

EFFECT OF FURROWS, STAND ESTABLISHMENT AND  
MULCHING ON GROWTH AND YIELD OF MUNGBEAN UNDER  
ZERO TILLAGE FOLLOWING TRANSPLANTED RICE

By

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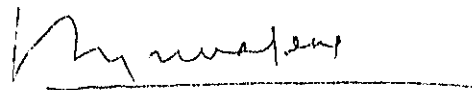
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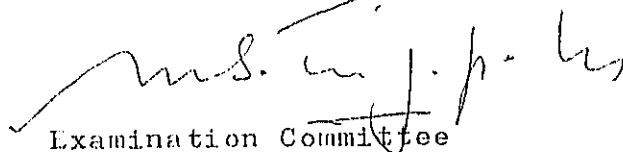
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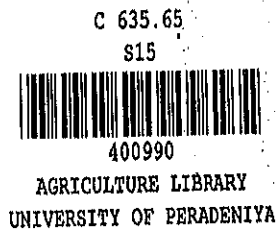




  
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## ABSTRACT

Three experiments were conducted at the International Rice Research Institute, Los Baños, Philippines from October 1983 to June 1984 with the main objective of determining the effect of shallow furrows, method of stand establishment and mulching on the grain yield of mungbean planted under zero tillage after puddled flooded transplanted rice.

Row seeding with mulching had higher mungbean grain yield in all the three experiments than broadcast planting with or without mulch, and row-seeding without mulch. Mulching and seeding methods contributed 580 kg/ha to the grain yield from Experiment II.

The number of pods/plant, seeds/pod and pod length were higher in the broadcast mulched fields but seed weight and total grain weight were higher in the row-seeded mulched fields.

Seedling emergence was 87% and 93% in the furrowed row-seeded and mulched plots. Broadcasting without mulching had the lowest seedling emergence.

Root nodulation in the furrowed treatments was highest at 42 DAE in the furrowed plots,

producing 107% more than the number of nodules produced at 21 DAE. Furrow opening and mulching promoted nodulation probably due to better drainage, and temperature control.

Seedling height, leaf area and seedling dry matter content were highest in the row-seeded mulched treatments planted in February but broadcast mulched treatments produced the highest seedling height and leaf area/plot in the March experiment. Furrows spaced at 120 cm apart had better seedling growth than the other main treatments.

Drainage in the unfurrowed plots was poor due to water pooling on low spots and foot marks. Shallow furrows were effective in draining excess water from the field. Furrow construction few days before rice harvest was not effective in banded plots.