



Beekeepers citizen science part of BetterB

 **Better-B**

beeplants.eu

 **Better-B**

BetterB is an EU study on resilience of honey bees

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Beekeepers citizen science part of BetterB

- **SHARING FOOD BY POLLINATING INSECTS OF THE SAME PLANTS IN 17 EU COUNTRIES**
- **How:** *Consecutive observations of the same bee plant at the same location*
 - flowering period; one glance observations of pollinating insects
- **What:** *Citizen Science study of foraging by pollinating insects during the day*
 - Observations at different times; different weather conditions; same location
- **Why:** *It is a baseline measurement; data are applied used to feed the ALMaSS model; data contribution to Better-B resilience studies*
- **Data:** *For the citizen scientist:*
 - Building their own beeplant catalogue; contribution to pollinating insects science; weekly update and annual overview.



Hoover fly: *Eristalis pertinax*
Hoover fly *Eristalis nemorum*
Bumblebee *Bombus pascuorum*



Hoover fly: *Eristalis pertinax*



Honey bee *Apis mellifera*



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Better-B

The Citizen scientist

Monthly (online)
AskMeAnything (AMA)
meetings



Better-B newsletter

Tweede nummer – Oktober 2024

Harmonie en evenwicht tussen bestuivers en hun omgeving bieden een solide basis voor een vruchtbare bijenhouding. Een aspect dat Better-B onderzoekt is de beschikbaarheid van bloemen (stuifmeel en nectar) voor bijen en andere bestuivers. We verzamelen gegevens over bloeiende planten en het bezoeken van insecten als onderdeel van de Better-B studie naar het delen van veldruimte, uitgaand in samenwerking met de Duitse Bijenhoudersvereniging. Dit is een burgerwetenschap studie waarbij waarnemingen worden doorgegeven via het web portal beeplants.eu.

Better-B

January 2025

Report beeplants.eu 2024



Current numbers CS ; 424 in Finland, Estonia, Latvia, Norway, Sweden, Denmark, Ireland, Netherlands, Belgium, France, Spain, Portugal, Italy, Greece, Cyprus, Poland, Germany, and Switzerland

+



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 **Better-B**

The APP



www.beeplants.eu

Dansk

English ✓

Español

Français

Italiano

Latviešu

Nederlands

Norsk

Polski

Português

Svenska

Catalogue of Plants



Browse the collection of important plants for honey bees.

Plants By Blooming Start

Plants Alphabetical



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The beeplants.eu app. Opening screen

Register



User Account

With your user account you can send blooming reports and help map our bee plants.

You are logged in as [alveusab@outlook.com](#)

User Profile

About

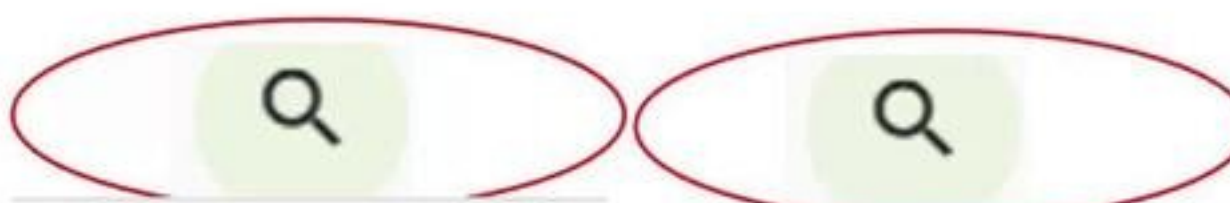
Read more about this project.

About

Help / How-To

± 2024 Beeplants.eu Report


**Info about the project
and protocol**



Plant Reporting

-  **Blackberry**
● *Rubus fruticosus*
-  **Willowherb**
★ *Epilobium* spp.
-  **White dead-nettle**
★ *Lamium album*
-  **Fireweed**
★ *Chamerion angustifolium*
-  **Raspberry**
● *Rubus idaeus*

Plant Reporting

Help us build up an improved database of beeplants with occurrence and blooming times.

Plant Reporting Your Reports

Meadowsweet

 One recent report for Meadowsweet was made at Jun 5, 2025. Overall we have 2 reports. Help us get more ! ▶

>


Info of plants


Your report


The plant catalogue

Catalogue of Plants



Browse the collection of important plants for honey bees.

Plants By Blooming Start

Plants Alphabetical



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Plant Reporting



Blackberry

● *Rubus fruticosus*



Willowherb

* *Epilobium* spp.



White dead-nettle

* *Lamium album*



Fireweed

* *Chamerion angustifolium*



Raspberry

● *Rubus idaeus*

1. FIND PLANTS BY ITS COMMON OR SCIENTIFIC NAME

Make it easy for yourself

- Plants in your garden or observed during the lunch- or daily walk;
- It is about diversity of pollinating insects;
- Preferably minimal 2 times a week observations of the same plants at the same location during minimally 2 weeks.



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**2. START RECORDING BY CLICKING
ON THE EYE**

13:12   

 < Lime  

 **Lime**
Tilia spp.


(Ole Kilpinen)

Blooming


1 2 3 4 5 6 7 8 9 10 11 12
1.July - 31.July

Reported Blooming Data


1 2 3 4 5 6 7 8 9 10 11 12

 **Report a Sighting**
Blooming status and insect counts



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 **Blackberry** 
Rubus fruticosus



Location
51.5764,5.1878

Blooming Status

☐ Early B... ☐ Bloom... ☐ Late B...

Insects



Don't Report
Insects



Honeybees
0



Wild Bees
0



Bumblebees
0



Hoverflies
0



Other Insects
0

 Cancel

 Send Report!

