

Interreg



UNIONE EUROPEA
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BEE-DIVERSITY

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PP5 SUMMER WORK PP5 DELO SKOZI POLETJE

Field work and observations
Delo na terenu in opažanja

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ENGLISH

1. Floristic survey of meadows in pilot areas

In June, July and August, we conducted meadow inventories in the pilot areas. Our pilot areas are in the area of Kranj Orehek-Drulovka, around the beekeeping centre in Lesce, around the Anton Tomaž Linhart school in Radovljica, the Spa Park in Bled and Selo near Bled. In each of the pilot areas, we asked for the participation of two beekeepers in the mutual distance of their apiaries between 1.5 - 2 km air distance. This ensures sample coverage of the pilot area and for more reliable data from the area. In the surroundings of these beehives, we conducted an inventory of meadows and other vegetation. The inventory of meadows was carried out with the help of colleagues from the Botanical Garden in Ljubljana. The inventory was performed using the 3m x 3m quadrant method by examining four such quadrants per meadow, and on the basis of these quadrants, we can determine with certainty the type of meadow and its plant community. We listed 40 plant species on the average meadow, of which 20 were melliferous. We found only 15 species in intensive meadows, of which only 2 were melliferous. Up to 60 species were found in meadows with extensive use and special soil conditions, of which 40 were melliferous. In some meadows, we noticed inappropriate use, fertilization, improper mowing regime and harvesting of crumbs. Such defects indicate baldness in the turf and the presence of weeds and certain grasses. We also inspected the vegetation in the area and made a list of melliferous plants present. Altogether, in all pilot areas,

we found 190 species of melliferous plants.



2. Sampling of honey and pollen

Meadow inventories will be compared to the diversity of pollen sampled in two apiaries per pilot area. So we'll see what bees prefer to choose. Associate the diversity of available food with the general condition of the bee family. And based on pollen analysis, we will compare how much of the biodiversity we capture with the pollen sampling method and how much with inventories. From the pollen analysis of pollen we get the result of biodiversity from the area of radius 3 km around the apiary where we sampled, which means an estimate of biodiversity at about 2800 ha. Based on the assessment of bee health results and biodiversity, we can monitor the state of the environment and more quickly detect progress towards improving biodiversity.

Pollen was sampled from honeycomb cells, where bees deposit their excess. In one cell, several types of pollen are stored in layers, which can be seen next to the colourful profile of the straw plug. Pollen is very important, it is the only source of protein for bees and microelements that are essential for the

development of healthy bees. Pollen is very difficult to replace with artificial additives. When they lack nectar in nature, it can be replaced with a sugar solution, but pollen cannot. If bees lack pollen, their lifespan is reduced, they have poorer resistance. The origin of pollen will be determined by the melissopalynological method. This means preparing slides on slides and microscopic examination. The species is determined by the shape of the pollen grain, for which you must be specially trained. Rarely can microscopy determine the origin of pollen by species, more often by genus, and sometimes only by the type of shape within some of the larger families of plant species, such as baskets and labia. Nevertheless, it is sometimes possible to predict which species represents the source of pollen-based on knowledge of the frequency of the species, the time of flowering, and the attractiveness of the bees observed on the pasture. In pollen, we will be able to determine the presence of certain invasive plants in the environment that threaten our native species. Pollen analysis of honey will reveal to us which plants the bees collected nectar.



We sampled three times in each apiary. From 30 cells of pollen and 50 g of honey per family. A total of 101 samples of

pollen and 101 samples of honey were collected for analysis.

3. Weather in the period March - July (monthly bulletin of the Environmental Agency of the Republic of Slovenia - Year 2021)



March was an average warm and very dry month. Despite the cooling in the second half of the month, the phenological development of the plants still outpaced. Dandelion bloomed in some parts of the central part of the country in the last decade of March, which is 14 days earlier than the long-term average. At the end of March, cherries and peaches also bloomed in the mainland of Slovenia, and black thorns also bloomed and in some places. All these are indicators of the beginning of real spring. Spring wheat was already sown in the fields, as the soil temperature allowed it.

