

Programma

- 12u00: Onthaal met broodjes
- 13u00: Inleiding door Viaverda en VLM
- 14u30: Rondleiding op het veld met toelichting over het onderzoek
- 15u30: netwerkborrel



Deze demonstratie
kadert in het project
Expbio



EXPBIO

Expanding transnational capacities
to strengthen plant biodiversity and restoration
in the North Sea region
2024 - 2027

**Interreg
North Sea**



**Co-funded by
the European Union**



**Trollhättans
Stad**

BOTANISKA
GÖTEBORGS BOTANISKA TRÄDGÅRD

**provincie
Gelderland**

Carl von Ossietzky
**Universität
Oldenburg**



Flanders
State of the Art



**VLAAMSE
LAND
MAATSCHAPPIJ**



Hjørring Kommune



Meise Botanic Garden

Projectdoelstellingen

We vertrekken vanuit 3 uitgangspunten:

Natuurherstel

Herstel van soortenrijke graslanden.

Zaadmengsels

Ontwerpen, implementeren en evalueren van de effectiviteit van verschillende zaadmengsels.

Plant Blindess

Het vergroten van het bewustzijn over het belang van de lokale biodiversiteit van planten via citizen science



Hjørring Kommune



Hjørring



Trollhättans
Stad



Trollhättan



Göteborg
Botanical
Garden

BOTANISKA
GÖTEBORGS BOTANISKA TRÄDGÅRD



CVO
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Universität
Oldenburg



Provincie
Gelderland

provincie
Gelderland



VLM

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LAND
MAATSCHAPPIJ



DOMG



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Verbeteren zaadmengsels beheerovereenkomsten



Waarom gebruik van autochtone zaden?



Journal of Applied Ecology
Journal of Applied Ecology 2017, **54**, 127–136
doi: 10.1111/1365-2664.12645

Ecological differentiation and regional adaptation among grassland restoration: lessons from a large-scale transplant experiment

Julia Hermann¹, Karola Heveling²,
and Oliver Bosdorf¹

¹Umweltwissenschaften auf der Morgenstelle
²Mentale Resilienz

Key-words: fitness, genetic differentiation, grassland restoration, local adaptation, multispecies experiment, phenology, reciprocal transplant, regional adaptation, regional provenance, seed sourcing strategy

Ecologists and
store the biodiversity;

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Journal of Applied Ecology

Journal of Applied Ecology 2016

doi: 10.1111/1365-2664.12630

Genetic differentiation within multiple common grassland plants supports seed transfer zones for ecological restoration

Walter Durka^{1,2,*†}, Stefan G. Michalski^{1†}, Kenneth W. Berendzen³, Oliver Bossdorf⁴, Anna Bucharova⁴, Julia-Maria Hermann⁵, Norbert Hölzel⁶ and Johannes Kollmann⁵

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erived from
differentia-

transfer zones
acus carota,
 sing AFLP
 cluster analy-

lly differen-
tials of gene

pools, with between two (*Arrhenatherum*) and eight clusters (*Lycmis*). Most transfer zones represented a unique gene pool in the majority of the species.

4. We found isolation by distance in four species, isolation by environment, driven by climatic seasonality, in three species, and a lack of both in three species. Thus, the observed genetic differentiation appears to be caused by both neutral and adaptive processes.

5. *Synthesis and applications.* Our study shows that grassland plants are indeed strongly genetically differentiated across Germany supporting the strategy of seed transfer zones for ecological restoration. Although the predefined seed transfer zones are unlikely to match the exact genetic structure of many species, they serve their purpose by capturing a substantial amount of intraspecific genetic variation across species.

Key-words: amplified fragment length polymorphism, ecological restoration, gene

4. The results suggest that only plants of relatively local origin should be used in wildflower mixtures, although it is not possible to specify precisely over what distance seed can safely be transferred. The same recommendation is also valid for schemes to reinvigorate endangered plant populations. The relevance of the fitness components that were measured, and the long-term effects of genetic introgressions, are discussed.