3. MARK FLOWERING STAGE
<10% = early and late

4. FILL IN THE NUMBERS OF INSECTS
YOU OBSERVE IN ONE GLANCE

0 is default and is replaced by a
number of observed insects

5. CLICK ON SEND
REPORT. **DONE**

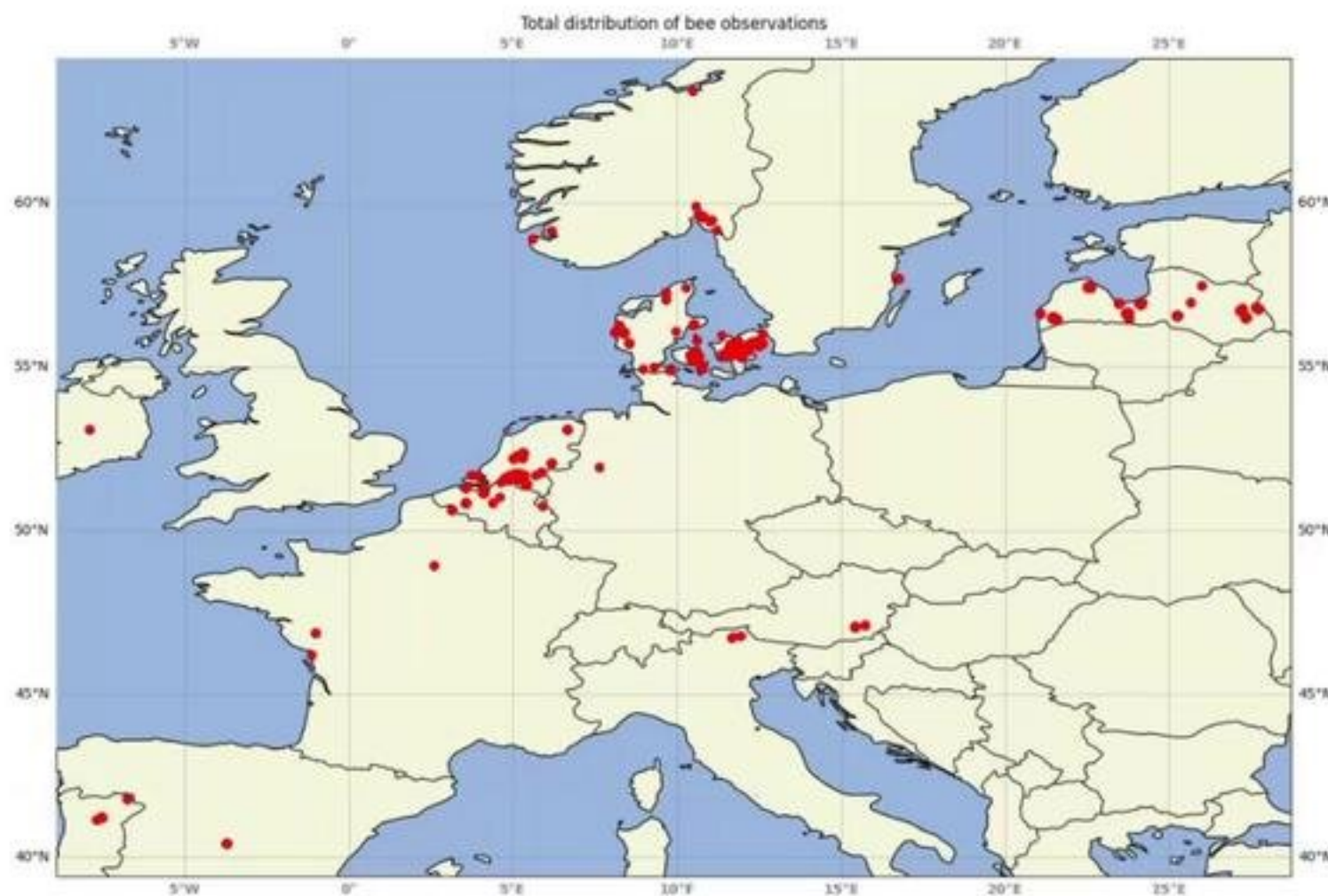