April was a cold and averagely wet month. The intrusion of polar air in the first decade of the month brought negative temperature records in some areas of Slovenia and with them frost. For April, a very rare combination of snow cover and a clear, calm and very

cold atmosphere caused damage to fruit trees, which were in delicate developmental stages at the time, from initial bud tension to general flowering. The long-term persistence of low temperatures also contributed greatly to the intensity of the frost. 6.4.2021 it snowed to the lowlands, followed by a cold tomorrow with frost. April was significantly colder than normal. The frost severely affected the buds and flowers of the fruit trees.

This year's April frost was characterized by extremely low air temperatures. In many places, the coldest April morning of the last 70 years was recorded, helped by a fresh blanket of snow, a clear and calm night, and an influx of dry and cold air masses. A key factor for the extent of damage after this year's frost is also the earlier phenological development compared to the usual average development, which is estimated on the basis of long-term data sets of phenological monitoring.

May was a cold and above average wet month. The amount of rain was above average throughout Slovenia. Due to the cold conditions, plant development was relatively slow. The flowering period of fruit trees was extended, and the development of winter cereals lagged behind the long-term average by about 10 days. Unstable weather and wet soil made dry work and mechanization impossible for most of the month. Corn was sown in some places only at the end of the month, or because of the damp soil at the end of May, it had not been sown at all. Late sowing poses a higher risk of drought, as crops will be in the most sensitive stages of development at a time when high temperatures and lack of soil water usually begin to occur. Due to frequent rainfall, the first mowing, which is of the best quality and is most

often used for ensiling, was also delayed. In addition, the grass has fallen in some places due to heavy rainfall. Only the bravest managed to make the first mowing at the short-lived windows of dry weather.

June was an extremely dry and very warm month. In the second half of June, Slovenia was hit by a heat wave. There was extremely little rainfall. The high June temperatures caused heat stress to plants and animals. The heat load was slightly lower only on pastures in hilly areas. Signs and consequences of heat stress at this stage are: increased respiration rate, decreased milk production, increased salivation and sweating. Milk production is reduced due to reduced consumption and less energy available for milk production, which the animals use for cooling. Due to the lack of water in the soil, the need for irrigation increased. Drought stress was most burdensome for crops and vegetables.

July was an above-average warm and usually wet month. Air temperatures have risen above 30 ° C more than 10 times in most parts of the country. The amount of rain was normal for most of the country for July. High temperatures and lack of water have had a strong impact on crops, especially on light and shallow soils that are not irrigated. Local showers and storms refreshed the plants and the upper layer of the soil, but due to high temperatures and frequent winds, evaporation was also intense, which caused the plants to find themselves in heat and dry stress. Hay yields are also worse. The first mowing was disrupted due to bad weather, followed by heat, which hindered normal growth and in some places caused burnt meadows. As a result, the amount of crop will be lower,

and the harvested fodder will also be of poorer quality. Drought conditions and high temperatures also caused forced ripening of wheat, which negatively affected the quantity and quality of the crop, while no major damage was detected on barley. To increase the ability to retain water and nutrients in the soil, it is necessary to enrich the soil with organic matter. After the harvest, it is, therefore, advisable to sow the areas with stubble crops, which use the root system to improve the structure and microbiological activity of the soil, and legumes further enrich the soil with nitrogen. Permanent coverage of the soil with a plant blanket also prevents the negative effects of rain, sun and wind on the soil structure, reduces nutrient leaching and inhibits the development and spread of weeds.

