Effect of Irrigation Standards and Periods on the Development Phases and Vegetation Period of Say "Uzbek-6" Variety

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ABSTRACT

This article presents the impact of the irrigation regime on the growth and development of the Uzbek-6 soybean variety and the growing season. In the experiment with a soil moisture content of 65-70-65% before irrigation compared to the FPV, the full ripening period of the variety was observed on September 1, and the growing season was 138 days. In this variant, soil moisture before watering is low compared to other variants, and the length of the day between waterings is the reason for the acceleration of the full ripening of the plant. With a soil moisture content of 80-80-70% compared to the FPV, the full ripening period of the variety was observed on September 5, the growing season was 142 days, it is proved that high soil moisture causes the growing season, the plant is extended by 4-5 days.

Keywords: Soybean, Uzbek-6, variety, water, irrigation, ripening, vegetation period, day.

Level of learning.

According to Kh. Allanov, O. Sattorov, it is advisable to sow soybean seeds in spring, when the soil temperature is 12-14 oC, in the first and second ten days of April. Seeds are sown to a depth of 4-7 cm, depending on the composition of the soil [1].S.Kh.Sullieva, Z.Soatova stated that soil temperature is one of the most important parameters in soybean cultivation. If the soil is not well heated, the seed may rot or fungal diseases may appear. Fertility also decreases, lawns become thinner, and weeds increase [2].Many scientists say that the growth and development of soybean depends mainly on the soil temperature, water potential, and the mechanical composition of the soil that forms the crop field or the fertile layer of the soil. [3, 4, 5].The purpose of the study.

Development of an irrigation regime that ensures abundant and high-quality production of soybeans in the irrigated lands of the southern region of the republic, increasing economic efficiency and profitability.

Research methods.

Researches were conducted at the central experimental farm of the Southern Agricultural Research Institute. The amount of total NPK and mobile NPK in soil, plant and grain, protein, type, mass of 1000 grains were determined in the laboratories of the Southern Agricultural Research Institute.Soil samples for analysis were taken according to the methods of "Metody agrokhimicheskikh, agrofizicheskikh i mikrobilochicheskikh issledovaniy v polivnyx khlopkovyx rayonakh" (1963).Amount of humus according to the method of I.V. Tyurin (GOST-26213);

nitrate nitrogen-ion selective method, GOST-13496-10;

total nitrogen, phosphorus and potassium in one sample I.M. Maltseva, L.P.

Gritsenko's method;

mobile phosphorus in 1% ammonium carbonate solution by the method of B.P. Machigin;

by the method of P.V. Protasov in an alternating potassium flame photocalorimeter;

water-soluble salts and dry residue were determined by the generally accepted method, GOST-26423-85, using a potentiometer in pH aqueous absorption.

The density of the soil in field conditions is determined by the Kachinsky method using a 500 cm3 cylinder;

specific mass by pycnometric method;

soil porosity in the calculation method;

water permeability of the soil was performed by the Kaczynski method.Field and laboratory experiments were carried out on the basis of the methodological manual of the All-Russian Research Institute of Plant Science (1985). Phenological observations and biometric analyzes were carried out according to the methodological manual of the State Commission for Testing Agricultural Crops (1989). The study of plant growth and development was carried out by measuring the field fertility of seeds and plant stem thickness: at 1 p/m, in 3 places where continuous observation is carried out at the time of germination and before harvesting.

Research results.

Field germination of seeds is a complex indicator that depends notonly on the quality of sowing seeds, but also on ecological, agrotechnical and other factors.

In the desert (Karshi) region of Kashkadarya region, before planting spring crops, in order to maintain soil moisture, wet water (pushta water) is given, and the soil is cultivated with a light hanging harrow.

In the experiments carried out on the basis of the locally created soybean variety "Uzbek-6", germination of seeds planted on April 8 was observed on April 16, and the sowing-germination interval was 8 days (Table 1).

Table 1

Phases of development of soybean variety "Uzbek-6".

Options	Germination of seeds, date	Real leaf production, date	Bloom, date	Beans, dates	Full ripeness, date	Growing period, day
LFWC 80-80-70%	16.apl	19.apl	20.may	07.june	05.sen	142
LFWC 75-80-70%	16.apl	19.apl	20.may	10.june	03.sen	140
LFWC 70-75-65%	16.apl	19.apl	22.may	14.june	03.sen	140
LFWC 65-70-65%	16.apl	19.apl	22.may	17.june	01.sen	138

Although no differences were observed between the germination, true leaf formation, and tillering phases of the studied soybean cultivars, irrigation rates and timings at the beginning of the flowering phase showed their effect.When analyzing the effect of irrigation on the initiation of the flowering phase of soybean cultivars, soil moisture before irrigation

LFWC 80-80-70% and LFWC 75-80-70% options on May 20,

LFWC70-75-65% and LFWC 65-70-65% options were observed on May 22.

Soil moisture before irrigation of soybean crop in experiments

When LFWC was 80-80-70%, pod formation was observed on June 7, and when LFWC was 65-70-65%, it was observed on June 17, or organizing irrigation by ensuring high soil moisture before irrigation improves the absorption of nutrients in the soil for the growth and development of soybeans. Sufficient amount - the optimal passage of development phases, on the contrary, lack of moisture in the soil leads to the delay of development phases.The period of complete ripening of soybeans depends on the biology of the variety, and this indicator can change significantly under the influence of agronomic factors.

According to the analysis of the data obtained in our experiments, it can be said that the full ripening date of soybeans was observed on September 5 when the soil moisture before irrigation was 80/80/70% LFWC, and the vegetation period was 142 days.

When the soil moisture before irrigation LFWC was 75-80-70%, the full ripening date was observed on September 3, and the vegetation period was 140 days.

In this variant, it was found that the vegetation of the variety is shortened by 2 days due to watering when the soil moisture in the initial stages of soybean development is less than in the LFWC 80-80-70% variant.

Even when the soil moisture before irrigation was 70-75-65%LFWC, the full ripening date of the variety was observed on September 3, and the vegetation period was 140 days.

Compared to LFWC 75-80-70% option, even when irrigation was organized with low soil moisture, the full ripening date of the variety was in the same period and the vegetation period was the same.In our experiments, when the soil moisture before irrigation SLFWC was 65-70-65%, the full ripening date of the variety was observed on September 1, and the vegetation period was 138 days. In this option, it was found that the soil moisture before irrigation is low compared to other options, and the length of the day between irrigation periods accelerates the full ripening date of the plant.

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