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Better-B

resultS 2024

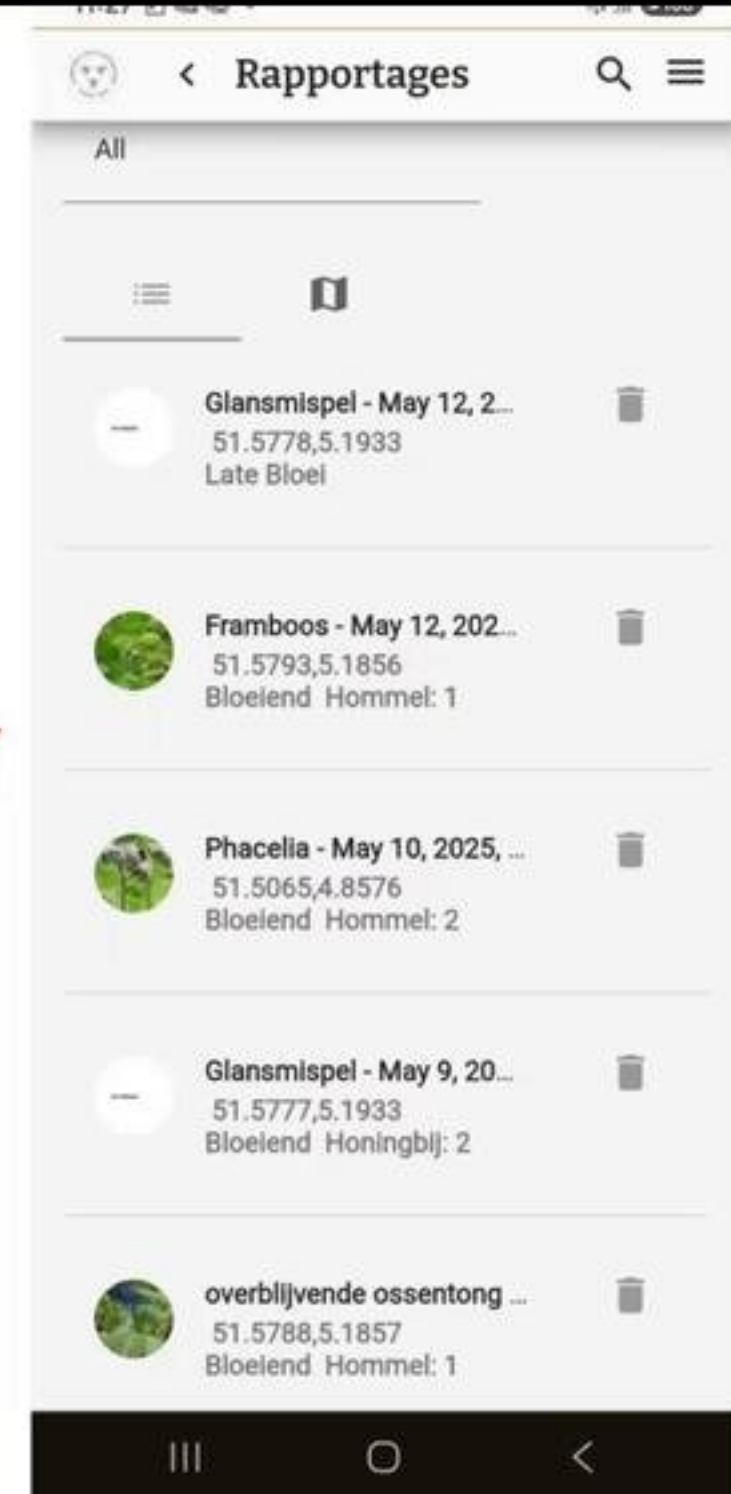
Observation locations 2024





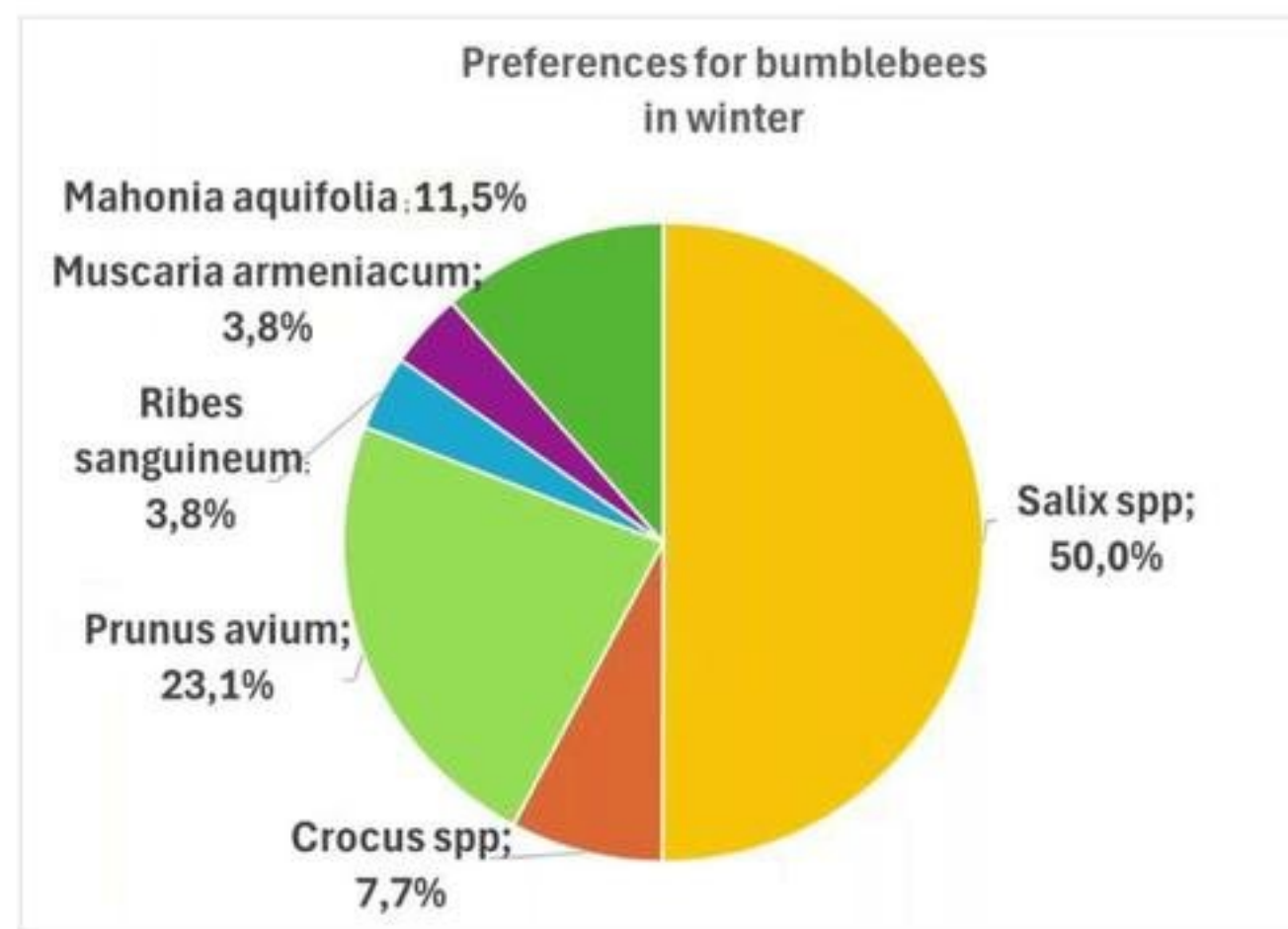
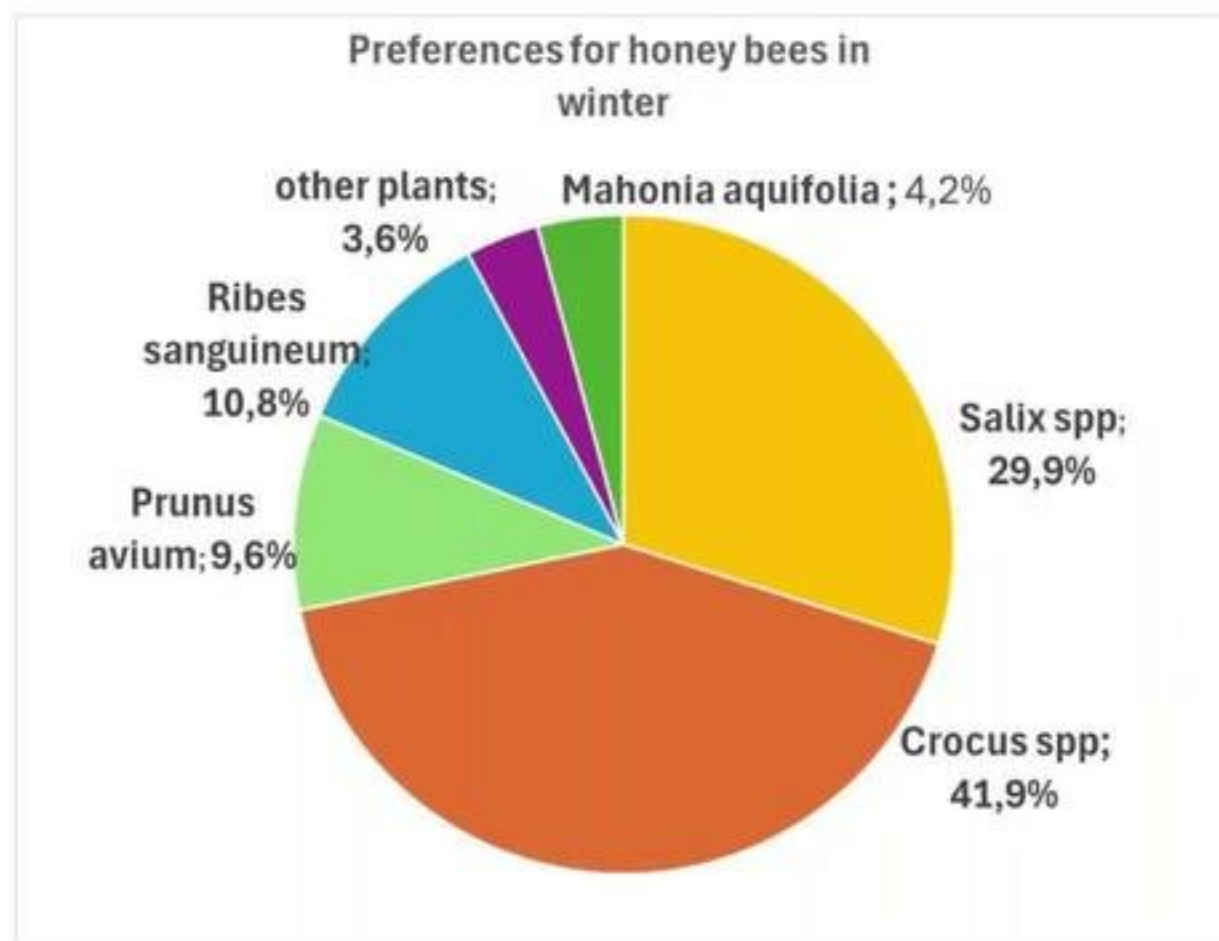
Beekeepers citizen science part of BetterB

