INTEGRATED WEED MANAGEMENT IN UPLAND RICE

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Introduction

Upland rice is currently a major food and cash crop in Uganda (Lamo *et al*., 2007). Its importance is partly due to the government policy to promote upland rice production as an alternative to the irrigated rice as a measure of conserving the environment (Odogola, 2006; Lamo *et al*., 2007). However, the most dreaded challenge is weeds which can reduce yields by over 50% (R. Labrada, 1996). Weeds also intensify pest and disease problems by serving as alternate hosts and reduce efficiency of harvesting. Weed control is labour intensive when done with widely used traditional hand tools. This study therefore aims at identifying and recommending the best integrated weed management options for the low altitudes areas of Uganda's South Eastern Agro-Ecological Zone (U'SEAEZ).

Objectives:

1. *To evaluate integrated weed control techniques in upland rice*
2. *To establish the economics of upland rice production under different weed management options.*

Methods

The experiment was planted in September 2009 in a Randomized Complete Block Design and replicated three times. Plot size was 2 x 5m and the crop was spaced at 30 x 12.5cm. Two herbicides were used as pre-emergency (butanil 70) and post-emergence 1 (butanil) and post emergence 2 (2-4D). The treatments were as follows;

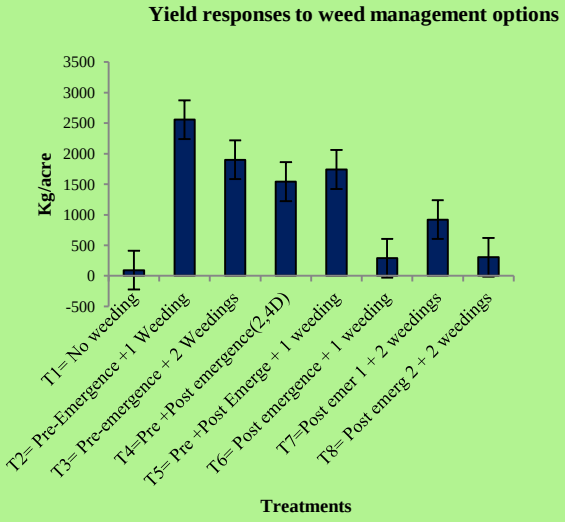
- T1; No weeding
- T2; One weeding
- T3; Pre-emergence + 1 weeding
- T4; Pre-emergence + 2 weedings
- T5; Post-emergence + 1 weeding
- T6; Post-emergence + 2 weedings
- T7; Pre + post-emergence
- T8; Pre + post-emergence + 1 weeding

The data collected include; number of tillers, plant height, days to flowering (DTF), pest & disease incidence and yield

Fig 1: Pre-emergence + 1 weeding at 70 DAG

Fig. 2: Control at 70 DAG

Results



Pre-emerg at 30 DAG

Control at 70 DAG

Preliminary results indicate that Treatment 2 (T2) fig. 1 had significantly higher yield than other treatments and the lowest yield was recorded in treatment 1 (T1) fig. 2. The high yield in T2 could be attributed to effective weed control by Butanil 70 during the early growth stages of the crop which are critical in determining the crop yield in upland rice. Generally pre – emergence treatments gave significantly higher yields than post-emergence treatments.

Comment on trends of the other characteristics (see data taken)

Conclusion

Pre-emergence weed control in Upland rice shows superior performance compared to other control techniques yet the common practices among farmers is using post-emergence herbicides

Experiment plots

Future activities

- Participatory **o**n-farm evaluation
- Integration of the conventional farmers weed control methods in future experiments

References

Odogoola, R. W. 2006. Final survey report on the status of rice production, processing and marketing in Uganda. *In: Japan International Cooperation Agency (JICA) and Sasakawa Africa-Uganda Report.*

Acknowledgement: We gratefully acknowledge National Agricultural Research Organization (NARO) and the Government of Uganda (GoU) for the funding

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