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**FLEMISH
LAND
AGENCY**



Interreg
North Sea Region
BEESPOKE

European Regional Development Fund



EUROPEAN UNION

BEESPOKE

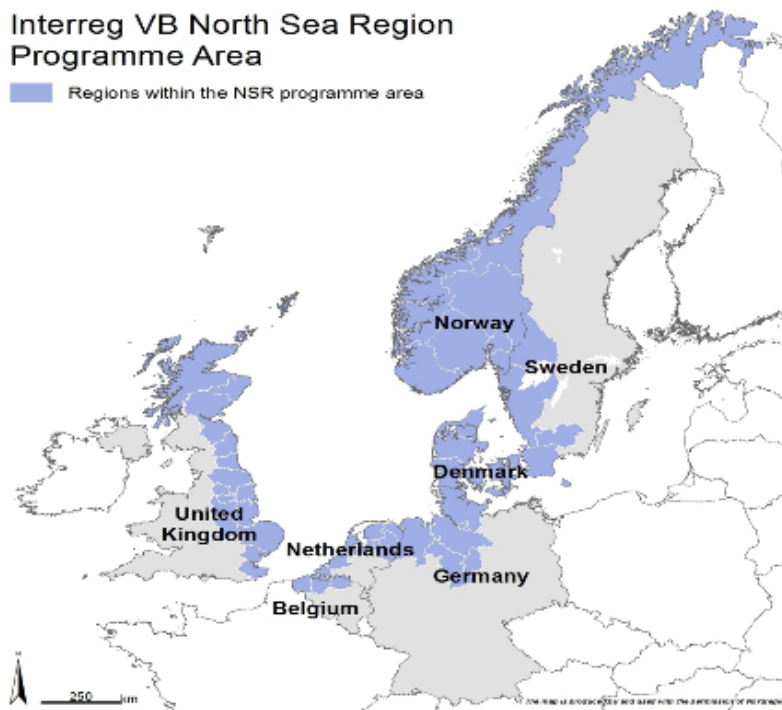
Benefiting Ecosystems through Evaluation of food Supplies for Pollination to Open up Knowledge for End users



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Interreg VB North Sea Region Programme Area

Regions within the NSR programme area



- 18 partners uit 7 landen
- Vlaanderen: VLM, UG, Inagro
- Lead partner: Game en Wildlife Conservation Trust (UK)
- Looptijd: juni 2019 – juni 2023

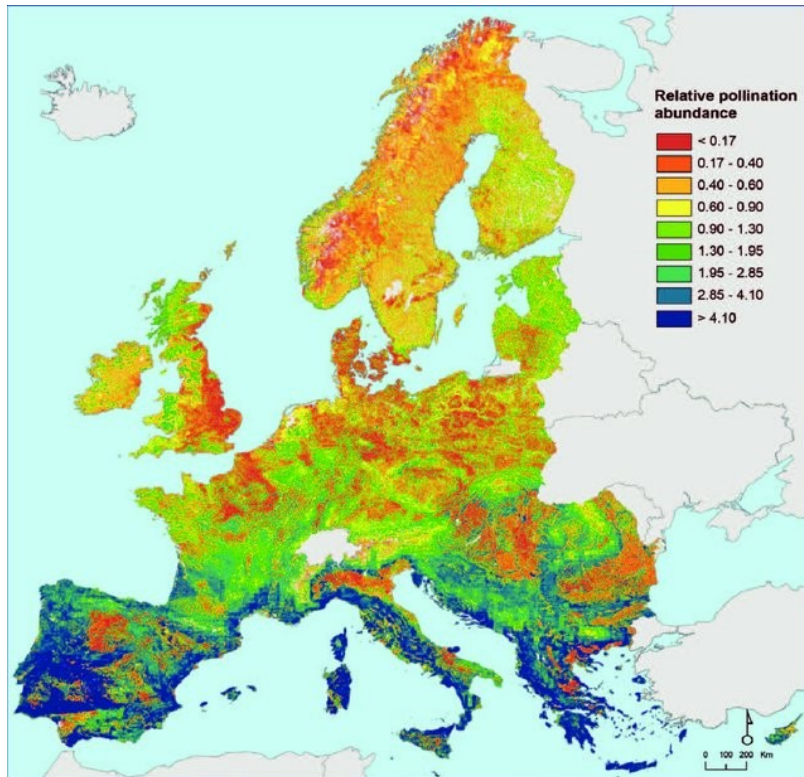




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Potential pollination across Europe

