ATTRACTIVENESS OF SELECTED PLANT SPECIES FOR WILD BEES: TESTING FOR THE REGIONALLY SUITED FLOWER STRIP MIX FOR SERBIA

Angelovski, Andrijana, Faculty of Biology, University of Belgrade, Belgrade, Serbia,
Raičević, Jovana, Faculty of Biology, University of Belgrade, Belgrade, Serbia,
Bila Dubaić, Jovana, Faculty of Biology, University of Belgrade, Belgrade, Serbia,
Ugrenović, Vladan, Institute of Soil Science, Belgrade, Serbia,
Filipović, Vladimir, Institute of Medicinal Plants Research "Dr Josif Pančić", Belgrade, Serbia,
Ćetković, Aleksandar, Faculty of Biology, University of Belgrade, Belgrade, Serbia,
Plećaš, Milan, Faculty of Biology, University of Belgrade, Belgrade, Serbia

Oilseed rape is important crop in Europe and is used in food production, as a biofuel and as animal feed, and its production in Serbia is steadily increasing. Various studies have shown that oilseed rape yield is dependent on the pollination service, primarily provided by bees. Therefore, it is important to support high diversity of wild bees and other pollinators in agricultural landscapes. In many European countries agri-environmental schemes aim to mitigate negative effects of biodiversity loss by protecting remaining natural habitats or promoting the sowing of wildflower strips. The main concept of flower strips around the crops is to attract pollinators (and other beneficial insects), from where they can spill-over into the crops and provide important ecosystem services. Currently, there are no such agri-environmental schemes in Serbia and the knowledge on the effectiveness of various wildflower species for attracting the pollinators is lacking. Within the framework of EcoStack project, we studied the attractiveness of 24 flowering plant species for wild bees, to estimate their potential for use in flower strips for improved oilseed rape production. We established experimental field at the Institute of Medicinal Plants Research "Dr Josif Pančić" where we planted oilseed rape strip surrounded by flower species planted in separate quadrats, arranged into four randomized transects. During the period May–July 2021, wild bees were sampled three times by timed hand-netting during each plant's flowering phase. We recorded 533 bees within 16 genera, of which 7 genera had about 95% of the cumulative number. The most attractive plant species was *Phacelia tanacetifolia,* regarding the highest number of detected bee genera and the highest bee abundance. Other prospective plant species were *Cynara scolymus, Calendula officinalis, Coriandrum sativum, Pimpinella anisum, Lotus corniculatus, Althaea officinalis* and *Onobrychis viciifolia.* Due to marked phenological differences, relatively few species flowered during the whole study period with the most of the plants in flower during June, and with the majority of bees active in that period. Our results should provide the baseline for further development and design of regionally suited flower mixes for the improved conservation of pollinator diversity in Serbian agricultural landscapes.

Keywords: pollinators, oilseed rape, EcoStack project

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