

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

ZBORNİK APSTRAKATA

X SIMPOZIJUMA DRUŠTVA SELEKCIONERA I SEMENARA
REPUBLIKE SRBIJE

i

VII SIMPOZIJUMA SEKCIJE ZA OPLEMENJIVANJE ORGANIZAMA
DRUŠTVA GENETIČARA SRBIJE

VRNJAČKA BANJA, 16.-18. OKTOBAR 2023.

BOOK OF ABSTRACTS

X SYMPOSIUM OF THE SERBIAN ASSOCIATION OF PLANT
BREEDERS AND SEED PRODUCERS

AND

VII SYMPOSIUM OF THE SERBIAN GENETIC SOCIETY
SECTION OF THE BREEDING OF ORGANISMS

VRNJAČKA BANJA - SERBIA, 16-18 OCTOBER 2023

Beograd/Belgrade
2023.

Izdavač/Publisher

Društvo genetičara Srbije, Beograd
Serbian Genetic Society, Belgrade

Društvo selekcionera i semenara Republike Srbije
Serbian Association of Plant Breeders and Seed Producers, Belgrade

Urednici/Editors

dr Vesna Perić, dr Vojka Babić, dr Sandra Cvejić

Priprema za štampu i realizacija štampe

ABRAKA DABRA, Novi Sad

Tiraž

150

Ova publikacija je štampana uz finansijsku pomoć Ministarstva nauke, tehnološkog razvoja i inovacija

Simpozijum je organizovan u saradnji sa Institutom za kukuruz "Zemun Polje", Beograd i Institutom za ratarstvo i povrtarstvo, Institutom od nacionalnog značaja za Republiku Srbiju, Novi Sad

ISBN: ISBN-978-86-87109-17-9

Beograd/Belgrade

2023.

X SIMPOZIJUM DRUŠTVA SELEKCIONERA I SEMENARA REPUBLIKE SRBIJE i VII
SIMPOZIJUM SEKCIJE ZA OPLEMENJIVANJE ORGANIZAMA DRUŠTVA GENETIČARA
SRBIJE

Vrnjačka Banja, 16.-18. oktobar 2023.

X SYMPOSIUM OF THE SERBIAN ASSOCIATION OF PLANT BREEDERS AND SEED
PRODUCERS and VII SYMPOSIUM OF THE SERBIAN GENETIC SOCIETY SECTION OF
THE BREEDING OF ORGANISMS

Vrnjačka Banja - Serbia, 16-18 October 2023

Počasni odbor/

dr Miodrag Tolimir

dr Milena Simić

Prof. dr Jegor Miladinović

Prof. dr Dragana Latković

dr Aleksandar Lučić

dr Darko Jevremović

dr Dejan Sokolović

dr Milan Lukić

dr Nenad Đurić

Prof. dr Nikola Ćurčić

Naučni odbor/Scientific Committee

dr Vesna Perić, predsednik

dr Violeta Anđelković

Prof. dr Ana Marjanović Jeromela

dr Aleksandra Radanović

dr Dušan Stanisavljević

dr Ivana S. Glišić

dr Jelena Ovuka

dr Jovan Pavlov

dr Milan Mirosavljević

dr Mirjana Petrović

dr Natalija Kravić

dr Dobrivoj Poštić

dr Nikola Grčić

dr Sanja Mikić

dr Snežana Dimitrijević

dr Sofija Božinović

dr Svetlana Roljević Nikolić

dr Vladan Popović

dr Vladimir Filipović

dr Zdenka Girek

Organizacioni odbor/Organizing Committee

dr Vojka Babić, predsednik

dr Sandra Cvejić, zamenik predsednika

dr Aleksandar Popović

Prof. dr Dragana Miladinović

dr Jelena Srdić

dr Milan Jocković

dr Ratibor Štrbanović

dr Vuk Đorđević

Sekterarijat/Secretariat

Beka Sarić, master

Danka Milovanović, master

dr Iva Savić

Miloš Krstić, master

Nemanja Ćuk, master

Sanja Jovanović, master

Maja Šumaruna, master

TEHNOLOGIJA POLINATORSKIH TRAKA ZA VEĆI AGROBIODIVERZITET

Vladan Ugrenović¹, Vladimir Filipović², Elmira Saljnikov¹, Tara Grujić¹, Jovana Raičević³,
Milan Plećaš³