Sourc: JCR/Zulian et al 2013



- Biodiversiteitsverlies natuurlijke pollinatoren
- Bestuivingsdeficiet



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BEESPOKE APPROACH



WP Biodiverse landschappen



Demonstratie, testen and monitoren van Beespoke zaadmengsels

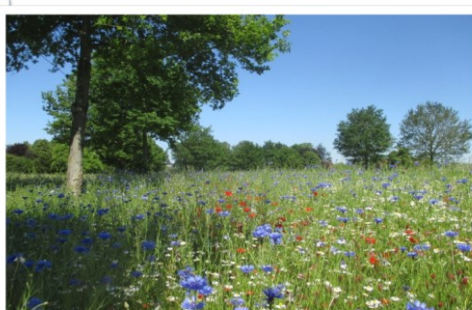
7 BEESPOKE ZAADMENGSELS

(eenjarig/meerjarig)

rekening houdend met bodem, lokale vegetatie en natuurlijke bestuivers



4 DEMO SITES AND 8 DEMOBEDRIJVEN (kersentelers, biobedrijf, 2 landbouwscholen) : 38 betrokken bedrijven





Meerjarige mengsels

Beespoke 5: perennial mixture semi-shaded conditions sandy loam soil

Nederlandse naam	Latijnse naam
Gewone ereprijs	Veronica chamaedrys
Boerenwormkruid	Tanacetum vulgare
Rode klaver	Trifolium pratense
Vertakte leeuwentand	Leontodon autumnalis
Gewone margriet	Leucanthemum vulgare
Dagkoekoeksbloem	Silene dioica
Gewone berenklauw	Heracleum sphondylium
Hondsdrif	Glechoma hederacea
Hopklaver	Medicago lupulina
Klein streepzaad	Crepis capillaris
Korenbloem	Centaurea cyanus
Wilde reseda	Reseda lutea
Wilgenroosje	Chamerion angustifolium

Beespoke: perennial mixture sweet cherry growers

Latijnse naam	Nederlandse naam
Achillea millefolium	Gewoon duizendblad
Anthriscus Sylvestris	Fluitenkruid
Daucus carota	Wilde peen
Hypericum perforatum	Sint-Janskruid
Leucanthemum vulgare	Gewone margriet
Lotus corniculatus	Gewone rolklaver
Medicago lupulina	Hopklaver
Prunella vulgaris	Gewone brunel
Ranunculus acris	Scherpe boterbloem
Trifolium pratense	Rode klaver
Veronica Chamaedris	Gewone ereprijs

Beespoke 7 Perennial mixture (Herzele)

Nederlandse naam	Latijnse naam
Wilde peen	Daucus carota
Duizendblad	Achillea millefolium
Korenbloem	Centaurea cyanus
Knoopkruid	Centaurea jacea
Echte kamille	Matricaria chamomilla
Rode klaver	Trifolium pratense
Witte klaver	Trifolium repens
Gewone rolklaver	Lotus corniculatus
Boerenwormkruid	Tanacetum vulgare
Klein streepzaad	Crepis capillaris





Eenjarige mengsels

Beespoke 4: annual mixture

Nederlandse naam	Latijnse naam
Koriander	Coriandrum sativum
Raapzaad	Brassica rapa subsp. oleifera
Witte honingklaver	Melilotus albus
Zwarte mosterd	Brassica nigra
Korenbloem	Centaurea cyanus
Koolzaad	Brassica napus
Komkommerkruid	Borago officinalis
Klein streepzaad	Crepis capillaris
Herik	Sinapis arvensis
Grote klaproos	Papaver rhoeas
Dille	Anethum graveolens
Bonte wikke	Vicia villosa
Bleke klaproos	Papaver dubium
Boekweit	Fagopyrum esculentum
Luzerne	Medicago sativa

Beespoke 6 annual mixture

naam	Lat naam
bleke klaproos	Papaver dubium
boekweit	Fagopyrum esculentum
bonte wikke	Vicia villosa
dille	Anethum graveolens
grote klaproos	Papaver rhoeas
komkommerkruid	Borago officinalis
korenbloem	Centaurea cyanus
koriander	Coriandrum sativum
zwarte mosterd	Brassica nigra
bolderik	Agrostemma githago
wilde ridderspoor	Consolida regalis



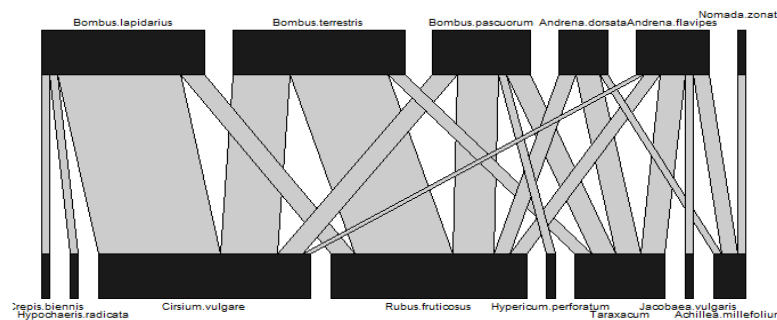
Monitoring programma (3 jaren): impact op natuurlijke bestuivers i.s.m. Natuurpunt Studie en U-Gent