4. Beekeeping season - what it was like



The beekeeping season was pretty bad. In the spring it showed good, warm, good development of bee colonies. We had nice weather in March. At the end of March, the whole of Slovenia was hit by frost. It froze most of the action and the flowers of fruit trees and other herbs. In April and May, the weather deteriorated and made the situation even more difficult after the frost. There were few flying days for the bees to go to that flowers. Everything was washed and soaked, cold. We had to feed the bees abundantly. In early June, the weather warmed up a bit and the rain ended. By this time we had lost flower flow, flow on fruit trees, acacia, and flow on spruce. This year, the flowering of linden and chestnut was postponed for 14 days later than usual. Fortunately, there were no consequences of frost on these two species. Those who had the bees well prepared collected up to 10 kg or more of honey per hive. Heat waves began in late June and early July. Temperatures were above 35 degrees. In between 14 days there was some rain, which drove the meadow flowers into growth and flowering. We had nice and hot weather in July. The flow was where the forest was. Towards the end of July, walking began to meditate in various parts. In certain locations, bees were able to accumulate up to 10 kg of honeydew. In our pilot area, Jelovica proved to be a good area for bee grazing. Lots of undergrowth, clearings in the forest, lots of raspberries, blackberries, honeydew walking and spruce. August would also be sunny hot, but also dry. Drought was obvious in late August. In August begin buckwheat bloomed in the fields. Autumn undergrowth bloomed in nature and again some meadow plants: *Knautia arvensis*, *Scabiosa columbaria*,

Centaurea jacea, *Salvia pratensis*,
Trifolium pratensis.

5. Events

From 27.9.2021 to 30.9.2021, the EU Pollinator week took place online, where various challenges and projects on the topic of pollinator protection and habitat creation for their conservation were presented:

<https://www.youtube.com/watch?v=hh1z4MjMuq4>.



We are preparing an exhibition on the topic of meadows and their inhabitants. Photographs of pollinators and honey meadow plants, different types of meadows and their characteristics, photographs showing the contrast between species-rich and poor meadows, and photographs of farm work on meadows as they used to be, will be presented. The exhibition will first be presented at the Department of Biology, Biotechnical Faculty, University of Ljubljana.

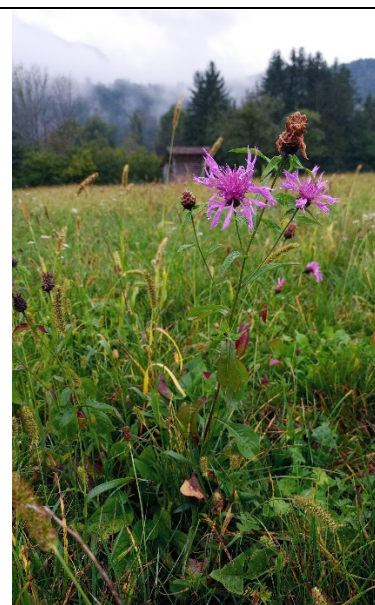


Data / Datum: 8/10/2021

6. What blooms now - October

The beautiful warm autumn gives in the meadows and forest, the last flowers that are still blooming. On agricultural land, we can see the flowering of a late crop of buckwheat, sunflowers or white mustard. These plants offer bees a lot of pollen, which is crucial for the development of a fatty body in winter bees, which allows bees to survive the winter with little food consumption. The plants that are still found to bloom in nature are:

Centaurea jacea



<i>Leontodon hispidus</i>	
<i>Echium vulgare</i>	

<i>Carduus nutans</i>	
<i>Polygala vulgaris</i>	

<i>Mentha spicata</i>	
<i>Centaurea scabiosa</i>	

<i>Scabiosa columbaria</i>	
<i>Prunella grandiflora/ vulgaris</i>	
<i>Leontodon autumnalis</i>	

<i>Impatiens glandulifera</i>	
<i>Solidago canadensis</i>	
<i>Calamintha nepeta</i>	

<i>Trifolium repens</i>	
<i>Colchicum autumnale</i>	
<i>Trifolium pratense</i>	

<i>Cichorium intybus</i>	
<i>Origanum vulgare</i>	
Jesenska vresa - <i>Calluna vulgaris</i>	

Data / Datum: 8/10/2021

<i>Hedera helix</i>	
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SLOVENSKO

