ACADEMIC RESEARCH IN EDUCATIONAL SCIENCES VOLUME 2 | ISSUE 4 | 2021
ISSN: 2181-1385
Scientific Journal Impact Factor (SJIF) 2021: 5.723
DOI: 10.24411/2181-1385-2021-00826

EFFECTS OF AUTUMN WHEAT FEEDING ON GRAIN YIELD IN COTTON COMPLEX

R. Ch. Ishmukhamedova
Associate Professor of Karshi Engineering and Economics Institute

D. G. Djabbarova
Senior teacher of Karshi Engineering and Economics Institute

ABSTRACT

When extending the sowing period of winter wheat until mid-October at a cotton complex in the southern regions of Uzbekistan, it is mediated to optimize fertilizing with mineral fertilizers.

Keywords: Winter wheat, Cotton complex, productivity, mineral fertilizers.

INTRODUCTION

In the irrigated lands of the country, there are problems with sowing delays due to the fact that winter wheat is grown mainly in the cotton complex and the cotton harvest is delayed.

Especially the nutritional problems of winter wheat are exacerbated by the applied mineral fertilizers during the late sowing. If winter wheat is not saturated with nutrients in the applied mineral fertilizers, the grains in the ears will be sparse and useless, and this declines the grain yield and quality [5,6].

Therefore, it is necessary to optimize the rate and duration of feeding with mineral fertilizers when growing winter wheat in the cotton complex [1,7].

However, in the conditions of the southern regions of Uzbekistan, the technology of applying mineral fertilizers in the cultivation of winter wheat in the cotton complex has not been developed yet. So, in most cases, there are some problems with the formation of the planned harvest of winter wheat.

Therefore, it was studied the effect of mineral fertilizers on grain yield when growing winter wheat in the southern region of Uzbekistan in light gray soil conditions.

MATERIALS AND METHODS

Field experiments were conducted in 2015-2017 at the farm "Saipov Shakhboz" in Kasan [1, 2].

ISSN: 2181-1385
Scientific Journal Impact Factor (SJIF) 2021: 5.723
DOI: 10.24411/2181-1385-2021-00826

The studies were conducted in four iterations, and the size of each experimental area is 180 m^2 and a calculation area is 100 m^2.

The obtained data on productivity were mathematically analyzed by B.A.Dospekhov's dispersion method [3]. The largest (M) and smallest (m) differences in the repetitions of the field experiment variants were identified [4].

Along with the planting of phosphorus and potassium fertilizers, nitrogen fertilizers were applied during the spring harvesting (35%), threshing (35%) and threshing (30%) phases of winter wheat.

Autumn wheat was planted into the growing cotton stalks in mid-October (15.X), early November (I.XI) and mid-November (I5.XI).

RESULTS AND DISCUSSION

It was observed that the yield of winter wheat grown in the cotton complex varies in proportion to the sowing times and the norms and ratios of mineral fertilizers applied (table).

It is natural that the efficiency of winter wheat feeding in early sowing and in appropriate proportions is high. However, the fact that the cotton harvest will continue until the end of November has complicated the agricultural technology of winter wheat cultivation in the cotton complex, and the sowing period of winter wheat continues until the end of November.

In this case we see the following when we analyze our data on the grain yield of winter wheat grown.

It was observed when winter wheat was planted in the optimal period mineral fertilizers and the norms were optimized the average grain yield increased to 73.2 cwt 31.6 cwt compared to the control option without the use of mineral fertilizers.

table

Influence of winter wheat feeding on grain yield (average for 2015-2017)

№	Experience options	Yield, cwt				St relative difference +-
		2015	2016	2017	average	
Phosphorus and potash fertilizers are applied at 15.X						
1	$N_0P_0K_0$ (st)	42,8	41,1	40,9	41,6	0
2	$N_{150}P_{70}K_{50}$	61,3	60,4	61,3	61,0	+19,4
3	$N_{180}P_{90}K_{60}$	64,0	63,8	64,1	64,0	+22,4
4	$N_{210}P_{105}K_{70}$	72,4	74,0	73,1	73,2	+31,6
Phosphorus and potash fertilizers are applied at I.XI						
5	$N_0P_0K_0$ (st)	41,1	42,0	41,8	41,6	0

