



# TYPES AND SPREADING AREAS OF WEEDS SPREAD IN WINTER WHEAT FIELDS IN KARAKALPAKSTAN

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## ANNOTATION

*This article presents the results of identifying the types of weeds spread in the fields where winter wheat is cultivated in the irrigated lands of the southern, central and northern regions of the Republic of Karakalpakstan. 16, 17, 15 families, 55, 46, 47 species, 63, 53, 52 types of weeds were detected in the southern region Amudarya, Khojeyli in the center, and Chimboy in the north, respectively.*

**KEY WORDS:** Republic of Karakalpakstan, regions, winter wheat, weeds, spreading, family, type, order, annual, biennial, perennial.

## INTRODUCTION

Currently, there are more than 30,000 types of weeds in world agriculture, and the most damaging ones are 1,800 species [3] In the CIS countries, there are more than 2,000 types of weeds, and in Uzbekistan there are 841 types of weeds belonging to 72 families, of which 519 322 species are annual weeds, and 322 species are perennial weeds [2] Depending on their biological characteristics, growth, development, and soil-climatic conditions, some of these weeds are widespread, some are less common, and some are in the south, and some are in the north or west, and some are found in all cultivated areas [5].

According to the data, the weed species that cause the most economic damage in world agriculture are 59 families, 206 species of L. Holm, of which: 80 species are extremely dangerous and belong to the following families: Roaseae - 44, Solanaceae - 4, and the remaining 47 it was determined that there are 1-3 dangerous weed species in the family [4].

Also, more than 1030 types of weeds are spread in the CIS countries, 80-120 of the main harmful ones are, and it is noted that 15-20 types of extremely dangerous weeds can be found in one field [1; 6].

In the Republic of Karakalpakstan, where scientific research was carried out, in the next 50 years, the drying up of the Aral Sea, the deterioration of the natural components in the region, the increase in the salinity level of the soil cover, and the negative impact on the agrochemical, land reclamation and fertility indicators of the soil in the region, as well as the environmental conditions have been showing their influence on the formation of the flora.

Taking into account the above, in controlling weeds in agriculture, it is advisable to implement one or another

measures, taking into account the family, type and biological characteristics of the weeds spread in the fields.

It is known that the Republic of Karakalpakstan is divided into Southern, Northern and Central regions according to the soil and climate conditions, the salinity level of the soils of these regions, their mechanical composition, the depth of the underground waters and the sudden change in climatic conditions. It was also noted in our field expeditions that this had an effect on the spread of weed species spread on irrigated lands in the cross-section of the regions.

## CONDITIONS OF CONDUCTING RESEARCH

Field expeditions were carried out in the Northern region Amudarya, Central region Khojeyli and Chimboy districts of the Southern region of the Republic of Karakalpakstan in order to determine the types of weeds spread in the areas where winter wheat is grown on irrigated lands.

Identification of weed species in winter wheat fields in irrigated lands was considered in three periods: in autumn - before sowing of winter wheat, in spring - during the growing season of winter wheat, and in summer - after harvesting of winter wheat grain.

## RESULTS OF THE RESEARCH

According to our field expeditions, 21 families, 78 types of weeds belonging to 65 orders are spread in the winter wheat fields of the Republic of Karakalpakstan, of which: annual - 48, biennial - 4, perennial - 26. In particular, there are 15 species Poaceae, 14 Chenopodiaceae, 9 Brassicaceae, 9 Asteraceae, 5 Fabaceae, and the rest of the family, it was found that the weeds belonging to it constituted 1-3 species.



It was noted that annual weeds - 61.5%, biennial weeds - 5.1%, and perennial weeds - 33.3%, were the highest in terms of pollution index in winter wheat fields.

The southern region of the Republic of Karakalpakstan, where our scientific research was carried out, the Amudarya district borders to the north, the Karaozak district, the Gurlan district of the Khorezm region to the east, and the Gubadog district of Turkmenistan to the south and west. The terrain of the district is mainly flat, the climate is sharply continental, with an average annual rainfall of about 100 mm.

