

B-102: Polythene mulching as an effective technology to control weeds in rice fields

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A two factor field trial was conducted in the Mapalana research farm during Oct-Jan 1997/98 to assess the single ploughing and polythene mulching as an effective agronomic practice for weed control in rice fields compared to the double ploughing and hand weeding without mulch. Main objective of the research was to assess how polythene mulch will influence growth parameters such as plant height, number of tillers per plant and weed count.

Plant height and number of tillers were high in the treatments with polythene mulch but they were not statistically significant. Nevertheless number of filled grains were significantly high (98 with weeding and polythene mulch, 88 with polythene mulch and without weeding; 72.85 with weeding and without polythene mulch; 61.25 without polythene mulch and without weeding). Soil temperature under the polythene mulch was up by about 2°C with a maximum of 3°C at 1400 h of the day.

Polythene mulch appears to be an effective agronomic measure to control weeds in rice fields. A significant yield reduction (20%) was observed in the treatments without polythene mulch and weeding. Labour saving for weeding due to mulching will be about Rs16400/ha. Nevertheless, yield gain could be economically justifiable, if the price of the mulching material is <Rs 2.47 /m².

Negotiations with the industry are now initiated to produce low cost recyclable mulching material. Experiments will be continued to assess chemical, biological, engineering and environmental aspects of polythene mulching.