EFFECT OF SOIL AND FOLIAR APPLICATION OF NITROGEN LEVELS ON YIELD AND YIELD COMPONENTS OF WHEAT

(T. aestivum L.)

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ABSTRACT

This investigation was carried out in the Experimental Farm, Faculty of Agriculture at Moshtohor, Zagazig University during 1990/91 and 1991/92 seasons to study the effect of N levels as soil application (0, 30, 45, 60 and 75 kg N/fed.) and foliar sprays of urea (0, 2, 4 and 6% urea/fed.) at booting stage on yield, yield components, protein content and correlation coefficient between grain yield and yield components characters of Sakha 69 wheat cultivar. Each experiment was designed in split plot with four replications. The results obtained were as follows:

Soil application of nitrogen level up to 75 kg/fed. increased significantly plant height, spike length, weight of spike, number of grains/spike, number of spikelets/spike, number of grains/spikelet, 1000-grain weight, number of spikes/m², biological and grain yields/feddan and protein content in wheat grains in combined analysis of the two season. Whereas no significant difference between 45 kg, 60 kg and 75 kg N/fed. as soil application in their effect on the above characters. The soil application of 30, 45, 60 and 75 kg N/feddan resulted in increasing the grain yield by 77.76%, 106.22%, 132.22% and 122.78%, respectively over the control in the combined analysis.

Grain yield/feddan and its components as well as protein content were significantly increased by increasing foliar application of urea up to 6% urea/feddan at booting stage except number of grains/spike and number of grains/spikelet. In combined analysis, foliar spray of urea at 2%, 4% and 6% urea/feddan caused increases grain yield/feddan by 14.43%, 15.70% and 27.74% respectively over the control treatment.

Positive and highly significant correlation coefficient were obtained between grain yield/feddan and each of plant height, spike length, spike weight, grain weight/spike, number of grain per spike and per spikelet, 1000-grain weight, number of spikes/m² and biological yield per feddan.