1. Izvedba popisa travnikov na pilotnih območjih

V juniju, juliju in avgustu smo izvajali popise travnikov na pilotnih območjih. Naša pilotna območja so na območju Kranj Orehek-Drulovka, okoli čebelarskega centra v Lescah, okoli šole Antona Tomaža Linhart v Radovljici, Zdraviliškem parku na Bledu in Selu pri Bledu. Na vsakemu do pilotnih območij smo prosili za sodelovanje dva čebelarja v medsebojni oddaljenosti njunih čebelnjakov med 1,5 - 2 km zračne razdalje. Tako zagotovimo vzorčno pokritost pilotnega območja in za bolj zanesljive podatke z območja. V okolici teh čebelnjakov smo izvedli popis travnikov in ostalega rastlinstva. Popis travnikov smo izvedli s pomočjo sodelavcev iz Botaničnega vrta v Ljubljani. Popis smo izvedli z metodo kvadrantov v velikosti 3m x 3m s pregledom štirih takih kvadrantov na travnik in na podlagi teh kvadrantov lahko z gotovostjo določimo tip travnika in njegovo rastlinsko združbo. Na povprečen travnik smo našli 40 rastlinskih vrst, od tega 20 medovitih. Na intenzivnih travnikih smo našli le 15 vrst, od tega le 2 medoviti. Na travnikih z ekstenzivno rabo in posebnimi talnimi razmerami smo našli do 60 vrst od tega je bilo 40 medovitih. Na nekaterih travnikih smo opazili neprimerno rabo, prenojeno, nepravilen režim košnje in spravila mrve. Take napake pokažejo preslege v travni ruši in prisotnost plevelov in določenih trav. Pregledali smo tudi rastje v okolici iz naredili seznam prisotnih medovitih rastlin. Vse skupaj, na vseh pilotnih območjih, smo našli 190 vrst medovitih rastlin.



2. Vzorčenje medu in cvetnega prahu

Popise s travniki bomo primerjali s pestrostjo cvetnega prahu vzorčenega v dveh čebelnjakih na vsako pilotno območje. Tako bomo videli kaj čebele raje izbirajo. Povezali pestrost razpoložljive hrane s splošnim stanjem čebelje družine. In na podlagi analize cvetnega prahu bomo primerjali kolikšen del biotske raznovrstnosti zajamemo z metodo vzorčenja cvetnega prahu in kolikšno s popisi. Iz pelodne analize cvetnega prahu dobimo rezultat o biotski raznovrstnosti z območja radija 3 km okoli čebelnjaka kjer smo vzorčili, kar pomeni ocena biodiverzitete na približno 2800 ha. Na podlagi ocene rezultatov zdravja čebel in biotske pestrosti lahko spremljamo stanje okolja in hitreje zaznamo napredek k izboljšanju biotske raznovrstnosti.

Cvetni prah smo vzorčili iz satnih celic, kamor čebele odlagajo višek. V eni celici je v slojih spravljenega več vrst cvetnega prahu, kar lahko vidimo ob pisanem profilu čepka iz slamice. Cvetni prah je za zelo pomemben, je edini vir beljakovin za čebele in mikro elementov, ki so nujni za razvoj zdravih čebel. Cvetni prah zelo težko nadomeščamo z umetnimi dodatki. Ko