- Citizen science data: J. van der Steen
- Plant reports





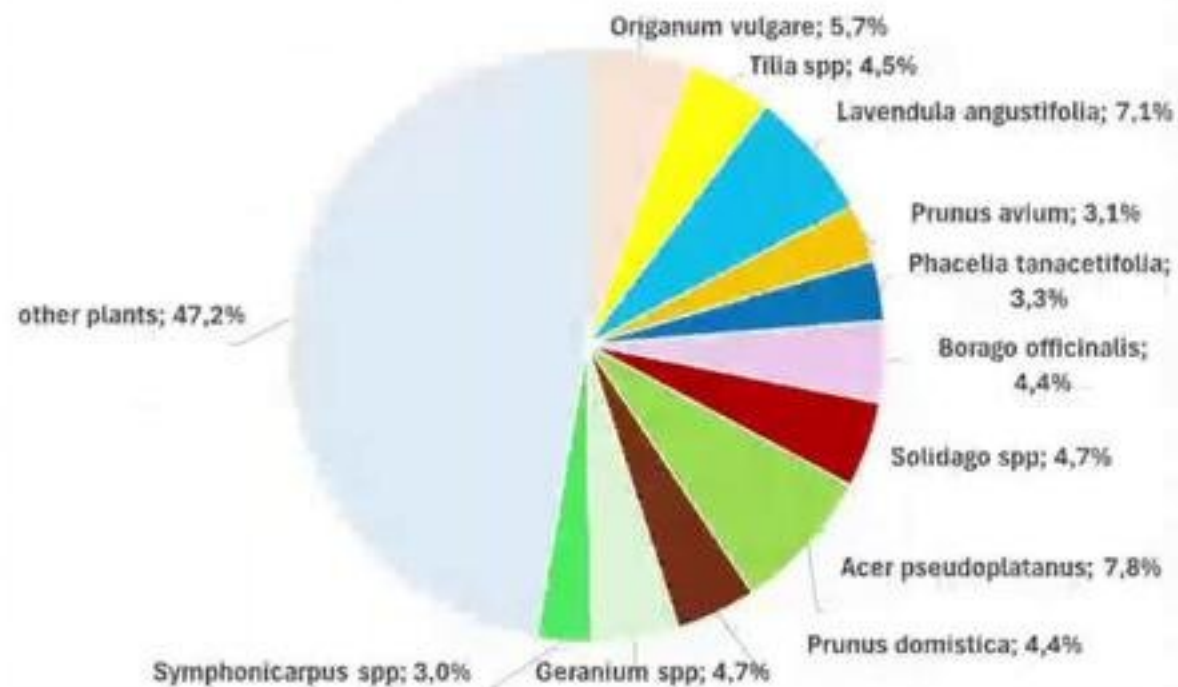
Preference by astronomic season. Winter (21 december – 20 maart)



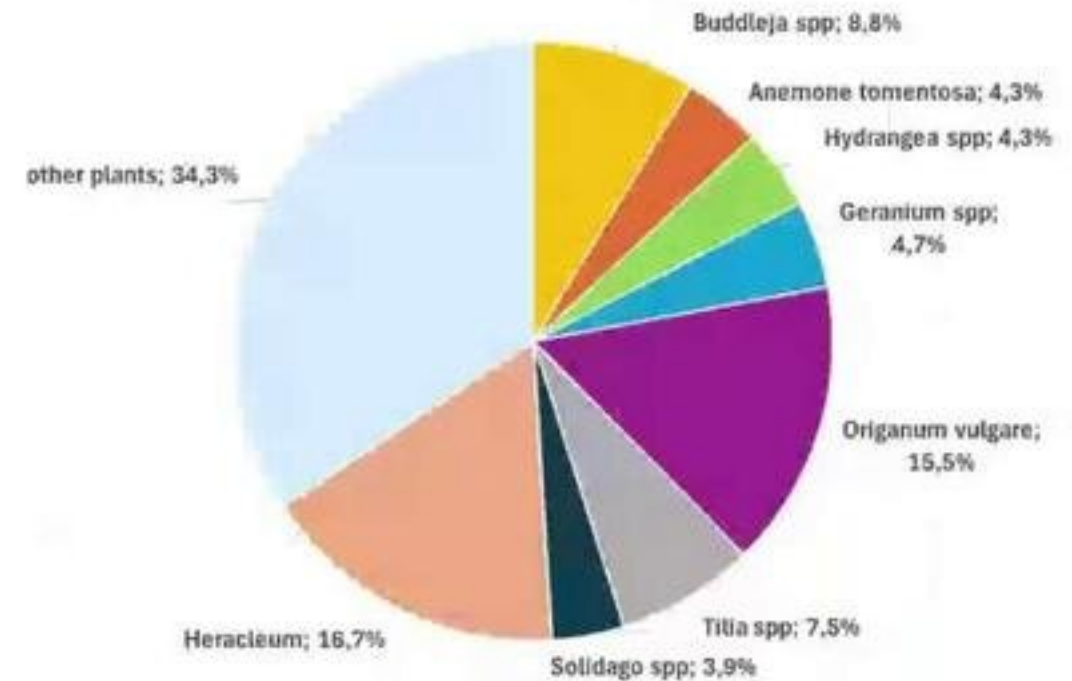


Plant preference by pollinating insect (complete 2024 data set)

Plant preferences for honey bees



Plant preferences for hoverflies





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Interpretation

- Multiple pollinating insects simultaneously on plant
- Before and afternoon
- Temperature
- Location
- Flight range



Honey bee
bumblebee

 Solitary bee 150 meter = 0,15 kilometer

Hoverfly does not have a central
hive / nest





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Data analyses

The Bray Curtis Dissimilarity Index (BC index) statistical test to demonstrate the degree of dissimilarity in time and location

BC index = 1 = 100% dissimilar

BC = 0 = similar = equal numbers of honey bees, bumblebees etc. on the same plant at different recordings.



