

EFFECTS OF LIME AND PHOSPHORUS APPLICATION ON
THE PRODUCTION OF MUNGBEAN INTERCROPPED
WITH CORN UNDER ACID SOIL


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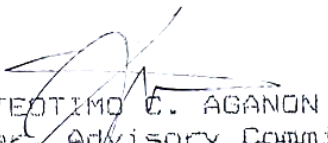
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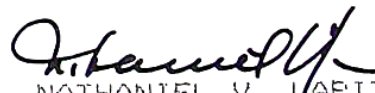

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ABSTRACT

CHANLOY, DUMRONGSAK, Institute of Graduate Studies, Central Luzon State University, Muñoz, Nueva Ecija, Philippines, October 1991. EFFECTS OF LIME AND PHOSPHORUS APPLICATION ON THE PRODUCTION OF MUNGBEAN INTERCROPPED WITH CORN UNDER ACID SOIL.

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The study was conducted in concrete boxes with acid soil as the medium for crop growth and development. It was conducted to determine the agronomic and yield performance of mungbean and corn grown as monocrop and intercrop with and without the addition of lime and phosphorus. Likewise, its residual effect on mungbean was evaluated.

Seed yield of mungbean was significantly reduced when it was intercropped with corn regardless of CaCO_3 and P application. However, it significantly increased the intercropped mungbean seed yield with and without their application when applied P with CaCO_3 and P Lime. On the other hand, application of P on intercropped mungbean gave comparable yield with that of the control (no lime and no P application). As far as

monocrop mungbean is concerned, it yielded comparably with and without P application. Likewise, liming with and without P application followed the same trend but significantly gave higher yield than the control.

Corn yield, on the other hand, significantly increased when intercropped with mungbean and applied with lime but without P application. Liming with or without the addition of P improved corn productivity as evidenced by the significant increase in yield over unlimed soil.

All the yield characters of mungbean and corn were significantly influenced by the treatments imposed except the weight of 1000 seeds of mungbean which was most likely attributed to the genetic make-up of the variety used.

Plant height of mungbean either at 20 DAF, 45 DAF and 60 DAF was likewise affected by the different treatments with six tons CaCO_3 /ha plus 60 kg P_2O_5 /ha giving the tallest plants.

Corn height, however, was affected only by lime and P application at 20 DAF and 45 DAF. Comparable plant height was obtained at 60 DAF.

In terms of residual effect, significant variations existed among treatments on plant height, nodule count as well as herbage yield at 54 DAF.

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