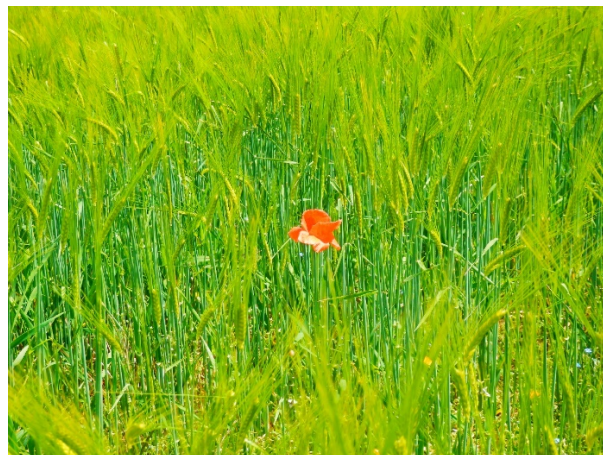
jim primanjkuje nektarja v naravi, ga lahko nadomeščamo s sladkorno raztopino, cvetnega prahu pa ne moremo. Če čebelam primanjkuje cvetnega prahu se jim zmanjša življenjska doba, imajo slabšo odpornost. Izvor cvetnega prahu bomo določevali s melisopalinološko metodo. To pomeni pripravo preparatov na objektno stekelce in mikroskopski pregled. Vrsto se določi po obliki pelodnega zrna, za kar pa moraš biti posebej usposobljen. Redko lahko z mikroskopiranjem določimo izvor peloda do vrste, pogosteje do rodu, včasih pa le do tipa oblike znotraj nekaterih številčnejših družin rastlinskih vrst kot so na primer košarnice in ustnatice. Kljub temu je včasih mogoče predvidevati katera vrsta predstavlja izvor cvetnega prahu na podlagi poznavanja pogostosti vrst, časa cvetenj in privlačnosti čebel opažene na paši. V pelodu bomo lahko določili kolikšna je prisotnost nekaterih invazivnih rastlin v okolju, ki ogrožajo naše avtohtone vrste. Pelodna analiza medu bo nam razkril na katerih rastlinah so čebele nabirale medicino.



Vzorčili smo trikrat v vsakem čebelnjaku. Iz 30 celic cvetni prah in 50 g medu na družino. Vse skupaj smo

zbrali za v analizo 101 vzorcev cvetnega prahu in 101 vzorcev medu.

3. Vreme v obdobju marec - julij (mesečni bilten Agencije RS za okolje - Letnik 2021)



Marec je bil povprečno topel in zelo suh mesec. Kljub ohladitvi v drugi polovici meseca je fenološki razvoj rastlin še vedno prehitel. Regrat je ponekod v osrednjem delu države zacvetel v zadnji dekadi marca, kar je 14 dni prej od dolgoletnega povprečja. Ob koncu meseca marca so tudi v celinskem delu Slovenije zacvetele češnje in breskve, zacvetel in ponekod tudi olital je tudi črni trn. Vse to so znanilci začetka prave pomladi. Na poljih so že posejali jara žita, saj je temperatura tal to omogočala.

April je bil hladen in povprečno namočen mesec. Vdor polarnega zraka v prvi dekadi meseca je na nekaterih območjih Slovenije prinesel negativne temperaturne rekorde ter z njimi tudi pozebo. Za april zelo redka kombinacija snežne odeje in jasnega, mirnega in zelo hladnega ozračja je povzročila škodo na sadnem drevju, ki je bilo v tem času v občutljivih razvojnih fazah, od začetnega napenjanja brstov do splošnega cvetenja. K intenzivnosti

pozebe je v veliki meri prispevala tudi dolgotrajnost vztrajanja nizkih temperatur. 6.4. je snežilo do nižin, sledili sta mrzli jutri s pozebo. April je bil občutno hladnejši kot normalno. Pozeba je močno prizadela brste in cvetove sadnega drevja. Značilnost letošnje aprilske pozebe so bile izredno nizke temperature zraka. Marsikje so zabeležili najhladnejše aprilsko jutro zadnjih 70 let, čemur je pripomogla sveža snežna odeja, jasna in mirna noč ter dotok suhih in mrzlih zračnih mas. Ključni dejavnik za obsežnost škode po letošnji pozebi je tudi zgodnejši fenološki razvoj v primerjavi z običajnim povprečnim razvojem, ki je ocenjen na podlagi dolgoletnih nizov podatkov fenološkega monitoringa.

