

DRUŠTVO GENETIČARA SRBIJE
SEKCIJA ZA OPLEMENJIVANJE ORGANIZAMA

SERBIAN GENETIC SOCIETY
SECTION OF THE BREEDING OF ORGANISMS

DRUŠTVO SELEKCIONERA I SEMENARA
REPUBLIKE SRBIJE

SERBIAN ASSOCIATION OF PLANT
BREEDERS AND SEED PRODUCERS

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X SIMPOZIJUMA DRUŠTVA SELEKCIONERA I SEMENARA
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DRUŠTVA GENETIČARA SRBIJE

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AND

VII SYMPOSIUM OF THE SERBIAN GENETIC SOCIETY
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DATUM SETVE KAO STRATEGIJA TOKOM PROIZVODNJE SEMENSKOG SUNCOKRETA U USLOVIMA PROMENJENE KLIME

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Klimatske promene značajno utiču na gajene kulture, smanjujući stabilnost prinosa i kvalitet semena. Adaptabilnost suncokreta na promenu klime ima ključnu ulogu u perspektivi gajenja ove kulture u Evropi. Prilagođavanjem besplatne agrotehničke mere kao što je datum setve suncokreta, poljoprivrednici mogu povećati prinose. Cilj istraživanja je da analizira i proceni kako različiti genotipovi reaguju na različite datume setve u uslovima promenjene klime, te da identifikuje najpovoljnije uslove za maksimalne prinose semena, ulja, kvalitet proizvedenog semena i morfološke osobine. Istraživanje je sprovedeno od 2020. do 2022. godine na oglednim poljima Instituta za ratarstvo i povrtarstvo Novi Sad. Ogled se sastojao od tri izolacije u četiri ponavljanja sa šest genotipova, kao simulacija semenske proizvodnje osnovne kategorije semena i setrifikovane kategorije semena I generacije. Svi genotipovi su posejani u četiri različita datuma setve sa razmakom od dve nedelje između datuma. Analizom rezultata može se primetiti da datum setve, genotip i njihova interakcija značajno utiču na variranje ispitivanih osobina. Utvrđeno je da povećanje prinosa semena prati povećanje kvaliteta proizvedenog semena u svim datumima setve. Korelacijama je utvrđeno da, smanjenje padavina u fazi nalivanja semena utiče na smanjenje prinosa semena i ulja. Primećeno je da visoke temperature od nicanja do butonizacije imaju negativan uticaj na prinos semena, ali povećavaju visinu biljke, energiju klijanja i klijavost proizvedenog semena. Visoke temperature tokom cvetanja negativno utiču na energiju klijanja i klijavost proizvedenog semena, ali pozitivno na prečnik glave. Prilagođavanje datuma setve može biti pouzdan alat za odgovor na buduće klimatske promene. Pomeranje optimalnih datuma setve (sredina aprila) na kasniji period (početak ili sredina maja) može smanjiti stresne uslove tokom oplodnje i nalivanja semena, rezultirajući većim prinosima i boljim kvalitetom proizvedenog semena, što je cilj svake semenske proizvodnje.

Ključne reči: datum setve, promena klime, semenska proizvodnja suncokreta

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SOWING DATE AS A STRATEGY DURING SEED SUNFLOWER PRODUCTION IN CONDITIONS OF A CHANGED CLIMATE

Miloš Krstić¹, Dušan Dunderski¹, Jelena Ovuka¹, Velimir Mladenov², Borislav Banjac², Brankica Babec¹, Nemanja Čuk¹, Sonja Gvozdenac¹, Daliborka Butaš¹, Dragana Miladinović¹, Vladimir Miklič¹, Velimir Radić¹, Nenad Dušanić¹, Siniša Jocić¹, Sandra Cvejić¹

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Climate change has a significant impact on cultivated crops, reducing yield stability and seed quality. The adaptability of sunflower to climate change plays a key role in the perspective of growing this crop in Europe. By adjusting a free agrotechnical measure such as the sunflower sowing date, farmers can increase yields. The goal of the research is to analyze and evaluate how different genotypes react to different sowing dates in conditions of a changed climate, and to identify the most favorable conditions for maximum yields of seeds, oil, quality of produced seeds and morphological characteristics. The research was conducted from 2020 to 2022 on the experimental fields of Institute of Field and Vegetable Crops in Novi Sad. The experiment consisted of three isolations in four replications with six genotypes, as a simulation of seed production of the basic seed category and the certified seed category of the first generation. All genotypes were sown on four different sowing dates with a two-week interval between dates. Analyzing the results, it can be observed that the date of sowing, the genotype and their interaction significantly affect the variation of the tested traits. It was found that the increase in seed yield is accompanied by an increase in the quality of the produced seed on all sowing dates. Through correlations, it was determined that the decrease in precipitation during the seed-filling phase affects the decrease in seed and oil yields. It was observed that high temperatures from germination to budding have a negative effect on seed yield, but increase plant height, germination energy and germination of the seeds produced. High temperatures during flowering have a negative effect on the energy of germination and germination of the seeds produced, but a positive effect on the diameter of the head. Adjusting sowing dates can be a reliable tool to respond to future climate change. Shifting the optimal sowing dates (mid-April) to a later period (early or mid-May) can reduce stressful conditions during pollination and the seed filling, resulting in higher yields and better quality seed production, which is the goal of any seed production.

Key words: sowing date, climate change, sunflower seed production

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