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Average percentage of pollinating insects on *Geranium* spp
Copenhagen area

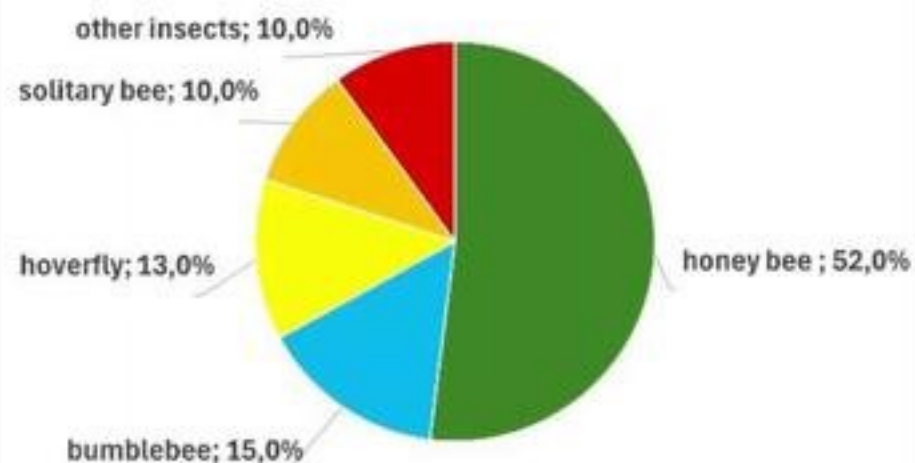


Table 5. Geranium spp average, SD and number observations in the Copenhagen area

Pollinating insect	Honey bees	bumble bees	Hoverflies	other insects	solitary bees
Average	1,2	0,4	0,3	0.2	0,2
Standard deviation	2,3	0.9	0.6	0.8	0,6
Number observations	120	121	121	118	120

Table 6. Geranium spp BC indices of weekly averages

Week number	Bray Curtis index
21 - 22	0.253
22 - 23	0.378
23 - 24	0.205

Average percentage of pollinating insects on *Geranium* spp 2024
Oisterwijk area

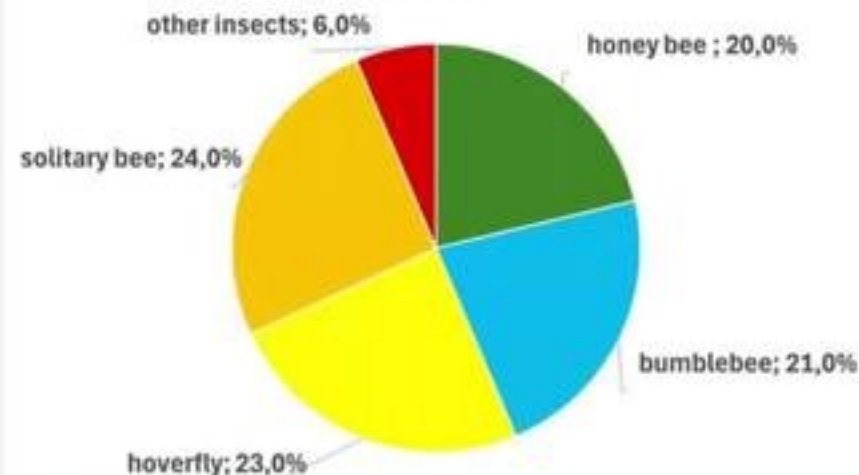


Table 26. Geranium spp , average, SD and number observations in the Oisterwijk NL area

Pollinating insect	honey bees	bumble bees	hoverflies	other insects	solitary bees
Average	1,7	1,4	1,5	0,4	1,6
Standard deviation	1,1	1,0	1,0	0,5	1,1
Number observations	105,0	107,0	136,0	14,0	79,0

Table 27. Geranium spp BC indices of weekly averages

Week number	Bray Curtis index
21 - 22	0.253
22 - 24	0.268
24 - 25	0.378
26 - 27	0.668

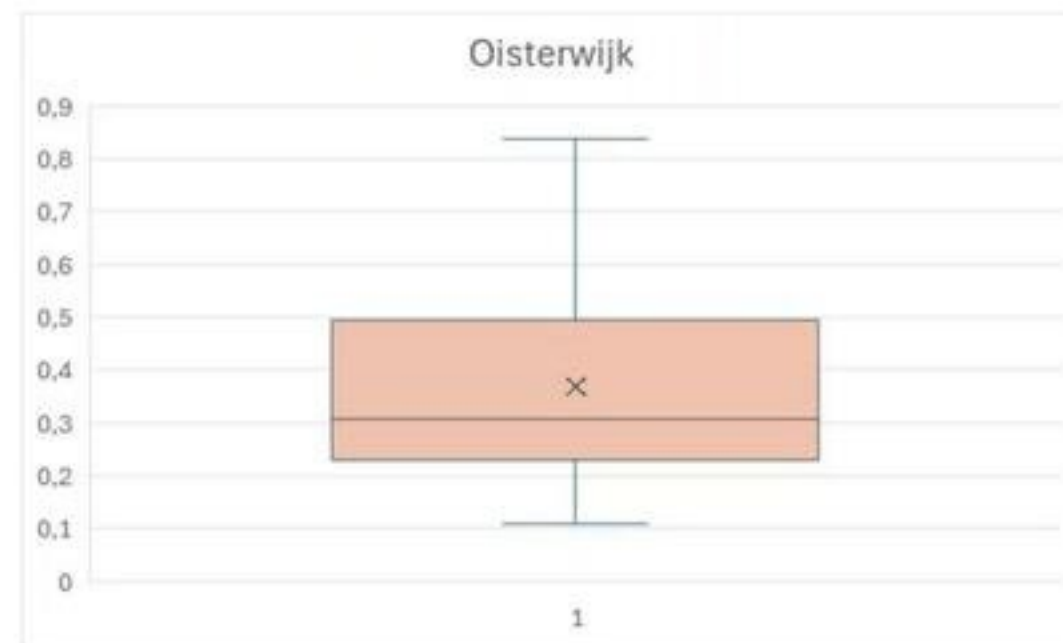
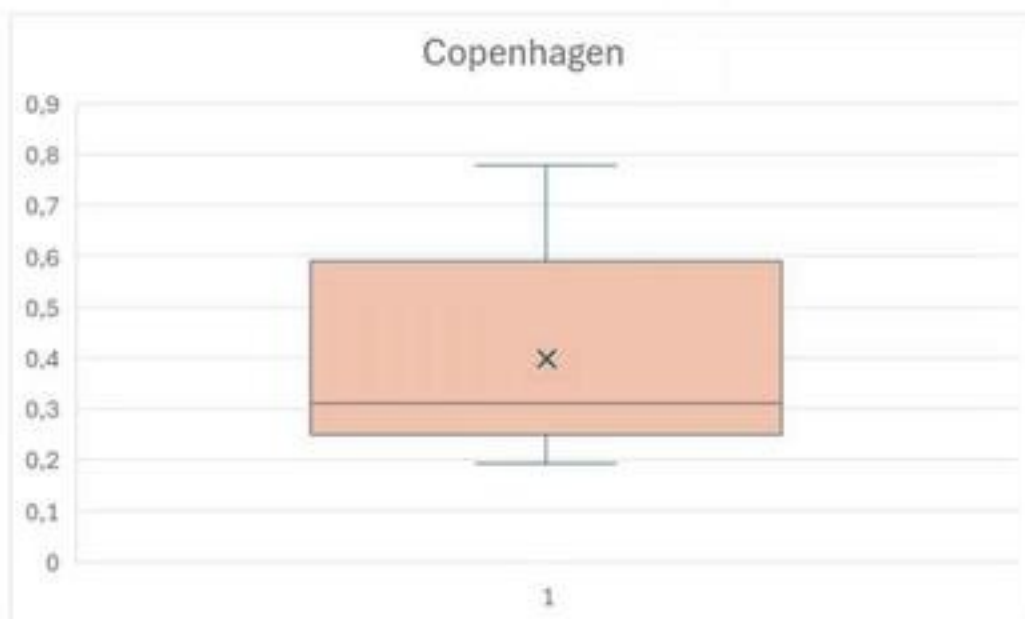


Box whisker figures of the BC indices in Copenhagen and Oisterwijk.