*Journal of
Applied Ecology*
2000, **37**,
647–659

Genetic introgression from distant provenances reduces fitness in local weed populations

M. KELLER, J. KOLLMANN* and P.J. EDWARDS
Geobotanisches Institut, ETH, Zürichbergstrasse 38, 8044 Zürich, Switzerland

Summary

1. Seed mixtures of wildflowers are used increasingly in schemes to restore biodiversity in intensively managed farmland. Usually, the seed mixtures are produced by commercial suppliers and they may be distributed over large geographical distances. It is therefore important to ask what problems may arise from using seed that is not of local origin. The aim of this study was to evaluate one potential problem, namely the effects of genetic introgression of foreign provenances on the fitness of local weed populations.

2. The problem was investigated using the arable weed species *Agrostemma githago*, *Papaver rhoeas* and *Silene alba*, all of which are commonly included in commercial seed mixtures in Switzerland. Hybrids (F_1 and F_2 backcrosses) were made between local Swiss plants and plants of English, German and Hungarian provenance (plus F_1 from one US source in *Silene*). In a field experiment the growth of the hybrid plants was compared with that of the parents. Above-ground dry matter after one growing season was taken as a measure of fitness. Additionally, survivorship and seed mass were determined for some of the hybrids.

3. The biomass data revealed negative outbreeding effects caused by epistasis in all four F_2 backcrosses of *Papaver* and in the F_2 of *Agrostemma* hybridized with plants of German provenance; no such effects were found in *Silene*. Survival was slightly lower in the F_1 hybrids of *Papaver*, and considerably reduced in the F_2 backcrosses. For *Silene*, a heterosis effect was evident in seed mass in the F_1 generation, while seed mass decreased in the F_2 . The same trend, although less strong, was also observed in the F_2 backcrosses.

The results suggest that only plants of relatively local origin should be used in wildflower mixtures, although it is not possible to identify a geographical distance at which seed can safely be translocated. The results also suggest that the use of schemes to reintroduce native plant species into farmland should be carefully evaluated.

The results suggest that only plants of relatively local origin should be used in wildflower mixtures, although it is not possible to specify precisely over what distance seed can safely be transferred. The same recommendation is also valid for schemes to reinvigorate endangered plant populations. The relevance of the fitness components that were measured, and the long-term effects of genetic introgression, need to be investigated.