According to the information obtained during our field expeditions, 16 families, 63 types of weeds belonging to 55

families are distributed in the winter wheat fields of the southern region of Amudarya district, of which: annual - 40, biennial - 4, perennial - 20. (Figure 1). Among them, common in wheat fields, weeds belonging to the Poaceae family - 13, Chenopodiaceae - 12, Brassicaceae - 6, Asteraceae - 9, Fabaceae - 4, Papaveraceae family made up 3 types, and 6-14 more types of weeds were recorded in the winter wheat fields than in the central and northern regions. This indicates that in the southern part of the region, compared to the central and northern regions, the soil salinity level is relatively low, which indicates the favorable climatic conditions for the growth and development of plants.

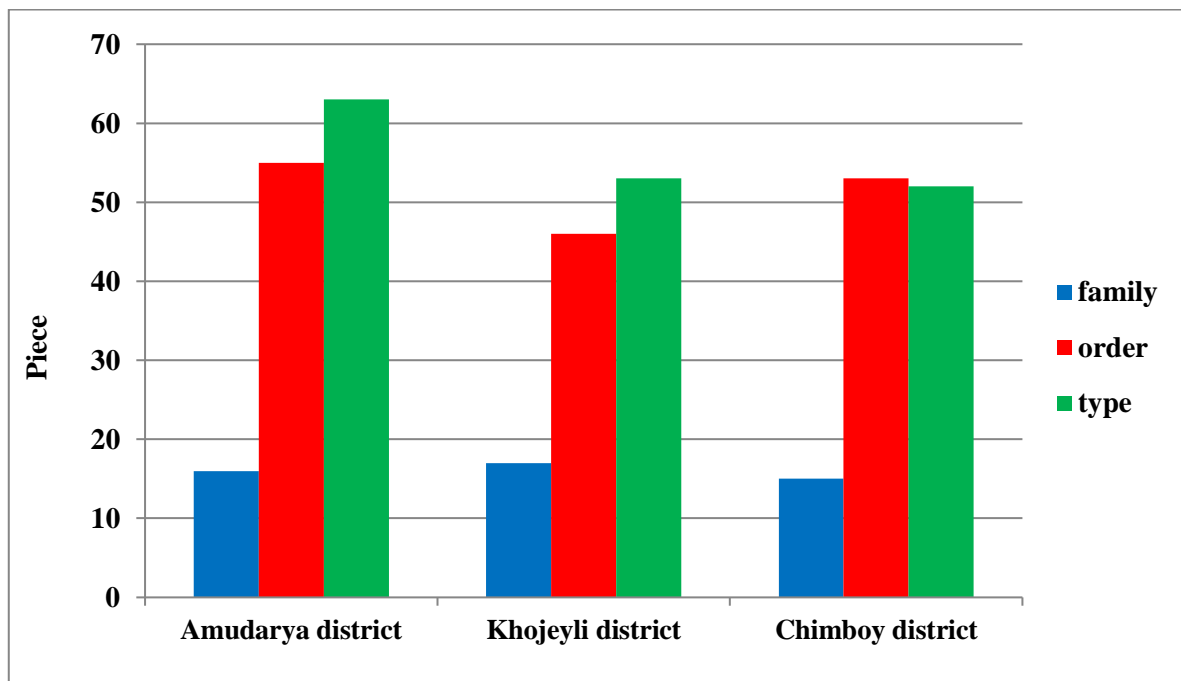


Figure 1. Spreading types of weed in winter wheat fields in the territory of the Republic of Karakalpakstan

When the spread of weeds was analyzed by species composition, it was found that annual weeds - 62.5%, perennial - 31.2%, biennial weeds - 6.3% were spread in a small amount, it was noted that annual weeds cause significant damage.

Therefore, when developing measures to control them, it is necessary to take into account the type of weed contamination in each crop field.