The medium (most common) is 0.310 and 0.306 for Copenhagen and Oisterwijk respectively.

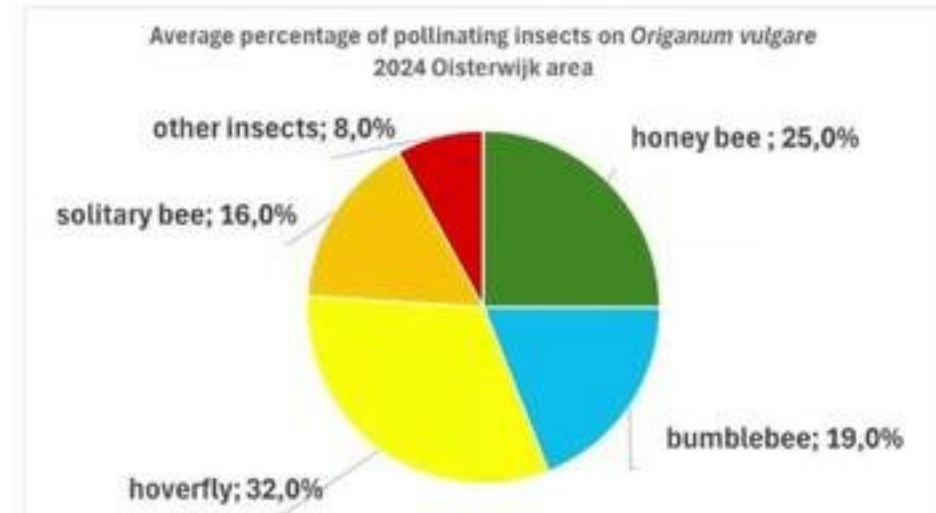
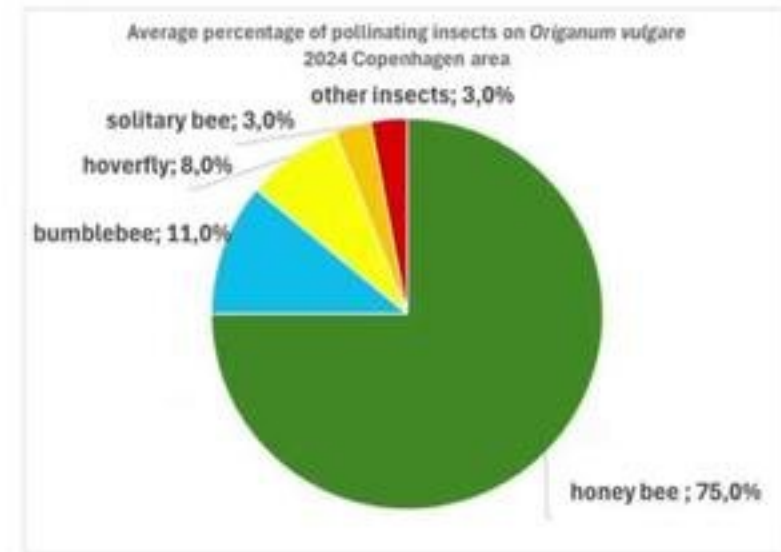
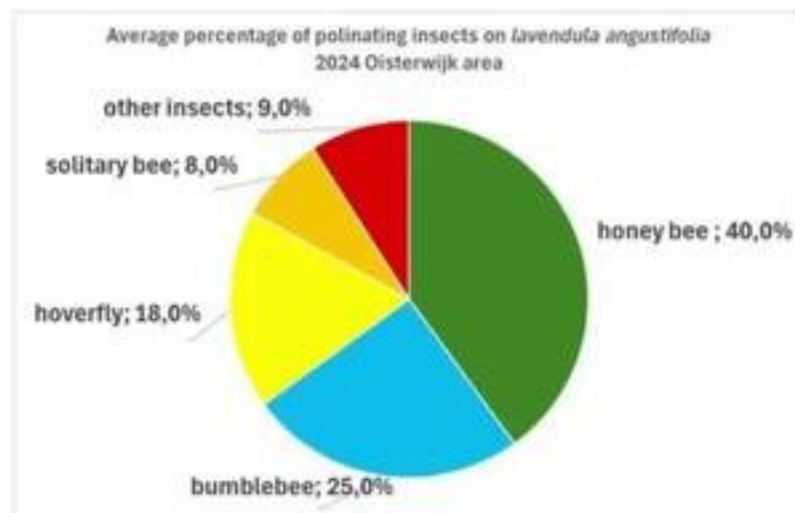
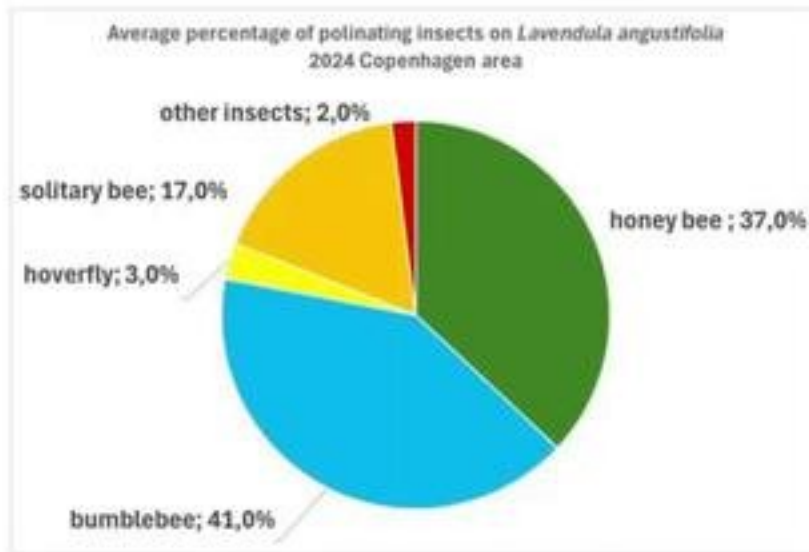
The 1st en 3rd quartile is 0.253 and 0.545 for the Copenhagen data and 0.232 and 0,452 for the Oisterwijk data.

The area between 1st en 3rd quartile = 50% of the data (coloured box) .