Key-words: epistasis, heterosis, mortality, outbreeding depression, plant

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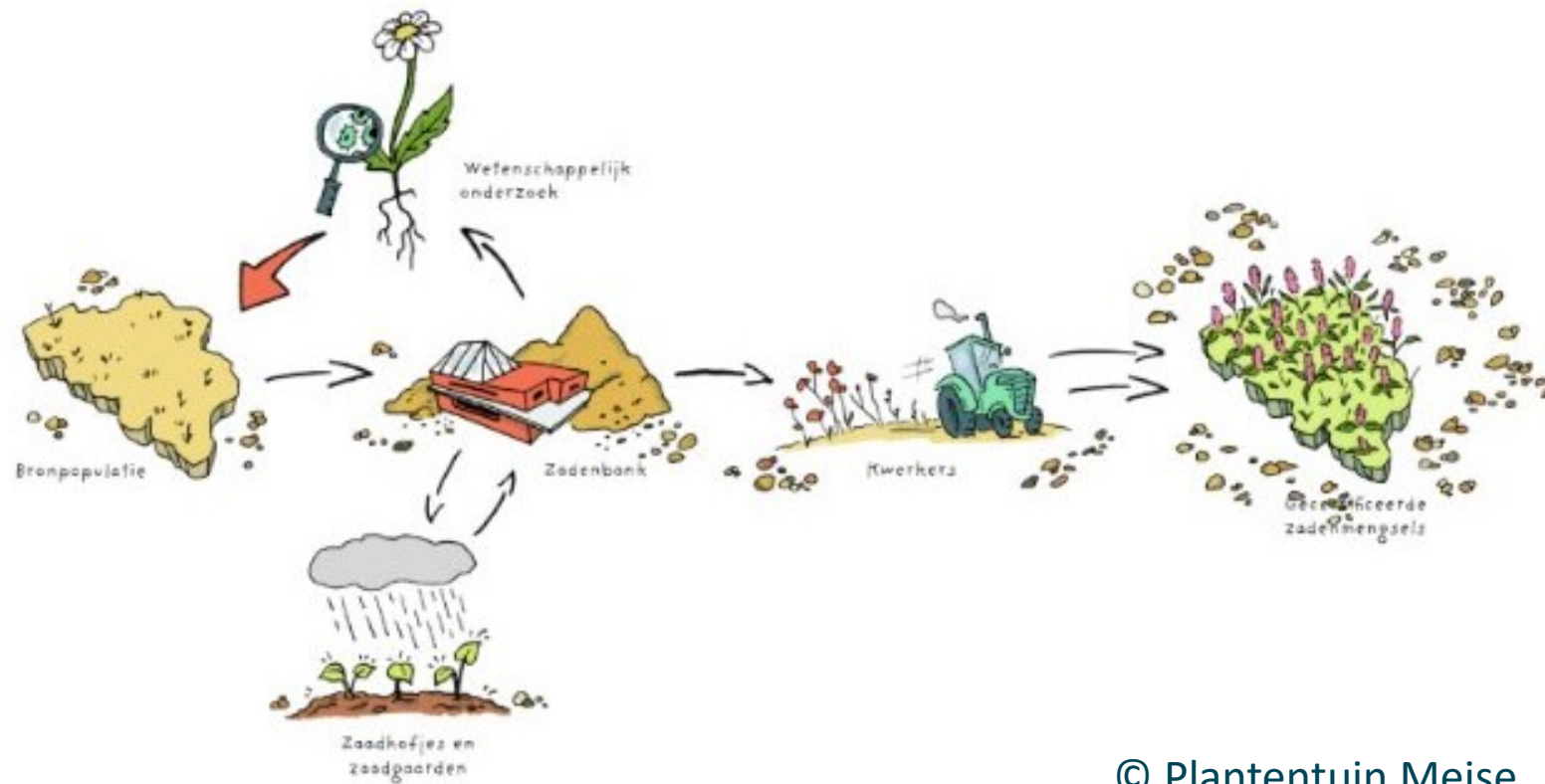
knack



Uitdaging

- Geen commerciële beschikbaarheid van autochtone zaden in Vlaanderen met aantoonbare herkomst.
 - inzaai beheerovereenkomsten
 - gemeentebesturen
 - ...

Focus Vlaamse partners op facilitatie teelt autochtone zaden



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- Viaverda: opkweek 15 kruiden voor zaadoogst als demo (2025)
- Bedoeling om de opkweek op te schalen vanaf 2026 door de commerciële spelers
- Mogelijkheden zaadcertificeringstraject in kaart brengen

Nederlandse naam	wetenschappelijke naam
Beemdkroon	<i>Knautia arvensis</i>
Duizendblad	<i>Achillea millefolium</i>
Gewone rolklaver	<i>Lotus corniculatus</i>
Echt knoopkruid	<i>centaurea jacea</i>
Gewone margriet	<i>Leucanthemum vulgare</i>
Wilde peen	<i>Daucus carota</i>
Korenbloem	<i>Centaurea cyanus</i>
Grote klaproos	<i>Papaver rhoeas</i>
Avondkoekoeksbloem	<i>Silene latifolia</i> subsp. <i>alba</i>
Gewone brunel	<i>Prunella vulgaris</i>
Groot kaasjeskruid	<i>Malva sylvestris</i>
Veldlathyrus	<i>Lathyrus pratense</i>
Hopklaver	<i>Medicago lupulina</i>
Scherpe boterbloem	<i>Ranunculus acris</i>
vertakte leeuwentand	<i>Leontodon autumnalis</i>