Maj je bil hladen in ter nadpovprečno namočen mesec. Količina padavin je bila povsod po Sloveniji nadpovprečna. Zaradi hladnih razmer je razvoj rastlin potekal razmeroma počasi. Obdobje cvetenje sadnega drevja se je podaljšalo, razvoj ozimnih žit pa je glede na dolgoletno povprečje zaostajal za okoli 10 dni. Nestanovitno vreme ter mokra tla so večji del meseca onemogočala suha opravila ter delo z mehanizacijo. Koruza je bila tako ponekod posejana komaj konec meseca ali pa zaradi prevlažnih tal ob koncu maja sploh še ni bila posejana. Pozna setev pomeni večje tveganje za sušo, saj bodo posevki v času, ko se običajno začnejo pojavljati visoke temperature in pomanjkanje vode v tleh, v najbolj občutljivih fazah razvoja. Zaradi pogostih padavin je bila zamaknjena tudi prva košnja, ki je najboljše kakovosti in se jo najpogosteje nameni za siliranje. Poleg tega je trava zaradi obilice padavin ponekod poglela. Le najbolj pogumni so ob kratkotrajnih oknih

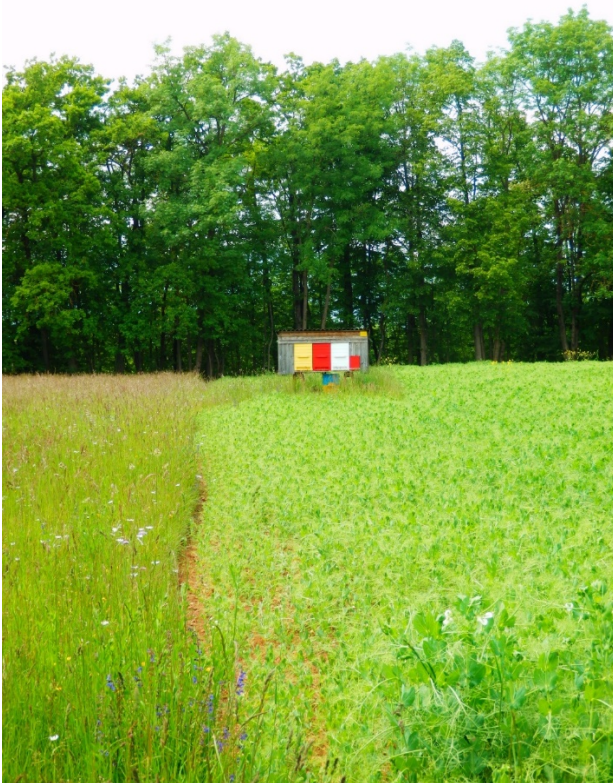
suhega vremena uspeli opraviti prvi travni odkos.

Junij je bil izjemno suh in zelo topel mesec. V drugi polovici junija je Slovenijo zajel vročinski val. Padavin je bilo izjemno malo. Visoke junijske temperature so povzročale vročinski stres rastlinam in živalim. Nekoliko manjša je bila toplotna obremenitev le na pašnikih v hribovitih predelih. Znaki in posledice vročinskega stresa pri tej stopnji so: povečana frekvenca dihanja, zmanjšana prireja mleka, povečano slinjenje in znojenje. Prireja mleka se zmanjša zaradi zmanjšane konzumacije in manj razpoložljive energije za prirejo mleka, ki jo živali porabljajo za hlajenje. Zaradi pomanjkanja vode v tleh so se povečale potrebe po namakanju oziroma zalivanju. Sušni stres je bil najbolj obremenilen za kmetijske posevke in zelenjadnice.

Julij je bil nadpovprečno topel in običajno namočen mesec. Temperature zraka so se v večjem delu države več kot 10-krat povzpele nad 30 °C. Količina padavin je bila po večjem delu države za julij običajna. Visoke temperature in pomanjkanje vode so močno vplivale na kmetijske rastline, predvsem na lahkah in plitvih tleh, ki niso namakana. Lokalne plove in nevihte so sicer nekoliko osvežile rastline in zgornjo plast zemlje, vendar je bilo zaradi visokih temperatur in pogostega vetra intenzivno tudi izhlapevanje, zaradi česar so se rastline znašle v vročinskem in sušnem stresu. Slabši je tudi pridelek sena. Prva košnja je bila motena zaradi slabega vremena, sledila je vročina, ki je ovirala normalno rast ter ponekod povzročila ožgane travnike. Količina pridelka bo zaradi tega manjša, pospravljena krma pa bo tudi slabše kakovosti. Sušne razmere in visoke temperature so povzročile tudi prisilno dozorevanje pšenice, kar je