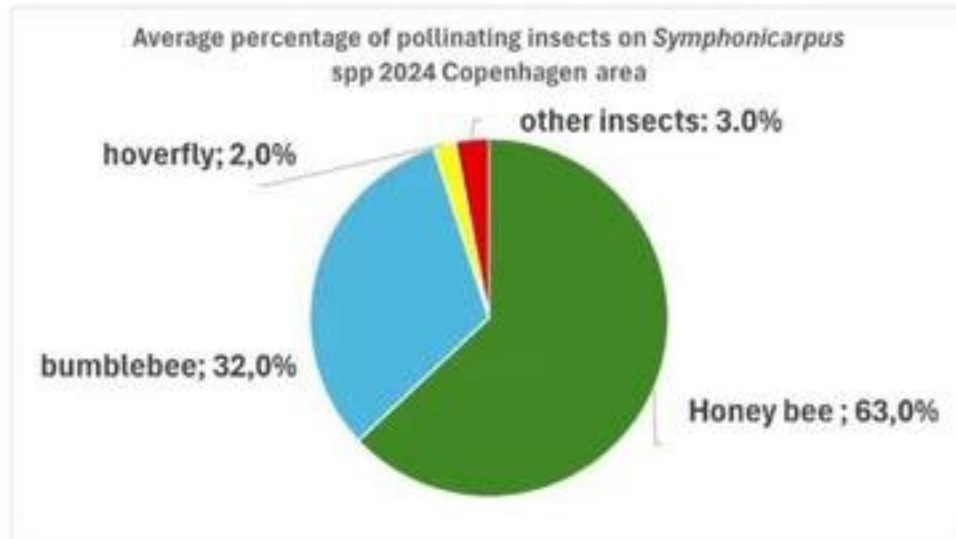


Location differences Copenhagen vs Oisterwijk

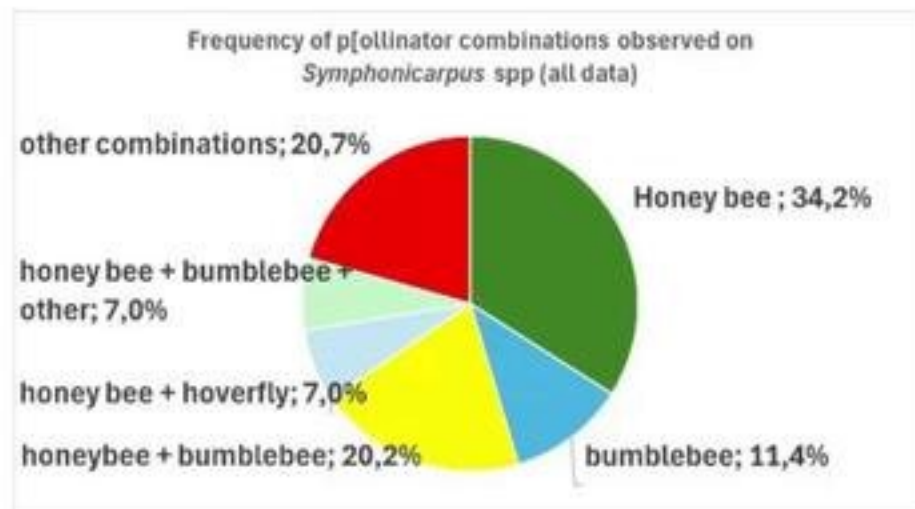




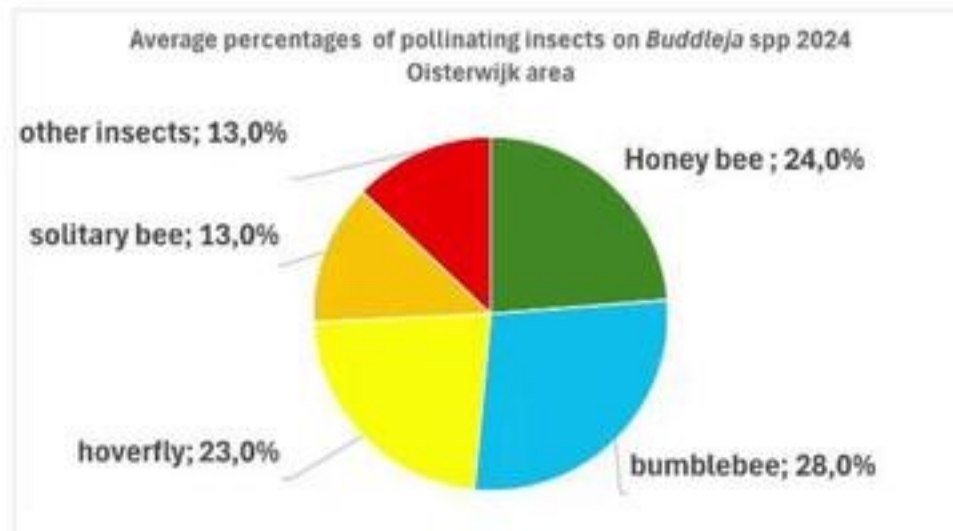
Honey bee dominant (Copenhagen)



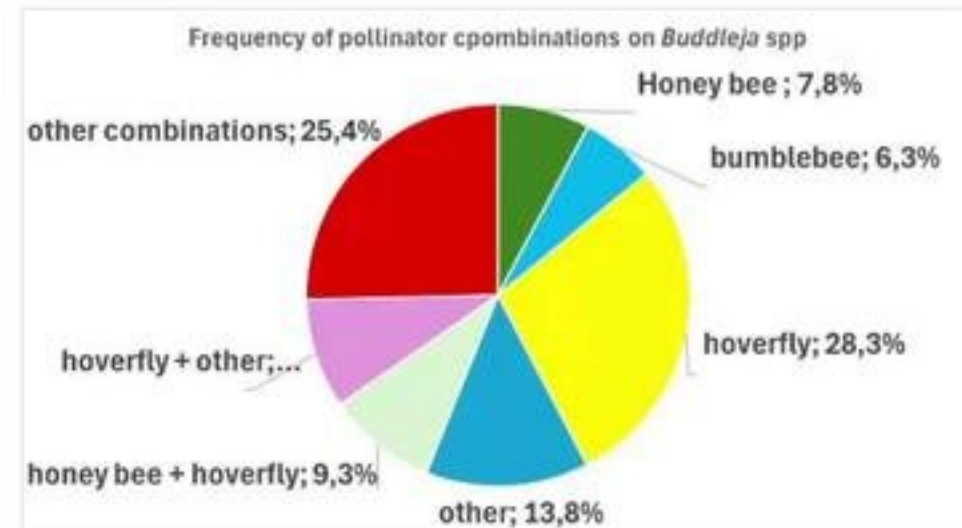
All 2024 data



Bumblebee dominant (Oisterwijk)

