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NEGATIVE EFFECTS OF DELAYED PLANTING ON YIELD AND YIELD COMPONENTS OF WHEAT COMMON IN KHUZESTAN PROVINCE, IRAN

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ABSTRACT

This study aimed to investigate the impact of which can ¬ optimal delay in sowing date on yield, yield components and agronomic traits in wheat crops in the Khuzestan region 2010-2011 to create a split -plot design in the form of randomized complete blocks design with three replications hub. In the experiment of planting date (ninth and tenth) as main plots and cultivars (Chamran dose) were examined as secondary factors. Two factors were not significantly different. All the characters had a very negative impact on planting delays that ultimately caused the loss of 12.72 percent yield was delayed planting conditions. Chamran cultivars, even though the other character shave a lower numeric value was but had the highest grain yield and grain weight, indicating that this figure is higher in quality than the other varieties are.

Keywords: Wheat, Planting date, Variety, Strain, Yield, Yield components.

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Contribution/ Originality

The paper's primary contribution is finding that investigate the effect of negative factors affecting the cultivation of wheat common in the tropical province of Khuzestan in Iran. Late planting and lack of optimal planting time is effecteded tillering and growth, Fertility rates, Fertile tillers per plant and Height.

1. INTRODUCTION

In terms of production and area under cultivation of wheat is the dominant crop and increase its product is considered day to day [1]. Globally, nearly 52 percent of the world's arable land is devoted to growing crops is cultivated in 60% of this amount [2].

Stresses resulting from the abnormal physiological processes that affect one or more of the combined Biological and environmental factors may result in the amount or intensity of inappropriate this organism is a problem that has the potential to cause indirect damage to the plant or its components [3]. Some studies suggest that early crop yield decreases [4]. However, some studies show that early planted wheat tiller density and spike caused by more and low grain number per but the weight of kernels per ear heavier (TKW than) the there is a greater grain yield [5]. Planting early cause excessive plant growth and the initiation of reproductive growth, likely to coincide with the cold phase of the development will increase [6]. Delaying the planting also reduces the vegetative period, reducing the number of leaves, resulting in a total production of assimilates for growth and optimal performance is reduced Blye, et al. [7].

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Knapp and Knapp [5] announced a six-week delay in planting that were heading for a week, was delayed and eventually lead to a reduction in grain weight. This study aimed to investigate the effect of different planting dates on yield and its components and their role in enhancing yield traits were performed.

2. MATERIALS AND METHODS

The experiment 2010-2011 crops in Iran's Khuzestan province longitude ″ 28: ˚ 48 Longitude ″ 50: ˚ 31 to 33 m above sea level, and for loam soils with 7.2 pH a year in the agricultural field Shavur (an area near the Shush city at Khuzestan province) as a split plot design (split-plot) in a randomized complete block design with three replications in a plot size of 10 × 5/8 meters away from the main plot of the repeat interval of 10 meters to 20 meters irrigation and drainage systems were implemented separately for each plot. Some meteorological parameters are given in Table 1. The main factor planting (planting one: ninth, planting delays: 22/12) with 250 kg seed ha dose and Chamran cultivars were the sub plots. In this experiment, the irrigated soil after reaching the optimal level (18-16 % of dry weight basis) Cow ground, a common way of plowing to a depth of 30-25 cm using moldboard Plough ours treatments were conducted. 100 kg phosphorus and 50 kg N ha of urea ammonium phosphate source according to soil test results are given to land. All agricultural operations (excluding treatments) such as fertilizer application and spraying, etc., were the same in all plots. The land instead of vegetable crops (accumulation) and a month before planting to harvest the remaining residue was left fallow with the plow soil was mixed and buried. During the growing season, especially in the early stages of growth, weeds to be sprayed with insecticide thread Granstar rate of one liter per hectare and the amount was 25 grams per hectare. Possible to control the spread of yellow rust fungus was tried removing weeds Hash millet field as the host to control yellow rust. Also the use of pesticides, especially the tilt and Folicur swell clusters depending on the amount of pollution and disease (to prevent excessive growth and excessive) control.

Parameters such as yield and Fertility rates, Tiller, Fertile tillers per plant and Height. Finally, data obtained by analysis of variance with SAS and mean comparisons with Duncan test at 5% probability level was calculated.

Table-1. Average temperatures and rainfall during the growing period

Agent	July	June	May	April	March	February	January	December
the average temperature	38	6/36	1/31	5/24	4/18	5/13	6/13	9/16
rainfall	0	0	2/9	3/4	7/13	8/85	4/13	4/8

Shush City weather station.

