

LIGHT INTENSITY AND NITROGEN LEVEL AS THE  
AFFECT SEX EXPRESSION, GROWTH AND YIELD  
OF TWO CUCUMBER (CUCUMIS SATIVUS L.)  
VARIETIES

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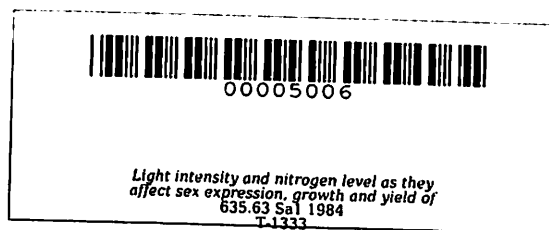
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LIGHT INTENSITY AND NITROGEN LEVEL AS THEY AFFECT  
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(Cucumis sativus L.) VARIETIES

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## ABSTRACT

SAENGBANGKA, WIROJ, Central Luzon State University,  
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and Nitrogen Level as They Affect Sex Expression, Growth  
and Yield of Two Cucumber (*Cucumis sativus* L.) Varieties.

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The experiment was conducted to determine the influence of light intensity and nitrogen level on sex ratio, growth and yield of two cucumber varieties. Plants grown under shaded condition had significantly greater number of days from seed emergence to the last harvest, greater number of branches and with late flowering, but with smaller stem diameter and narrower sex ratio. Shading also significantly increased the percentage of fruit setting and yield when compared to those plants grown under unshaded condition.

Incremental nitrogen significantly influenced the number of days from the seed emergence to the last harvest and diameter of stems. Insignificant effects were noted on number of branches, days to first flower emergence, sex ratio, fruit setting and yield. The greatest number of days from seed emergence to the last harvest was obtained at 300 kg N/ha, beyond this amount, a marked decrease was

noted. The diameter of stem increased as the levels of nitrogen were increased, following a linear trend even as high as 500 kg N/ha.

A highly significant interaction was noted between light intensity and nitrogen level, particularly on stem diameter and number of branches. Results indicate that when plants were grown under the shade with no nitrogen fertilization, the plant tends to produce stems with smaller diameter, but with greater number of branches, than plants applied with varying levels of nitrogen under unshaded condition.

Correlation test shows that fruit yield is associated with the number of days from seed emergence to last harvest, stem diameter, number of branches, days to first male flower emergence, sex ratio, and percent fruit setting.

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## INTRODUCTION

Cucumber (Cucumis sativus L.) is an important cash crop because it gives high return within a short period of time. Its demand increases over the years but current production is inadequate to meet this requirement. In the Philippines for instance, there is an increased demand for fresh and pickled cucumber (Malabanan, 1976). In Thailand, there is a great demand for cucumber but farmers cannot reach this production quota especially during dry season. One problem which confronts the farmers when growing cucumber is the predominance of male flowers which often results in lower yield.

According to Saito and Ito (1961), the formation of female flowers could be promoted by increasing the number and area of leaves in the apical buds which restricts male flower formation. This condition indicates clearly the role of nitrogen on altering sex expression in cucumber.

Under low light intensity there are usually more pistillate flowers (Knott and Deanon, 1967). Cucumber is usually planted in the open fields which allow the plants to receive maximum amount of light. It was noted however, that when the plants are fully grown, the plants tend to partially shade each other specially when trellis is provided.