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INFLUENCE OF HERBICIDES ON THE FORMATION OF THE LEAF SURFACE OF WHEAT

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ABSTRACT

The size of the leaf surface and the dynamics of its formation are one of the important indicators of photosynthetic activity. A high and high-quality yield can only be obtained when the plants form an optimal leaf surface. For this, the cultivated fields should not be littered with weeds. Covering the field with weeds reduces the process of photosynthesis, as a result of which the possibility of obtaining the expected crop is lost.

Harvest in plants is produced through the process of photosynthesis, when green plants create organic matter from carbon dioxide (CO2), water, and minerals. In this process, the energy of sunlight is converted into the energy of plant biomass, that is, the kinetic energy of the Sun is converted into potential energy. The efficiency of this process depends on the activity of the culture and the plant as a photosynthetic system. The characteristics of the photosynthesis system differ from those of an individual plant. For example, increasing the feeding area of a single plant and increasing the associated lighting will increase the seed yield of the plant. The control of the process of photosynthesis in plants is closely related to the theory of the possibilities of controlling high yields and crop formation. But they change to varying degrees under the influence of external factors. Photosynthesis is a conservative measure of net productivity that changes slowly. If the factors necessary for plant growth, such as nutrition, water supply, etc., are improved, the growth process will be accelerated and the surface of the leaves will increase. It is also increased by weed control, retardants, weeding, and disease and pest control.

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In irrigated wheat, leaf area varies depending on many environmental factors, including herbicide application. Only plants with optimal leaf area can make full use of solar energy.

If winter wheat is planted in a timely and optimal manner, and plants give 1.3-1.6 m2 of leaf area per 1 m2 before winter, then the weed infestation of the field will significantly decrease. In such fields, the plant develops well in autumn, spring and summer and does not

allow the development of weeds. Thus, fields freed from winter wheat sowing are significantly free from weeds. With a leaf index of 4...5 (4-5 m^2/m^2) in the field, the photosynthesis system operates in the optimal mode and the greatest amount of FAP is absorbed.

In our experiments, we studied the change in the leaf surface depending on the treatment of wheat with herbicides. The largest leaf surface is formed in the tuber and ear phases, in the phases of flowering, milk and wax ripeness of plants, the leaf surface per 1 sq. m is reduced due to yellowing and early drying of the leaves located in the lower part of the plant. Depending on the application of herbicides, 1 m^2 of leaf area is 3.14 m^2 without herbicide, 4.29 m^2 with Biostar 75% s.a.h., 20 g/ha, Derby 175 SC, 17.5% w.c. . 60 ml. 4.46 m2, Fluroxypir 36% em.c, 0.55 ml was 4.30 m2 and Starane 200, 20% em.c was 4.30 m^2. Highest leaf area - Derby 175 SC, 17.5% w.c. 60 ml of the application was collected, the reason for this is that the herbicide is highly effective in killing weeds. The smallest leaf surface was formed on the control variant. When other herbicides were used, it did not create enough leaf area to not infect a single Gondumak. This process continued throughout all phases, resulting in sufficient average leaf surface area only when using Derby 175 SC, 17.5% sus.k.60 ml. In the control variant, the leaf area was low due to the large number of weeds. An increase in the leaf area and foliage of the plant does not always indicate a high yield, and too low will have a negative effect. This, in turn, reduces the yield and quality of grain (Table 1).

Net photosynthetic productivity (NPP) is calculated from grams of dry matter formed on the surface of 1 m2 of leaves, which indicates the intensity of photosynthesis in the field. NPP is high during the early development of plants, as the leaves do not shade each other, all leaves are well lit.

Table 1

Formation of the leaf surface of wheat

No	Options	Development phases			Ripe		Average
		a tube	thorn	blossom	milk	wax	
1	Control (no herbicide)	3.14	5.81	4.31	3.82	2.7	2.4
2	Biostar 75% s.e.g., 20 g/ha	4.29	5.96	4.4	3.9	2.9	3.4
3	Derby 175 SK, 17.5% w.c., 60 ml	4.46	6.95	4.45	3.93	2.91	4.5
4	Fluroxypyr 36% em.c., 0.55 ml	4.3	6.49	4.42	3.89	2.95	3.9
5	Starane 200, 20% em.c	4.31	6.51	4.39	3.9	2.86	4
	NSR_{01} =	0.21	0.45	0.34	0.27	0.12	0.4

Due to the shading of the lower leaves at the later stages of development, the NPP decreases by g/m2 day. At the initial stages of development, the accumulation of biomass is

slow, and then accelerates. By the end of the growing season, as the leaf surface decreases, the increase in daily biomass will not be large. During this period, the assimilation formed in the leaves, stems and roots extends to the generative organs.

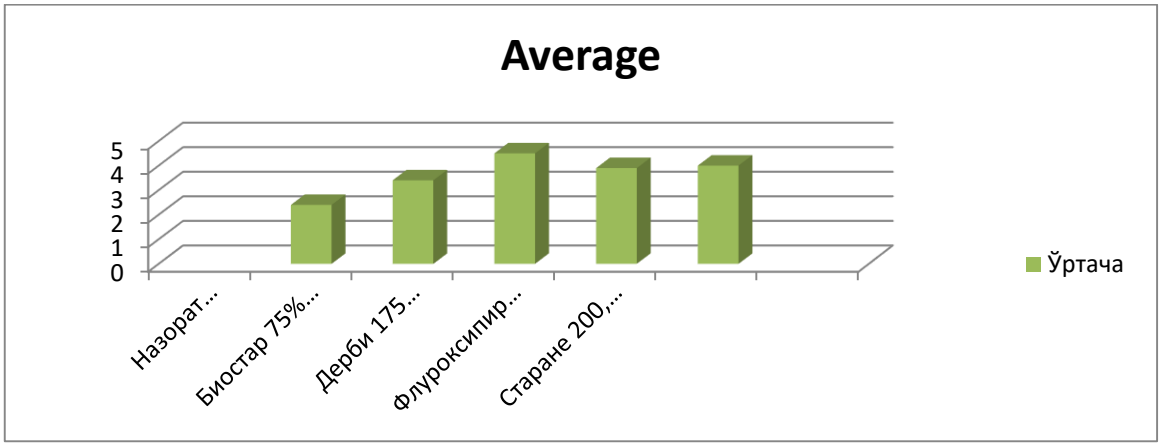

Figure 1. Dependence of leaf surface formation on herbicides.

It can be concluded that when cultivating winter wheat, it is necessary to carry out weed control measures depending on the type of weeds, taking into account the active ingredient of herbicides. On the irrigated lands of the Samarkand region, it was found that the most common weed polluting the fields of winter wheat is a weed, and against it it was found that the drug Derby 175 SC, 17.5% s.k.

In the fields where this preparation was used, the number of weeds decreased sharply, the leaf surface of the plants was sufficient, the dry matter was well accumulated, the process of photosynthesis was accelerated and the yield was high.

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