SEX EXPRESSION, FRUIT YIELD AND QUALITY OF CUCUMBER AS INFLUENCED BY MALEIC HYDRAZIDE AT DIFFERENT STAGES

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Executive Summary

Cucumber (*Cucumis sativus*) is one of the most popular and high value crop in Bangladesh. It is a monoecious plant with a high sex ratio and fewer pistillate flowers. Maleic hydrazide is a growth retardant that is commonly used to enhance flowering, especially by increasing the proportion of female to male flowers. Albeit MH is different in nature than NAA and GA_3 may have influence on plant growth when applied at various stages. Pertaining to Bangladeshi local variety of cucumber 'Baromashi', present experiment was aimed to modify the sex ratio and evaluating the potentiality of MH at various stages. The experiment was conducted from October 2016 to May 2017 in open field provision at Horticulture Farm of Sher-e-Bangla Agricultural University, Dhaka 1207. The experiment was laid out by RCBD where each treatment was repeated four times. Four levels of maleic hydrazide (MH) were studied as follows: (i) Control: 0 ppm (MH_0), (ii) 150 ppm (MH_{150}), (iii) 250 ppm (MH_{250}) and (iv) 350 ppm (MH_{350}) at (i) Seed soaking (SS), (ii) Vegetative (VS) and (iii) Flowering (FS) stages. Seedlings of 20 days old were transplanted in the pit on 3rd week of October. As per treatments MH was applied following the three stages of plant. The fruits were harvested at green edible stage looking shiny, bright, and of standard size but not over matured. Sex modification and fruit setting was enhanced by MH. Number of leaves, leaf area and fruit yield were also remarkably increased except plant height after MH application at different stages. MH increased the dry biomass of fruit resulted from higher chlorophyll content in leaves transferred photosynthates to the fruit. Chlorophyll content and mineral nutrient concentration in fruits did not affect significantly by MH. As the effect on sex modification and yield attributes, MH @ 150 ppm at vegetative stage would be a good choice.

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