ISSN: 2181-1385
Scientific Journal Impact Factor (SJIF) 2021: 5.723
DOI: 10.24411/2181-1385-2021-00826

6	$N_{150}P_{70}K_{50}$	59,9	60,2	61,0	60,4	+18,8
7	$N_{180}P_{90}K_{60}$	64,4	63,8	64,5	64,2	+22,6
8	$N_{210}P_{105}K_{70}$	67,2	68,1	67,7	67,7	+26,1
Phosphorus and potash fertilizers are applied at 15.XI						
9	$N_0P_0K_0$ (st)	38,8	39,1	38,3	38,7	0
10	$N_{150}P_{70}K_{50}$	59,9	60,1	61,3	60,4	+21,7
11	$N_{180}P_{90}K_{60}$	62,1	63,0	62,5	62,5	+23,8
12	$N_{210}P_{105}K_{70}$	62,2	63,0	62,4	62,5	+23,8

When winter wheat was planted in early November (I.XI) and the norms and ratios of mineral fertilizers were optimized, the grain yield was 26.1 cwt compared to the control option without mineral fertilizers, and when winter wheat was planted in mid-November (15.XI) this figure was showed up to 23.8 cwt.

Compared with the sowing and feeding periods of winter wheat grown in the cotton complex, the grain yield was only 5.5 cwt when sown in early November (I.XI) and in mid-November (I5.XI) and the average grain yield was 62.5 cwt, despite a decrease to 7.8 cwt when fed in ratios.

This indicates that in the conditions of the southern regions of Uzbekistan, the efficiency of optimizing the feeding regime by sowing winter wheat in mid-November is high.

CONCLUSION

In the conditions of the southern regions of Uzbekistan, when growing winter wheat in the cotton complex, it is necessary to optimize the application of mineral fertilizers at the required level, while the sowing period lasts until mid-November.

REFERENCES

1. Атоев Б.Қ. Минерал ўғитларнинг кузги буғдой ҳосилига таъсири. “Дала экинлари селекцияси, уруғчилиги ва агротехнологияларининг долзарб йўналишлари” халқаро илмий-амалий конференция материаллари тўплами. Тошкент, 2016. – Б.179-183.
2. Бошоқли дон экинларидан юқори ҳосил етиштириш бўйича тавсиялар. Ўз Р ҚСХВ, Ўз Р ҚХФА, «Ғалла» ИИБ. – Тошкент, 1996. – Б.53.
3. Доспехов Б. А. Методика полевого опыта (с основами статистической обработки результатов исследований). – М.: Колос, 1979. – 416 с.

ISSN: 2181-1385
Scientific Journal Impact Factor (SJIF) 2021: 5.723
DOI: 10.24411/2181-1385-2021-00826

4. Скрябин Ф.А. Математическая обработка урожайных данных методом вариационной статистики. // Методика полевых и вегетационных опытов с хлопчатником. СоюзНИХИ, Ташкент, 1973. – С.193-219.
5. Тўраев А. Буғдой дони тўқ бўлсин. // Ўзбекистон қишлоқ хўжалиги. – Тошкент, №3, 2001. – Б.42-43.
6. Узақов Ғ.О. Ўзбекистоннинг жанубий минтақасида кузги буғдой етиштиришда ресурстежамкор технологияларни такомиллаштириш. Қ/х фанлари фалсафа доктори дисс. автореф. – Тошкент: СамҚХИ, 2018. – 44 б.
7. Хакимов Ш. Минерал ўғитлар ва кузги буғдой ҳосилдорлиги. // Ўзбекистон қишлоқ хўжалиги. – Тошкент, №12, 2006. – Б.15-16.