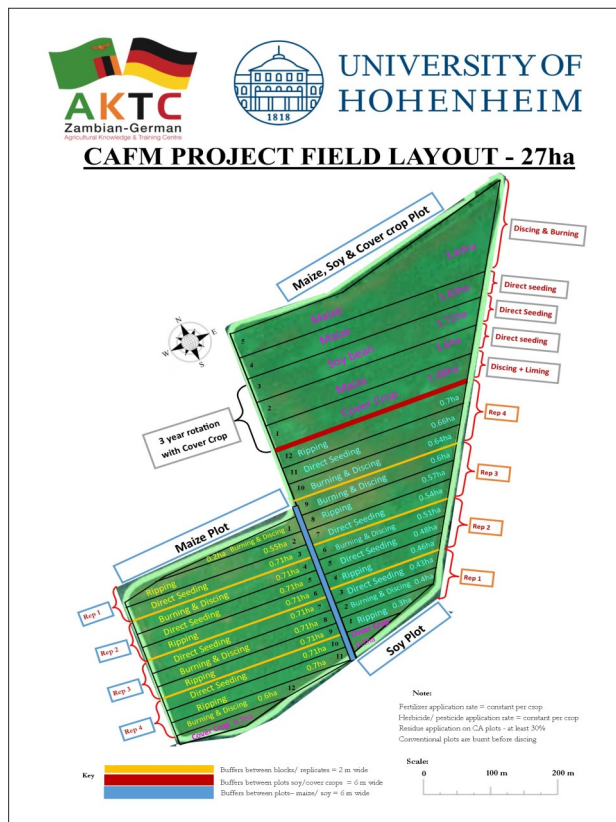
- Considering fuel and time used on discing and ripping, the yield for discing and direct seeding are almost the same.
- In order to make profit farmers are urged to produce at the lowest cost, without compromising the quality of the produce, and sell at the highest possible price.

Soya Bean Yield



- Also considering the fuel and time used in all the three tillage methods, the difference in yields is not much significant.
- Therefore, producing at the least cost and getting more income shows that the farmer is producing economically.

This is why farmers are being encouraged to practice mechanical conservation farming methods (MCA).



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Implementing the

Climate Adapted Farming Methods (CAFM) Project in Zambia



2019—2020 FARMING SEASON