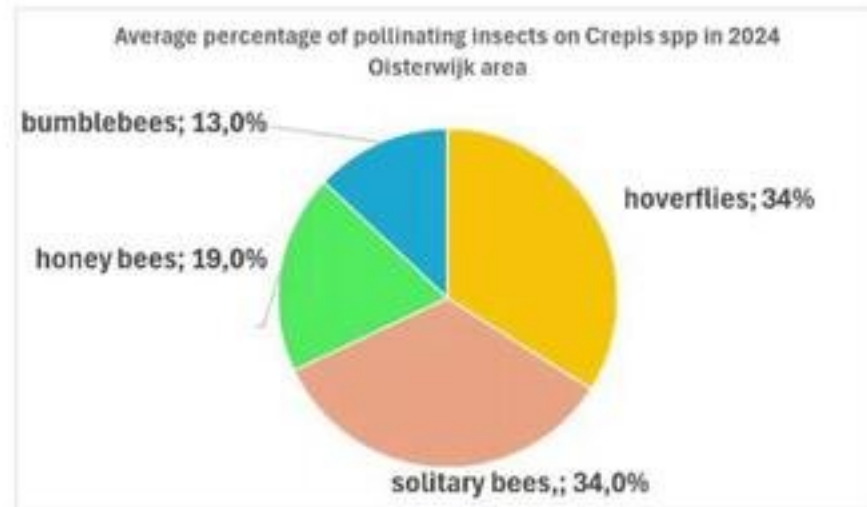


All 2024 data

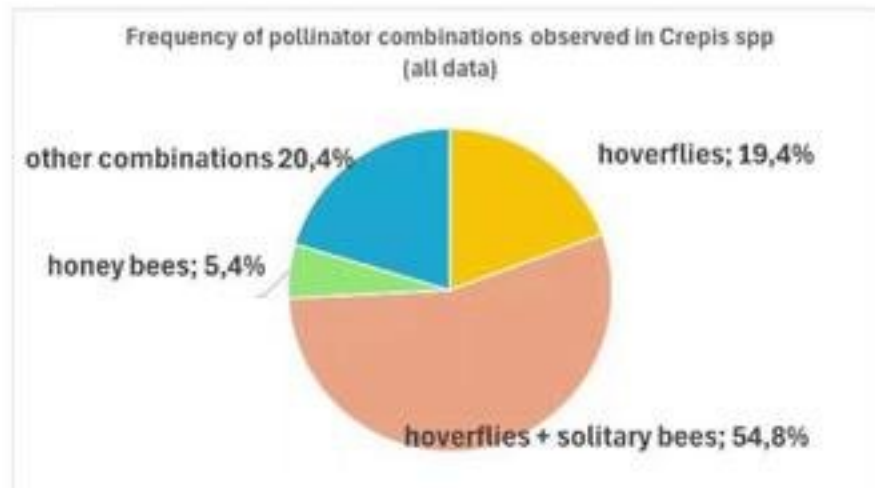




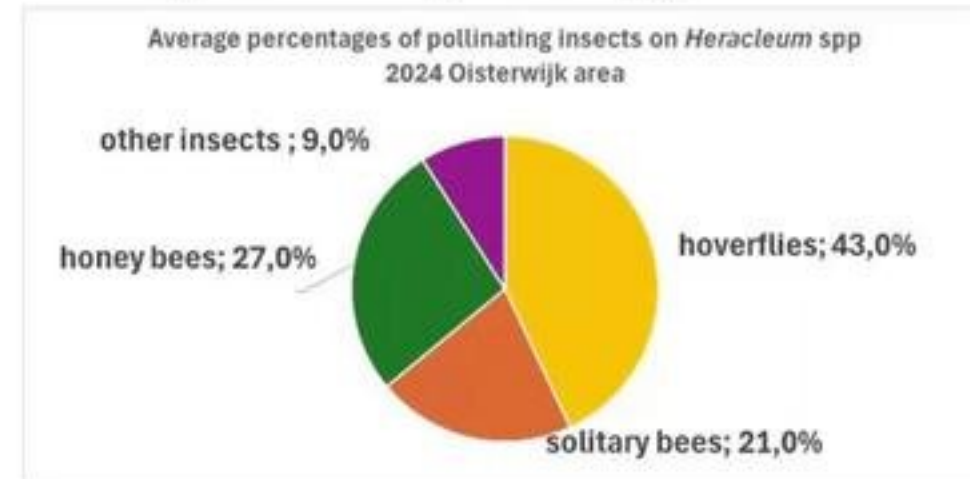
Solitary bee + hoverfly dominant (Oisterwijk)



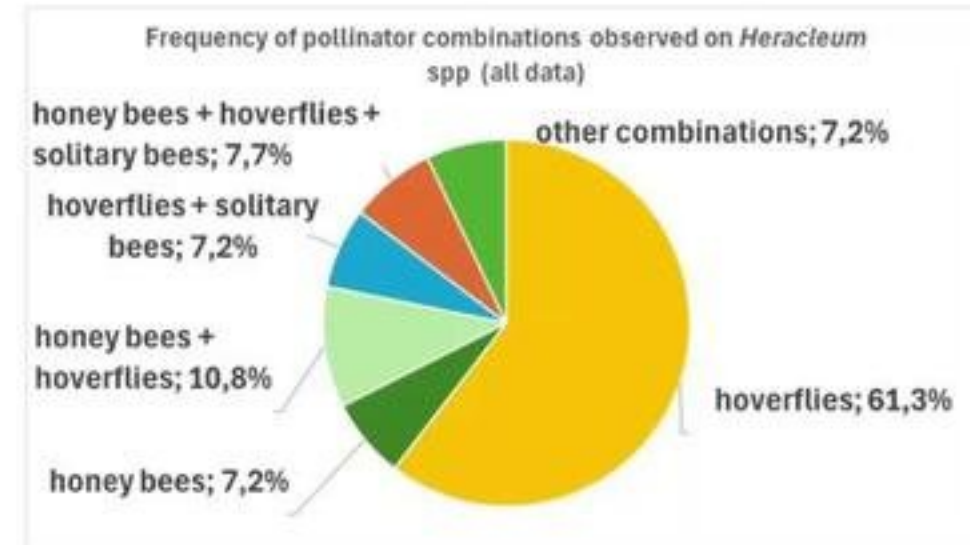
All 2024 data



Hoverfly dominant (Oisterwijk)



All 2024 data





Preliminary results (study runs till end 2026)

- Every observation is different.
- It matters where and when observations are done.
- Because of the successive series of observations, we see preferences for different plant species by honey bees, bumblebees, solitary bees, hoverflies, and other insects; however, their preferences are (in most cases) not consistent.



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Aknowledgement

- **Citizen scientists**
- **Elena Fini, Xiaodong Duan, Chris Topping (Uarhus)**
- **Frey IT and Danish Beekeepers Association (BDF)**
- **Better-B consortium**



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Join our beekeeper citizen science community and download

www.beeplants.eu

thank you very much



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Better-B-project

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Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union, European Research Executive Agency (REA), SERI or UKRI. Neither the European Union nor the granting authorities can be held responsible for them.



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