negativno vplivalo na količino in kvaliteto pridelka, medtem ko na ječmenu ni zaznati večjih škod. Za povečanje sposobnosti zadrževanja vode in hranil v tleh je potrebno tla obogatiti z organsko maso. Po končani žetvi je zato priporočljivo površine zasejati s strnišnimi dosevkami, ki s koreninskim sistemom izboljšujejo strukturo in mikrobiološko aktivnost tal, metuljnice pa še dodatno bogatijo tla z dušikom. Stalna pokritost tal z rastlinsko odejo prav tako preprečuje negativne vplive dežja, sonca in vetra na strukturo tal, zmanjšuje izpiranje hranil ter zavira razvoj in širjenje plevela.

4. Čebelarska sezona - kakšna je bila



Čebelarska sezona je bila dokaj slaba. Spomladi je kazalo dobro, toplo, dober razvoj čebeljih družin. Marca smo imeli

lepo vreme. Konec marca je celotno Slovenijo prizadela pozeba. Pozebla je večina akcije in cvetov sadnega drevja in ostalih zeli. Aprila in maja se je vreme skazilo in še otežilo razmere po pozebi. Malo je bilo izletnih, dni da bi čebele lahko šle na tisto pašo. Vse je bilo sprano in razmočeno, hladno. Čebele smo morali izdatno krmiti. V začetku junija se je vreme nekoliko ogrelo in deževje se je končalo. Do tega časa smo izgubili cvetlično pašo, pašo na sadnem drevju, akacijo in pašo na smreki. Letos je cvetenje lipe in kostanja se zamaknilo za 14 dni pozneje kot po navadi. K sreči ni bilo posledic pozebe na teh dveh vrstah. Kdor je imel čebele dobro pripravljene so mu nabrale do 10 kg medu na panj. V koncu junija in začetku julija so se začeli vročinski valovi. Temperature so bile nad 35 stopinj. Vmes na 14 dni je bilo nekaj dežja, kar je pognalo travniške cvetlice v rast in cvetenje. Julija smo imeli lepo in vroče vreme. Paša je bila tam, kjer je bil gozd. Proti koncu julija je v različnih delih začela mediti hoja. Na določenih lokacijah so lahko čebele nabrale do 10 kg mane. Na našem pilotnem območju se je Jelovica izkazala za dobro območje paše čebel. Veliko podrasti, presvetline v gozdu, veliko malin, robid, medenje hoje in smreke. Avgust je bil tudi sončen vroč, a tudi suh. Na koncu avgusta se je poznala suša. Na poljih je zacvetela ajda. V naravi so zacveteli jesenski podleski in ponovno nekatere travniške rastline: njivsko grabljišče, grintavec, glavinec, kadulja še posebej pa rdeča detelja.

5. Dogodki

Od 27.9.2021 do 30.9.2021 se je na spletu odvil EU Pollinator week, kjer so bili predstavljeni različni izzivi in projekti na temo zaščite opraševalcev in ustvarjanju habitatov za njihovo ohranjanje:

<https://www.youtube.com/watch?v=hh1z4MjMuq4>.



Pripravljamo razstavo na temo travnikov in njihovih prebivalcev. Predstavljene bodo fotografije opraševalcev in medovitih travniških rastlin, različnih tipov travnikov in njihovih značilnic, fotografij na katerih je zajet kontrast med vrstno pestrim in revnim travnikom ter fotografij kmečkih opravil na travnikih kakor so potekale včasih. Razstava bo najprej predstavljena na Oddelku za biologijo, Biotehniške fakultete, Univerze v Ljubljani.



