

## Research Article

# Effect of varying doses of lime on yield and attributes of maize in Mizoram

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### Summary

A study was carried out on varying doses of lime to maize in an acid soil of Mizoram to determine the effect of lime on yield and its attributes in maize. Lime treatments ranged from 0, 1, 1.5 and 2 t/ha. The maize variety RCM 1-1 was tested with or without added lime. Trials showed lime increased pH increased yield up to its highest dose of application. However, it did not significantly increase yield. Plant height in maize ranged from 170 cm when no lime (control) to 241.75 cm with 2t/ha of lime addition. Sixteen per cent, 35 per cent and 43 per cent increase in yield was observed at different levels of lime over no lime application. Almost 19 per cent, 35 per cent and 43 per cent increase in no. of grains /cob was recorded at different levels of lime over no lime use.

**Key words :** Lime, Maize, No lime, Yield, Mizoram

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## Introduction

Soil acidity related fertility problem is one of the factor most important soil limiting factors to limit the productivity of crops from tropical to alpine humid region of the north eastern region for efficient management of inputs for sustainable production. More than 90% of the soils of Mizoram are affected with different degrees of acidity. The application of agricultural liming materials (referred to commonly as lime) to acidic soils, increases soil pH and decreases soil acidity and frequently alleviates the problems of soil infertility stresses without addition of harmful elements.

The information regarding the frequency of liming to get sustained production has to be studied for crops adjustment to the high rainfall areas. The addition of lime not only reduces hydrogen ions and raises soil pH, thereby eliminating most major problems associated with acid soils but it also provides two nutrients, calcium and magnesium to the soil. Lime also favours phosphorus added through fertilizers to the soils more available for plant growth and

increases the availability of nitrogen by increasing the rate of organic matter decomposition. The total geographical area of the state is about 21,087 sq. km, out of which more than 90 per cent area comes under hills. Maize is not only important for humans but also being consumed as feed materials for poultry and pigs. Maize is mainly cultivated during *Kharif* season in the state and the crop is sown from the month of March to June depending upon the selection of variety. The productivity of maize is low (1621 kg/ha) as compared to the national productivity of 2000 kg/ ha. Spectacular increase in maize yield has been reported by several workers with lime addition. Maize responds positively with lime addition in an acid soil and under this backdrop of information the present investigation was taken.

## Resources and Research Methods

Field experiments were conducted at the Research farm of ICAR Research Complex for NEH Region, Mizoram Centre, Kolasib, during *Kharif* seasons of 2004-05 and 2005-06 with a