Khojeyli district, which is considered the central region of Karakalpakstan, is located on the left coast of Amudarya. It borders Nukus from the north, Karaozak from the southeast, Kanlikol, Shumanay districts from the northwest, and Urganch district of Turkmenistan from the west and south. The terrain is mainly flat. The climate is sharply continental, the vegetation period is 190-195 days, and the annual rainfall is 120 mm. The main branch of agriculture is cotton and grain growing.

The results of identifying the weeds spread in the winter wheat fields in the central region of the zone show that there are 17 families belonging to 46 orders and 53 types of weeds in the winter wheat fields, 32 (60.4%) are annuals, 2 (3,

8 %) and perennial weeds are 19 (35.8 %), annual weeds occupy a high index of damage.

Analyzing the weed family spread in the winter wheat fields, the most numerous are Chenopodiaceae - 10, Poaceae - 9, Brassicaceae - 8, Asteraceae - 5, Papaveraceae -3, Fabaceae - 3, Amarantaceae -2, Plumbaginaceae - 2, Plantaginaceae - 2, weeds belonging to the rest of the family made up 1 species each.

Chimboy district, which is located in the northern part of the Republic, where scientific research was carried out, borders Kegayli district to the west and south, Muynak district to the north, and Karaozak district to the east. Chimboy district is located on the northern right coast of the Republic of Karakalpakstan, along the coast of the "Kegeyli" channel. The climate of the district changes dramatically, the underground water is close, the summer is hot and dry, and the winter is cold.

In terms of climatic conditions, the northern and southern regions of the Republic of Karakalpakstan differ from each other. In the northern region compared to the southern region, the vegetation period is shorter by 15-18 days, the soil salinity is high, the relative humidity of the air is low and the



useful temperature during the vegetation period is low, there is little rainfall, there is a lot of drought, strong winds, and rapid evaporation of moisture from the surface of the soil in the summer months. In the northern region, it affects not only agricultural crops, but also the amount and types of weeds spread in cultivated fields.

The irrigated lands of Chimboy district have varying degrees of salinity. The results of the study of the families and types of weeds spread in the winter wheat fields of the district show that 15 families, 47 order, and 52 types of weeds are spread in the grain fields of the district, and in the winter wheat fields of the central and southern regions of the region, these indicators are 16-17 families, 46-55 orders, 53-63 species, and it was taken into account that in the northern region it is less than 1-11 pieces. Also, in the northern region, it was observed that annuals made the highest rate of contamination at 59.6% (31), biennials at 5.8% (3) and perennials at 34.6% (18).

In the northern region, annuals are widespread in winter wheat fields, preventing the growth and development of winter wheat from germination to the end of the growing season, causing a decrease in grain yield.

## CONCLUSION

More than 78 species of 21 families, 65 orders of weeds are spread in the fields where winter wheat is grown in the southern, central and northern regions of the Republic of Karakalpakstan with varying degrees of salinity, of which: annuals - 48 (61.5%), biennials - 4 (5.1%), perennials - 26 (33.3%) species. In particular, there are 15 types of weeds belonging to the Poaceae family, Chenopodiaceae - 14, Brassicaceae - 9, Asteraceae - 9, and Fabaceae - 5 species, it was found that weeds belonging to the rest of the family constituted 1-3 species.

In the southern, central and northern regions of the republic, according to soil-climate conditions, soil salinity, land use and agrotechnical and chemical measures used to control weeds, the spread of weeds also differs from one another. 16, 17, 15 families, 55, 46, 47 orders, 63, 53, 52 types of weeds were identified in Chimboy districts in the north, including annuals - 40, 32, 31, biennials - 4, 2, 3, perennials - 20, 19, 18 species. It was noted in our field studies that annual weeds are dominant in causing damage to winter wheat fields, occupying the highest rate (62.5%, 60.4%, and 59.6%, respectively).

So, the data obtained in our scientific research show that the families and types of weeds spread in the winter wheat fields of Karakalpakstan with varying degrees of salinity are various in different regions of the zone under the influence of soil and climate conditions and the type of crop rotation.

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