¹Institut za zemljište, Teodora Drajzera 7, Beograd, Srbija

²Institut za proučavanje lekovitog bilja „Dr Josif Pančić“, Beograd, Srbija

³Univerzitet u Beogradu, Biološki Fakultet, Beograd Srbija

e-mail: vladan.ugrenovic@gmail.com

Poslednjih godina zabeležen je dramatičan pad pojave i raznovrsnosti svih vrsta divljih insekata oprašivača, uključujući: divlje pčele, osolike muve, leptire i moljce, a brojne vrste oprašivača izumrle su ili im pretilo izumiranje (COM 2018, 395). Ovo je ozbiljan razlog za zabrinutost jer su oprašivači sastavni deo zdravih ekosistema, a posledice su nesagledive za ekologiju, društvo i ekonomiju. Promene u korišćenju zemljišta, intenzivno upravljanje poljoprivredom, prekomerna upotreba pesticida, zagađenje životne sredine, invazivne vrste, patogeni organizmi i klimatske promene glavne su pretnje oprašivačima. Uvođenje cvetnih polinatorskih traka u plodored može doprineti stvaranju novih staništa i podstaći povećanje broja i raznolikosti divljih oprašivača na lokalnom nivou, ali i na nivou čitavog predela. Pokazalo se da ova praksa pogoduje i drugim korisnim organizmima: insektima predatorima, parazitoidima, pticama i biljkama, tako da se povećava i broj jedinki i broj vrsta. Navedena tehnologija može poboljšati ukupni biodiverzitet i funkcije ekosistema, uključujući smanjenje populacije štetnih organizama i korova, unapređenje plodnosti zemljišta. Veliki broj inostranih kompanija proizvodi mešavine semena za polinatorske trake, a njihov sastav zavisi od namene i atraktivnosti izabranih biljnih vrsta, poželjnim grupama insekata. Tako u smešama za biološku kontrolu dominiraju vrste iz porodice *Apiaceae*, dok se za ekosistemске usluge oprašivanja koriste mešavine sa vrstama pretežno iz porodice *Fabaceae*. Trenutno na srpskom tržištu ne postoje upakovane mešavine semena za polinatorske trake, a upitna je primenljivost inostranih smeša u plodoredima Srbije, jer se agroekološki, tehničko-tehnološki i socijalni uslovi bitno razlikuju. To otvara veliki prostor za pokretanje istraživačkih programa za modeliranje ove tehnologije za potrebe agroekoloških uslova Srbije.

Ključne reči: polinatri, polinatorske trake, agrobiodiverzitet, ekosistemске usluge

Zahvalnica: Ovaj rad je rezultat projekta: „EcoStack: Stacking of ecosystem services: mechanisms and interactions for optimal crop protection, pollination enhancement, and productivity (H2020, Grant No. 773554, 2018-2023)“, a istraživanje je podržalo Ministarstvo prosvete, nauke, tehnološki razvoj i inovacija Republike Srbije, Ugovor br.451-03-68/2022-14/200011, 200003.

POLLINATOR STRIP TECHNOLOGY FOR GREATER AGROBIODIVERSITY

Vladan Ugrenović¹, Vladimir Filipović², Elmira Saljnikov¹, Tara Grujić¹, Jovana Raičević³,
Milan Plečas³

¹Institute of Soil Science, Teodora Drajzera 7, Belgrade, Serbia

²Institute for Medicinal Plants Research "Dr Josif Pančić", Belgrade, Serbia

³University of Belgrade, Faculty of Biology, Belgrade, Serbia

e-mail: vladan.ugrenovic@gmail.com

A dramatic decline in the occurrence and diversity of all wild insect pollinator species has been recorded in recent years, including: wild bees, wasps, butterflies and moths, and numerous pollinator species are extinct or threatened with extinction (COM 2018, 395). This is a serious cause for concern because pollinators are an integral part of healthy ecosystems, and the consequences for ecology, society and the economy are incalculable. Changes in land use, intensive agricultural management, excessive use of pesticides, environmental pollution, invasive species, pathogenic organisms and climate change are the main threats to pollinators. The introduction of flower pollinator strips into crop rotations can contribute to the creation of new habitats and encourage an increase in the number and diversity of wild pollinators at both local and landscape level. This practice also favours other beneficial organisms: predatory insects, parasitoids, birds and plants, as both the number of individuals and species increase. This technology can improve soil fertility, overall biodiversity and ecosystem functions, including reducing populations of harmful organisms and weeds. A large number of foreign companies produce seed mixtures for pollinator strips, and their composition depends on the purpose and attractiveness of the selected plant species to the desired groups of insects. Mixtures for biological control are dominated by species from the *Apiaceae* family, while mixtures with species predominantly from the *Fabaceae* family are used for pollination ecosystem services. Currently, there are no packaged seed mixtures for pollinator strips on the Serbian market, and the applicability of foreign mixtures in Serbian crop rotations is questionable, because the agro-ecological, technical-technological and social conditions are significantly different. This opens up a great opportunity for launching research programs for modeling this technology for the needs of agro-ecological conditions in Serbia.

Key words: pollinators, pollinator strips, agrobiodiversity, ecosystem services

Acknowledgement: This work is the result of the project: „EcoStack: Stacking of ecosystem services: mechanisms and interactions for optimal crop protection, pollination enhancement, and productivity (H2020, Grant No. 773554, 2018-2023)”, and the research was supported by the Ministry of Education, Science, Technological Development and Innovation of the Republic of Serbia, Grant no. 451-03-68/2022-14 / 200011, 200003.