

Evaluating the effect of humic acid on the yield of three varieties of potato under field conditions

Authors:

Mohammad Fadaee and
Elham Bagherzadeh

Institution:

Department of Industrial
Management,
Karaj branch,
Islamic Azad University,
Karaj, Iran.

Corresponding author:

Mohammad Fadaee

ABSTRACT:

To evaluate the effect of humic acid fertilizer on potato tubers in 2010, trials were conducted in the Province of Iran. The experiment was conducted on a split plot with randomized complete block design having three replications. Main plots consisted of four levels of humic acid (0, 1, 2, 3 times) solution in water irrigation and sub-factor consisted of three varieties of potato (Marfona, Satina, and Born). During planting the application of humic acid at the rate of nine liters per hectare per load at the beginning and start of creating tuber formation respectively were done. Analysis of variance showed that the smallest and largest tuber weight, number of tubers per plant and yield per plant were not significant. Effect of humic acid on the smallest mean tuber weight at 1% and the number of tubers and yield per plant showed significant difference at 5% level. The largest tuber weight was also not significantly different. Interaction of humic acid fertilizer in any of the measured parameters showed no significant difference in potatoes. Comparison by Duncan test showed that the application of humic acid in all the three stages of growth had shown great impact on tuber weight. The highest number of tubers per plant has been associated with the use of humic acid (27 l/ha). The number of tubers per hectare with the application of 18 litres of humic acid showed no significant difference. The amount of humic acid applied were 18 and 27 litres per hectare, and increased performance is in the range of 13 and 29% respectively.

Keywords:

Potatoes, Humic acid, Yield, Tuber, Potato cultivars.