Certification

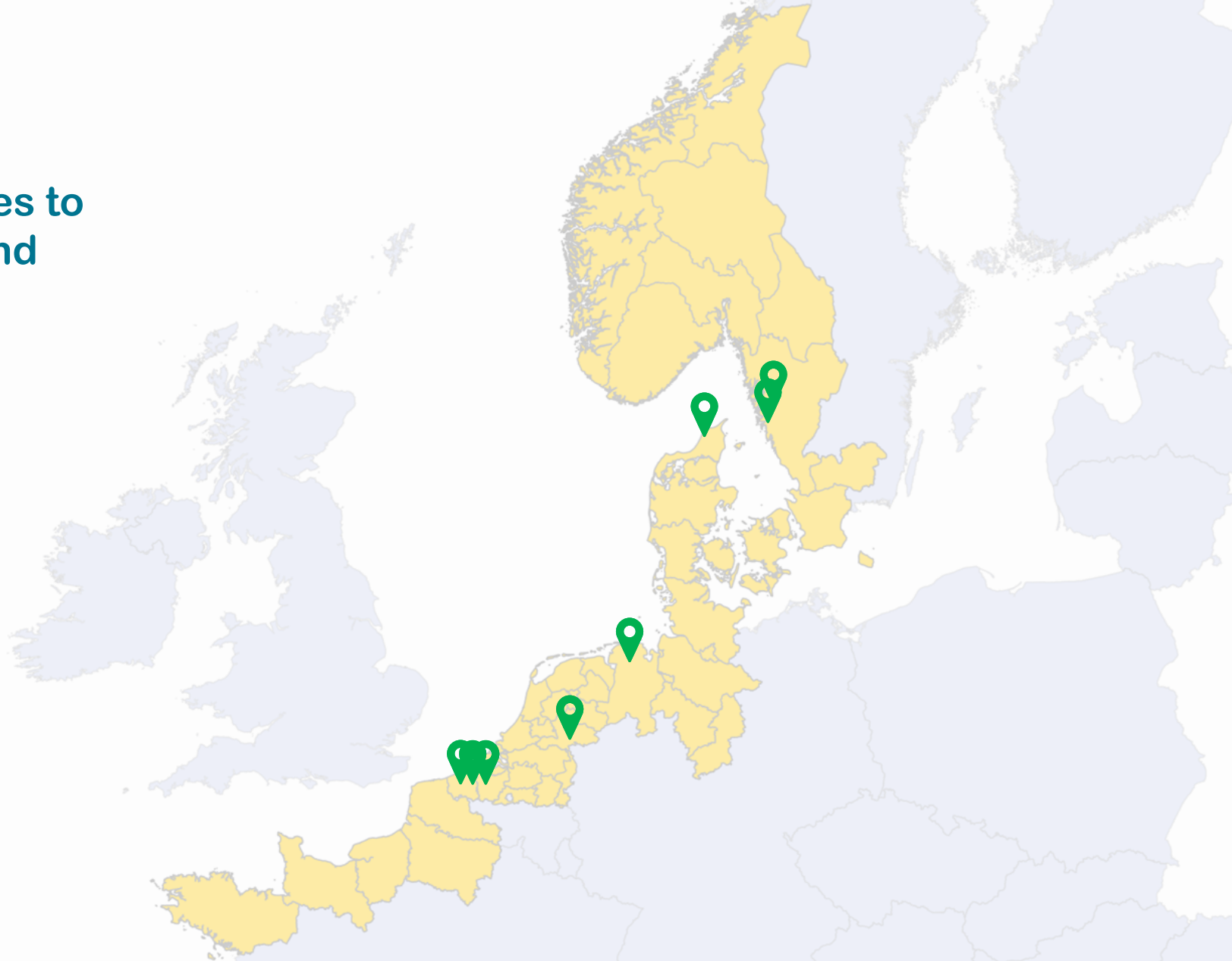


Werkdocument certificaat voor de
controle van de herkomst voor zaden
van kruidachtige planten



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