6. Kaj cveti zdaj - oktober

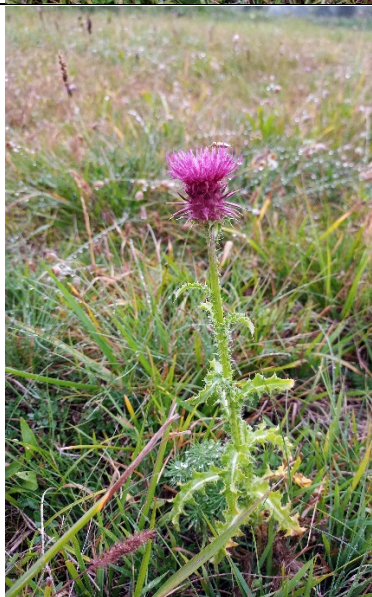
Glede na lepo toplo jesen na travnikih in gozdu še vedno odcvetajo zadnje cvetice. Na kmetijskih površinah pa lahko vidimo cvetenje še kakšnega posevka ajde, sončnic ali bele gorjušice. Te rastline čebelarom ponudijo veliko cvetnega prahu, ki je ključen za razvoj maščobnega telesca v zimskih čebelah, ki čebelarom omogoča preživeti zimo ob pičli porabi hrane. Rastline, ki jih zdaj še najdemo cveteti v naravi pa so:

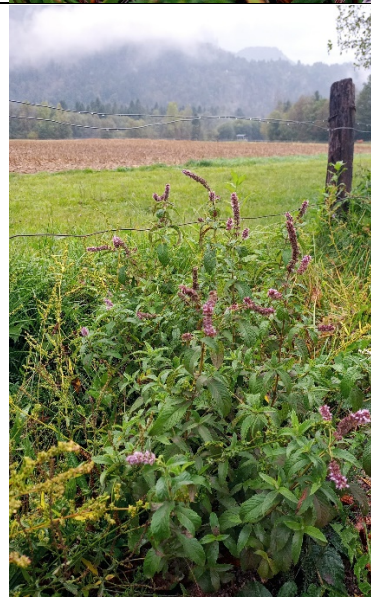
Navadni glavinec -
Centaurea jacea

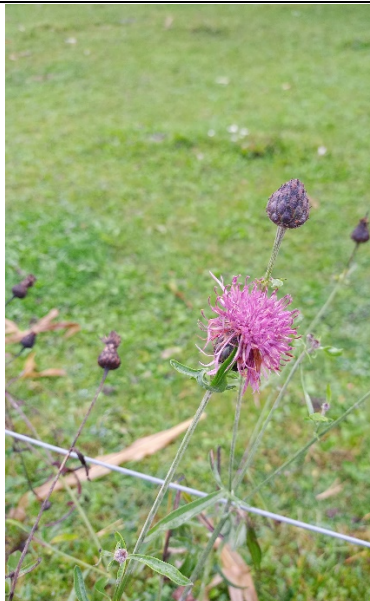


Navadni otavčič -
Leontodon hispidus



Navadni gadovec - <i>Echium vulgare</i>	
Kimasti bodak - <i>Carduus nutans</i>	

Navadna grebenuša - <i>Polygala vulgaris</i>	
Meta - <i>Mentha spicata</i>	

Poljski glavinec - <i>Centaurea scabiosa</i>	
Navadni grintavec - <i>Scabiosa columbaria</i>	
Velecvetna/ navadna črnoglavka - <i>Prunella grandiflora/ vulgaris</i>	

Jesenski otavčič - <i>Leontodon autumnalis</i>	
Žlezava nedotika - <i>Impatiens glandulifera</i>	
Kanadska zlata rozga - <i>Solidago canadensis</i>	



Mačji čober - <i>Calamintha nepeta</i>	
Plazeča detelja - <i>Trifolium repens</i>	

Jesenski podlesek - <i>Colchicum autumnale</i>	
Črna detelja - <i>Trifolium pratense</i>	
Navadni potrošnik - <i>Cichorium intybus</i>	

Navadna dobra misel - <i>Origanum vulgare</i>	
Jesenska vresa - <i>Calluna vulgaris</i>	

Bršljan - <i>Hedera helix</i>	
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