

O 40. EFFECT OF FERTILIZER LEVELS AND SOWING METHODS ON EARLINESS AND GRAIN YIELD OF SOME BREAD WHEAT

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ABSTRACT: This study, conducted over the 2016/17 and 2017/18 growing seasons at the Kuotor Farm in El-Gharbia Governorate, aimed to investigate the impact of different sowing methods (Broadcasting on beds method, Drilling on beds method, and Hills on beds method) and seeding rates (45 kg, 52.5 kg, and 60 kg seeds per faddan) on the growth and yield of three bread wheat cultivars (*Triticum aestivum* L.). The results indicated that the hills sowing method outperformed drilling and broadcasting methods, leading to a gradual increase in grain yield per faddan. Specifically, the Giza 171 variety exhibited the highest values for key parameters such as the number of spikes per square meter, number of grains per spike, 1000-grain weight, biological yield, grain yield, and straw yield compared to other varieties in both seasons. Planting using the hills on bed method significantly increased the number of spikes per square meter, number of grains per spike, 1000-grain weight per spike, biological yield, grain yield, and straw yield compared to other sowing methods in both seasons. Furthermore, a seed rate of 45 kg per faddan resulted in the highest values for the number of grains per spike, 1000-grain weight, and grain yield in both seasons. Interactions between wheat varieties, planting methods, and seeding rates affected the number of spikes per square meter, biological yield, grain yield, and straw yield in both seasons, except for the harvest index in the first season. This study provides valuable insights into optimizing sowing methods and seeding rates to enhance the early growth and grain yield of bread wheat.

Keywords: Wheat Cultivars, Sowing Methods, Grain Yield, Bread Wheat Varieties