3. RESULTS AND DISCUSSION

Yield: Results of the variance analysis table shows that the yield between different levels of planting date and cultivar was significant difference at 1% level, and Lee was no significant difference in the interaction between the two factors (Table 2). With comparisons review can be seen that the mean average of the first planting date 5400 The second planting date and seed yield kg with an average grain yield of 4713 kg, the lowest of the major reasons for the decline in the vegetative period to deal with stress early leading to the growth of the plant ample time and thus having sufficient strength to cause serious damage to the plant against the cold and lack of food the optimal transfer to reproductive part of the end of the season and the rise in to deal with the stress of heat florets sterility as a result, wind, frost and plasmolysis phenomena as well as shorter term could be plant growth [5, 7]. The figures are also the highest yield consistent and Chamran cultivars with an average of 5513 kg per hectare and the lowest performance compared with an average dose of 4600 kg ha -related reasons, had some of the genotype (Table 3) .

Fertility rates: according to the attribute table of the analysis of variance showed significant differences at 1% level in each planting date and cultivar but the interaction of two factors, statistically significant differences were observed (Table 2). Observations from the comparison table shows that a one-month delay in sowing reduced

fertilization rate of 40/90% to 37/68% of environmental stresses, particularly heat stress, which was the last season that sterility too florets has to be the most important reasons is the recent results [5]. Delayed planting (Table 3).

Tiller: Observations from the results of the analysis of variance table indicates that none of the different planting dates, varieties and there is no statistically significant interaction between two factors (Table2) .Could be the most important reasons for examining the results of Knapp and Knapp [5] has a direction. However, the figures also Chamran has produced more tillers. With the number of fertile tillers see that Chamran efficiency of food production potential due to the higher efficiency of dealing with 43/71 % of a dose of fertile tillers per plant varieties with a yield of more than 4/66 of fertile tillers per plant (Table 3).

Fertile tillers per plant: According to the analysis of variance between the number of fertile tillers per plant Different levels of planting date differences - significant at 5% level, but other levels of interaction between planting date and cultivars and varieties of statistically significant differences were observed (Table 2). Late planting significantly decreased the number of tillers per plant was less than one (Table 3).

Height: Analysis of variance showed that the levels of plant varieties Significant difference at 5% level, but the interaction between the different planting dates there was no statistically significant difference between the two factors (Table 2). The average maximum height comparisons in terms of delayed planting 33/2 inches long can be reduced because of the heat in the season finale. Delayed planting conditions and there by accelerate the development life cycle leading to reduced plant height is. The figures are also reasons related to the dose rate with an average genotype 66/67 cm Maximum height Chamran average 66/62 cm tall plant having the lowest (Table 3). The results of the survey Akbari, et al. [8] and Ehdaie, et al. [9] based on the period of accelerated growth and plant height while growing in terms of delay terms correspond with the Heat last season.

Table-2. Summary of analysis of variance of some traits

Sources changes (s.o.v)	(df)	Yield	Fertility rates	Tiller	Fertile tillers per plant	Height
Replication	2	31707/00ns	86/00*	0/00^{ns}	0/33^{ns}	6/08^{ns}
Date of planting	1	1415907/00**	1590/91**	3/00^{ns}	4/08*	16/33^{ns}
SEM (a)	2	7807/00	49/52	1/00	0/33	0/08
Figure	1	2500707/00**	76/15**	3/00^{ns}	2/08^{ns}	75/00*
Planting date × cultivar	1	8640/33ns	11/12^{ns}	0/00^{ns}	0/08^{ns}	3/00^{ns}
Error (b)	4	17273/66	3/08	0/50	0/33	4/75
CV(%)		2/59	2/19	23/57	27/71	3/34

Ns = not significant * = difference is statistically significant at the 5% level ** = difference is statistically significant at 1%

Table-3. Comparison of Average agronomic traits

operating		yield(Kilograms per hectare)	Fertility rates (%)	Tiller (Number)	Fertile tillers per plant (Number)	Height (Cm)
Date of planting	22/11/2010	5400/00 a	91.40 a	3.50 a	2.66 a	66.33 a
	22/12/2010	4713/00 b	68.37 b	2.50 a	1.50 a	64.00 b
Figure	Dose	4600/00 b	77.37 b	2.50 a	1.66 a	67.66 a
	Chamran	5513/00 a	82.41 a	3.50 a	2.50 a	62.66 b

Means, in each column, followed by similar letter(s) are not significantly different at the 5% probability Level

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