

## **EFFECT OF SEED CLASSES, HARVESTING DATES AND STORAGE PERIODS ON YIELD AND SEED QUALITY OF WHEAT**

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### **ABSTRACT**

Two experiments were conducted at the Experimental Farm of Agronomy Department, Faculty of Agriculture, Mansoura University, Egypt during 2007/2008 and 2008/2009 seasons. The aim of the first experiment, was to study the effect of harvesting dates 45, 55, 65 and 75 days from 50% heading under three wheat seed classes (foundation, registered and certified) on yield and its components (c.v. Giza168). The second experiment was conducted at the laboratory of Seed Technology Research Unit, El-Mansoura, Dakahlia Governorate and aimed to study the effect of harvesting dates and wheat seed classes seed quality during different storage periods, i.e. (0, 3 and 6 months after harvesting).

The results revealed that, harvesting dates had significant effects on grains moisture content, number of spikes/m<sup>2</sup>, spike weight, number of spikeletes/ spike, number of grains/spike, grains spike weight, 1000-grain weight and grain yield. Harvesting wheat plants after 65 day from 50% heading produced the highest means yield and its components traits i.e. (spikes number/m<sup>2</sup>, 1000-seed weight, grain yield) in both seasons. Result showed that insignificant differences among seed classes on growth characters, yield and its components. In general, number of spike/m<sup>2</sup>, spike length, number of spikeletes/spike, number of grain/spike and grain yield were recorded maximum value from foundation seed followed by registered and certified seed category.

Increasing storage periods had significant effect on all the studied traits. While the prolong the storage periods from 0 to 6 months from storage lead to the decrease in germination percentage, speed of germination, germination energy and germination rate and the decrease in seedling vigor traits (seedling length and fresh and dry weight) and carbohydrate percentage in the both seasons. While this increase in storage period lead to the increase in mean germination time, protein content, insect infection percentage and seed dry weight loss percentage in the first and second seasons. Harvesting dates significantly affected on germination energy, germination rate, seedling fresh weight, seedling dry weight, insect infection percentage, seed dry weight loss, protein content and carbohydrate percentage in the first and second seasons. While it had different effects on speed of germination only in the first season.

The interaction among storage periods, harvesting date and seed classes had a significant effect on germination energy and seedling fresh weight in the first and second seasons and seedling dry weight in the first season only.

### **INTRODUCTION**

Wheat (*Triticum aestivum vulgare L.*), is considered the world's leading cereal crop. In Egypt, wheat is considered the main source of human food crops. The over expanding of increasing population in Egypt have under lined the importance of increasing the productivity of wheat per unit area of land since the area devoted for wheat production is limited.