

## Planting Date Effect on Yield and Yield Component of Three Wheat Cultivars in Competitive With Wild Oat

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### Abstract

#### Background and Objectives

Wheat cultivars that have suppression potential of weeds besides high yield can be a weed management method in sustainable agriculture.

#### Materials and Methods

In order to study the competition ability of some wheat cultivar with wild oats in three planting dates, a field experiment as factorial in complete randomize blocks with three replications was carried out at the Agricultural Research Station of Shahid Chamran University in 2013-2014. In this experiment, the factors included planting dates (16<sup>th</sup> November, 1<sup>st</sup> December and 16<sup>th</sup> December), wheat cultivars (Star, Chamran and Virinak) and competition with wild oats (with wild oat, without these weeds).

#### Results

The result showed, in the competition status, Star cultivar had a higher grain yield than other cultivars in the first planting date (16<sup>th</sup> November) whereas, it had no significance different with Star and Chamran in the second planting date (1<sup>st</sup> December). When the cultivars were planted as monoculture, the highest grain yield belong to Star in the first planting date followed by the second planting data. In this condition, Virinak and Chamran in the first planting date had the lowest grain yields. Effect of the planting date on grain yield was the same trend as grain/spike; however, the high correlation with grain/spike (81%) and with thousand grains weight (59%) confirmed it. Three cultivars obtained the highest of competition index in 1<sup>st</sup> December. Although the competition and planting date resulted in decrease of grain yield, according to this investigation, the best planting date was determined 16<sup>th</sup> November and 1<sup>st</sup> December for Star cultivar. When the planting was delayed (16<sup>th</sup> December), virinak was a better choice.

#### Discussions

According to the different growth, competitive and morphological characteristics of wheat cultivars, their responses varied in different planting dates in competition against wild oats. The grain yield of Chamran, Star and Virinak cultivars decreased 27, 25 and 23 respectively by competition with wild oats. In this respect, the dry matter of planted wild oats on 1<sup>st</sup> December than the former and latter planting dates was further damaged by every three wheat cultivars (Star, Chamran and Virinak) besides higher grain yield of wheat cultivars whereas the climatic conditions of this year with previous years differed, suggesting wheat planting with short delay as an agronomy method was assayed in the different years with regard to temperature and hydrothermal effect on wild oats germination and growth in comparison with wheat.

**Keywords:** *Chamran, Grain filling, Leaf area duration, With long maturity, Star, Virinak.*