

Sidindi ISFM protocols

Protocols 2011

Introduction

Following the results of the diagnostic conducted in the Sidindi sentinel site in the long and short rain seasons of 2010, further trials will be implemented in the short rain season of 2011. The trials are designed to investigate the effect of micronutrients and other amendments such as lime beside that of macronutrients.

Field selection

The trials will be located in 32 fields. Fields selected should be uniform in soil type and fertility status (e.g no localized gravel, anthill, rock outcrop e.t.c. in parts of the field). Previous fertilization during the last 3 seasons (especially organic fertilization), previous crops and slope will also be taken into account during field selection to avoid effects on crop yield other than the treatments effect. Each field will have ten experimental plots measuring 5 m x 5 m.

Soil sampling

After fields have been selected at the plots demarcated, soil samples will be collected from all the plots. The soil samples shall be placed in bags clearly labeled with site name, cluster, field and plot number and the date.

Land preparation

Land preparation will be done by digging (to a depth of 15-20 cm) and ridge making concurrently. Land preparation should be done well in advance to ensure all fields are ready in time for planting.

Treatments

The table below shows the treatments to be implemented in the trials.

Table 1

Plot No	Treatment	Treatment No	Rep
1	NPK	1	1
2	Lime	2	1
3	Control	3	1
4	ZNSO ₄	4	1
5	NPK	1	2
6	Lime+NPK	5	1
7	ZNSO ₄ +NPK	6	1
8	P	7	1
9	ZNSO ₄	4	2
10	Control	3	2

Plant spacing

Maize will be planted at a spacing of 75 cm by 25 cm. Two seeds shall be planted. These shall later be thinned to one, 2 weeks after planting. Where no plants have germinated, replacement planting (gapping) shall be conducted.

Weeding

Weeds compete for water, nutrients and light with crops therefore timely weeding should be undertaken to avoid this. Weeding will be done using hoes as necessary to keep the plots clean. Two or three weeding operations are appropriate within a growing season, depending on the climatic conditions. It is necessary to shake off soil from the roots of the uprooted weeds to ensure that the weeds do not regrow after a weeding operation. Research assistants/extension staff stationed within the sentinel sites will be responsible for ensuring that farmers weed their fields in time.

Data collection

For all the fields, data will be collected on the following attributes and events.

1. Full history of land management.
2. 50% emergence date.
3. Plant height, diameter and no. of leaves at 50% flowering.
4. Dates of agronomic management activities.
5. Harvest data.