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WIND EROSION IN THE KASHKADARYA REGION

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ABSTRACT

The article shows the processes of deflation in the western desert part of Kashkadarya province. As a result of strong winds (20-25 m s^{-1}) deflation processes can happen, which is harmful in cotton growth stages, residual of agro chemicals can be rose from the surface of soil which causes environmental pollution. The desert zone of Kashkadarya province is one of these kinds of places. The article presents measures to combat with deflation processes.

The article reports that dust storms with high wind speeds (20-25 m / s) create soil with nitrogen, phosphorus, potassium fertilizers, diseases, agro- and toxic chemicals used for weeds, deflated residues, and air pollution. , the sand particles that fly below the air cut the young growth points and cut the growth points and pierce the leaves. The article describes deflation planes in one of the dust storms in Kashkadarya Province. This information provides an opportunity to begin the fight against deflation.

The relevance and purpose of the topic. Today, the share of deflation and degraded areas in agriculture is increasing worldwide. Irrigation and wind erosion, salinization, pollution, waterlogging and drowning processes are worsening land reclamation and reducing soil fertility. Under the influence of wind erosion, more than 28% of the world's sown areas are affected by varying degrees of severity, resulting in a decline in agricultural production.

As a result of soil erosion protection in the cotton-producing countries of the world, optimization of the field microclimate, improvement of soil moisture and nutritional regimes, saving of irrigation water and, ultimately, increased cotton yield and fiber quality. In this regard, efforts are being made to protect agricultural crops and soil from wind erosion, to minimize the damage to wind fields by various toxic chemicals, to improve environmental conditions and to prevent deflationary processes.

By preventing wind erosion processes in the agricultural sector of the country, soil fertility and environmental pollution reduction by various chemicals, land reclamation and improvement of yield and product quality are achieved. It is important to reduce the negative impact of wind erosion processes on the protection of irrigated lands and improve the environmental situation. In the deserted area of irrigated agriculture of the Republic of Uzbekistan, soil and sloping crops are seriously affected by deflation (wind erosion) processes caused by dust storms.During winds of high speed (20-25 m / s), dust storms are formed, soil nitrogen, phosphorus, potassium fertilizers, disease, agro- and toxic chemicals used for weeds, defoliation residues are contaminated with air, polluting the air. sand particles flying beneath the young, hardy cotton cuts the growth point and pierces the leaves with holes.

Materials and methods of research. Soil erosion refers to the degradation of native soil-forming rocks by the influence of wind (deflation) and water. Some scientists (VB Gussak, QM Mirzajonov) also add that the erosion product is carried by wind or water and disposed of elsewhere [3].

1812,000 hectares of land and crops are affected by wind erosion on irrigated land in the Republic, and 1929,000 hectares due to wind and water erosion. According to the same author, all in Kashkadarya region (including irrigated and non-irrigated land) is affected by deflation processes of 1,246,000 hectares.

It is intended to identify wind erosion zones based on weather station materials in Kashkadarya and marshal works in the region.

The practical significance of the study is as follows: 1. Soils and crops are protected from wind erosion and are not re-or partially sown.

2. The most productive dusty part of the soil under the influence of the wind is stored in place, and when the re-cultivation or partial re-cultivation is completed, the surplus seeds, fuel and lubricant resources are saved.

3. After the crop is protected from erosion, it is done in a timely manner;

4. The weather between the forests of the area is stabilized, the soil moisture is preserved, and the irrigation water is saved.

5. Crop yields in the protective forest area against the unprotected land will increase by 4-5 hectares per hectare of cotton (by the age of forestry), and by winter wheat by 5-6 centners.

6. Protected forests are a breeding ground for poultry, where they kill pests.

7. Because of the pruning of trees, the firewood is stored.

Results of the study. Climate and landscape impact on deflation processes in the region.

The most severe deflation of the region is in the desert zone, where annual precipitation does not exceed 80-100 (120) millimeters, and physical evaporation of soil moisture reaches 10-12 times more than precipitation.

From a geographical point of view, the part of the region where erosion processes occur is predominantly flat, with sparse vegetation and mainly ephemeral, golophyte and xerophytes. These types of conditions do not impede high winds and drying of the soil does not prevent deflation. Table 1 shows the number of dust storms in the region.

Table 1

Dust Storms in Kashkadarya Province (Average) [1]

Meteo station	months												
	I	II	III	`IV	V	VI	VII	VIII	IX	X	XI	XII	In a year
Karshi	0,1	0,2	0,7	0,4	2,0	1,5	3,0	3,0	1,5	1,5	1,4	0,4	15,7
Kamashi	0,1	0,2	0,6	0,7	1,0	6,0	7,0	7,0	4,0	3,0	0,9	0,4	30,9
Sherabad	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Kitab	0,0	0,0	0,0	0,1	1,2	0,5	1,0	0,5	0,1	0,3	0,2	0,0	3,9

Guzar	0,0	0,0	0,0	0,0	0,0	4,0	7,0	2,0	3,0	0,0	-	-	16,0
Chimkurgan	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Mubarak	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0

This data shows that most of the dust storms occurred in the desert zone and partly in the Guzar region, where there is a large soil soils.

Tens of thousands of hectares of soil and crops are affected by dust storms from time to time.

It is known that in the process of deflation, the winds are driven by strong winds. Table 2 contains these data.

Table 2

Winds of high winds, [1]

Agro-climatic district	Meteorological stations	North	North-east	East	South-east	South	South-west	West	North-west
II	Karshi	20	9	26	5	6	6	11	17
III	Kamashi	13	35	26	2	2	8	15	9
IV	Mingchukur	15	20	4	3	12	30	8	8
	Dekhkonabad	10	5	40	7	2	4	8	8
	Acrobat	0,3	2	29	31	4	2	30	12

These data show that the winds of the field, from fast-growing and high-yielding crops (corn, sunflower, rye, etc.) to the wind erosion, to the north and north-east winds, are located in the case of shelter forests. is required.

Based on the data of hydrometeorological stations on the territory of the region and on the basis of personal inspection, the region can be divided into 3 groups according to erosion damage:

Group I: Crop and soil are less affected by wind erosion: Kitab, Shahrisabz, Yakkabog, Kamashi, Dehkanabad, Chirakchi districts. In these areas, typical brownish gray, alluvial mountain brown soils are developed, and irrigated agriculture is mainly on alluvial and meadow alluvial soils.

Group II: Crop and soil are affected by moderate wind erosion: Guzar, Karshi, and Nishan (areas in the middle west of the province). Light gray soils are mainly developed in these areas. Basic irrigated agriculture is developed.

Group III: Crop and soil are strongly affected by wind erosion: Mubarek, Mirishkor, Koson and partially Kasbi districts. The territory of these districts is mainly represented by balustrade, bald, brown and desert sandy soils. Farming is carried out mainly on the sandy soils of moderate and dark brown, with very few desert sands.

In the first group, the intranasal soils (grassy alluvial soils) are weak in deflation processes, the second group is severely damaged in the middle and steppe zones, and therefore requires the design of measures to combat deflation.

From the foregoing, we can conclude that the erosion project needs to start work in the region, ie, the third group, then the second group.

Development of measures to combat wind erosion (agrotechnical and fruiting, protection of ornamental trees) is carried out at the farm of Ahmad UuluBibioy, located in Koson district, in the III group.

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