

The value of some new melliferous species as a bee forage plants in Poland

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The experiments were established on podsolic soil in Collection of Honey Plants. During the 3 years of study, biology of blooming and foraging flowers by insects were observed. Moreover, abundance of blooming and abundance of nectar secretion by flowers were measured. On the base of measurements the sugars efficiency (output) of particular species per acreage unit were estimated, what is the main attribute of beekeeping value of plant.



Ligularia dentata



Caryopteris incana



Centaurea macrocephala



Investigated feature	<i>Centaurea macrocephala</i> (perennial)	<i>Ligularia dentata</i> (perennial)	<i>Caryopteris incana</i> (shrub)
Start of blooming period	18 June	27 July	3 September
The end of blooming period	6 July	20 September	11 October
Length of blooming period in days	18	55	38
Number of plants per 1 m ²	4	3	0.7
Number of flowering sprouts per 1 m ²	34	45	47
Number of inflorescences per 1 m ²	53	540	380
Number of flowers per inflorescence	274	68	66
Number of flowers per 1 m ²	14 804	36 968	25 068
Nectar weight per 10 flowers in mg	30.88	11.90	15.11
Nectar concentration in %	43.42	33.30	28.62
Sugars weight per 10 flowers in mg	12.84	3.62	4.20
Sugars output in kg per 1 ha	184	136	106



The all of presented species: *Centaurea macrocephala* Puschk. ex Willd., *Ligularia dentata* (A. Gray) H. Hara. and *Caryopteris incana* (Thunb. ex Houtt.) Miq., proved promising as a propositions for improving of forage flow for bees. The blooming period of the last two species lasted from August to half of September and from September to half of October, respectively, when the shortage of forage flow for bees in Poland is observed.