Opvolging vegetatieontwikkeling

Step 1 = Determine Tanslay (not include in the 1h measurement)

Code	Sporadisch: S	Zeldzaam: R	Occasioneel: O	Frequent: F	Abundant: A	Co-dominant: CD	Dominant: Da	Dominant: Db
Aantal individuen /ha	1-3	4-10	10-20	21-100	> 100	Niet van belang	Niet van belang	Niet van belang
Indicatieve bedekkingsgraad	Niet bedekkend <<5%	Niet bedekkend <<5%	Niet bedekkend <5%	Niet bedekkend <5%	5 – 25%	25-50%	50 – 75%	> 75%
individuele planten – verspreid								
individuele planten – geclusterd								

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Plant-pollinator netwerken

Meer weten:

- <https://northsearegion.eu/beespoke>
- <https://www.facebook.com/BeespokeNSR>
- newsletter
- VLM projectpagina: [Beespoke | Vlaamse Landmaatschappij \(vlm.be\)](https://vlm.be)



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BEE SPOKE

Building ecosystems through evaluation of food supplies for pollinators to Green up Knowledge for 4.0 users

How to Successfully Establish Perennial Wildflower Areas

SEED SELECTION

Use a native perennial mix with at least ten wildflower species (ideally minimum 50% of mix by weight) and three fine-leaved grasses (e.g. red fescue, etc.) tailored to site conditions and requirements.

Choose wildflower species with a range of floral structures, colours and flowering times to support a broad suite of beneficial insects.

Tailor seed mix to your area, soil type, exposure to sun, drainage etc. Seed companies produce a range of seed mixes for different soil types, fertilities, pH's, and shade.

Avoid plant species known to benefit pests. Use native wild seed rather than agricultural varieties for greater habitat persistence.

PREPARATION

The aim is to prepare a firm, fine, weed free seedbed for broadcasting seed in late summer (August/September), or in spring (March/April).

For successful wildflower establishment, avoid areas that are shaded, of high soil fertility, and prone to waterlogging.

Ensure that pernicious weed problems are completely controlled before sowing. This may take more than one season.

Remove dense ground cover, e.g. grasses using machinery during a dry period, or if this is not possible treat with a contact broad-spectrum herbicide. Then harrow/cultivate the soil bringing weed seeds to the surface.

Create a stale seedbed, allowing weed seeds to germinate, and then eliminate using a non-residual herbicide. Be aware that some herbicides can persist and damage the flowering crop that follows.

SOWING

Broadcast the seed, do not drill. Use a mechanical broadcaster, drill filled clear from the ground, or broadcast by hand according to seed company recommendations.

Mixing the seed with sand, barley or wheat meal enables more even distribution when sowing by hand.

Roll area to firm the seed to soil surface, ideally just before rain is due.






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Pollinator identification guide and record sheet



HONEY BEES

- Top area of abdomen is often flat
- Very broad last leg – 'pollen basket'
- Non-dense, short, hair on last legs
- Last legs are usually 'hung down' in flight
- Mastered spherical pollen on last legs
- Size – 18mm, and 'hairy' eyes

SOLITARY BEES

- Pollen-carrying hair: last legs or under abdomen
- Often hairy but less than bumblebees
- Subdued colours, less clear bands than bumblebees
- Lots of species and variable in colour and size
- Size – 18mm and smaller



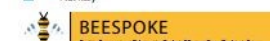
HOVERFLIES

- Can be 'hovering' above flowers
- Only one pair of wings; usually held out at 40°
- Roundish head
- Round eyes covering most of the head area
- Short antenna compared to bees
- Not hairy



BUMBLEBEES

- More rounded body, very hairy / fluffy
- Usually, tail folds downwards when on flowers
- Positioned pollen on last legs
- Clear colour bands (not all species)
- Queens = 20-23mm / Workers = 11-17mm



www.northsearegion.eu/beespoke @BeespokeNSR
Photographs 4, 6, 8, 11 and design by K. Teale. Other photographs by K. Smith 1, 5, 13, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100. Design layout: C. Stevens.

- ✓ Toenemende aandacht bloemrijke vegetaties (agrarisch natuurbeheer, openbare besturen, ...)
- ✓ Meer aandacht voor maatwerk:
 - Rekening houdend met bodem, lokale vegetatie
 - bestuiving, natuurlijke plaagbestrijding, lokale biodiversiteit (grashommel, knautiabij, ...)
- ✓ Reguliere mengsels: aanwezigheid cultivars, exoten, ...
 - ✓ In hoeverre ondersteunend voor lokale biodiversiteit
 - ✓ Doorlevendheid
 - ✓ Floravervalsing
 - ✓ ...
- ✓ Nood aan betrouwbaar (herkomst, opkweek) – betaalbaar zaaigoed