

Can we get farmers to grow soil life?

October 14, 2014, Frans van Alebeek

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Outline

- Soil biodiversity in agriculture
- Farmers and their perception of soil life
- Lessons from above-ground biodiversity projects
- Knowledge transfer



Arable farming, field margins
and natural pest control



Applied Research &
Arable farming

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2

De
bodem door
grond

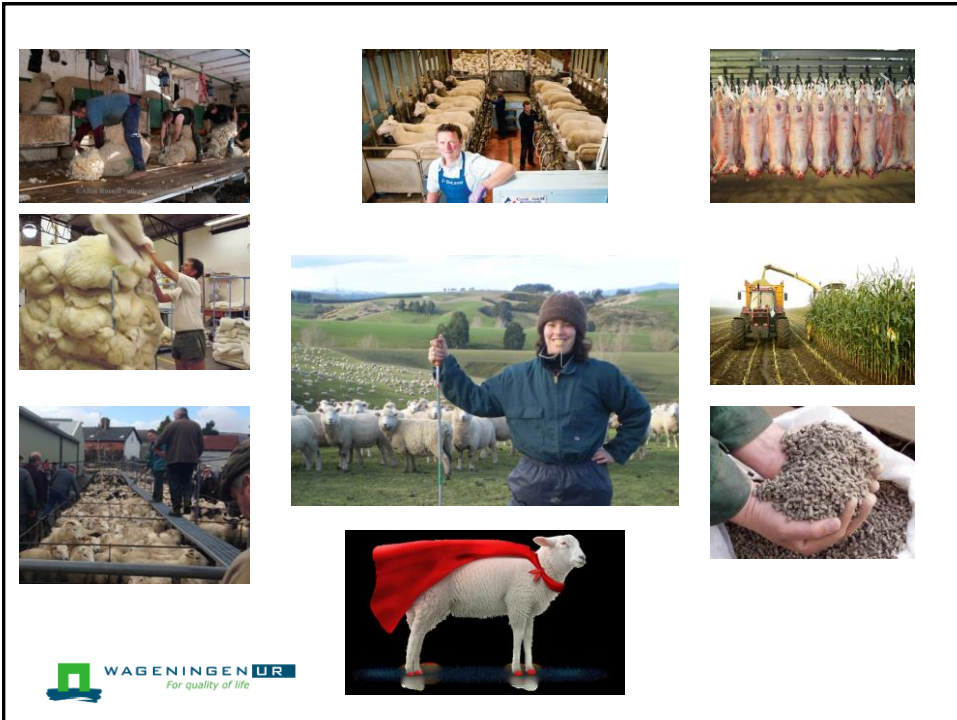
een fascinerende blik in de bodem

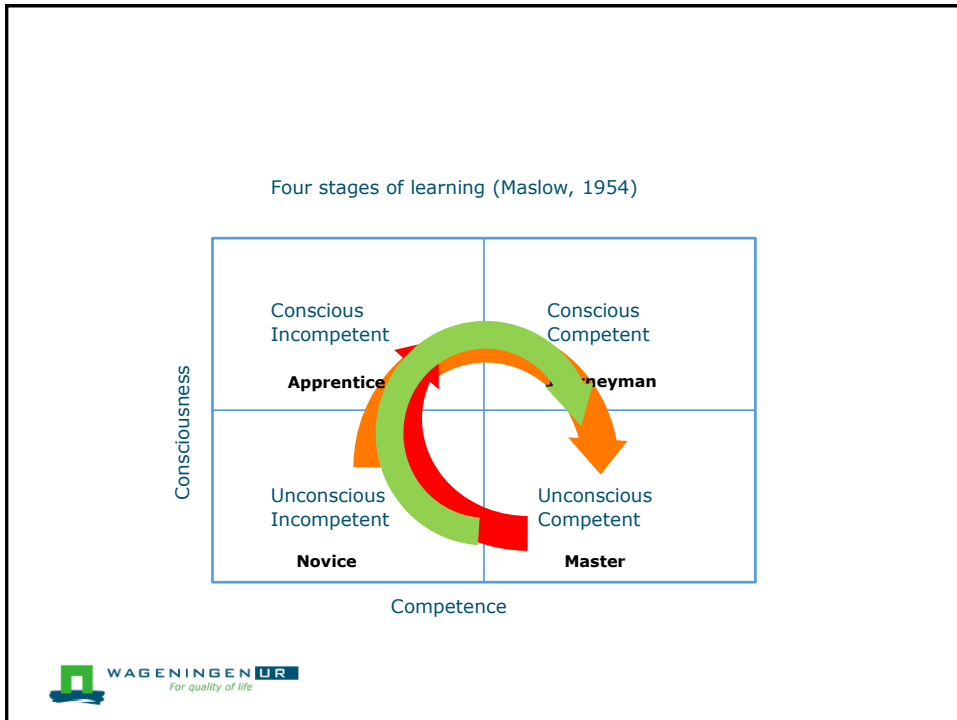
Spade
www.spade.nl

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Blgg, 2007. De bodem doorgrond.

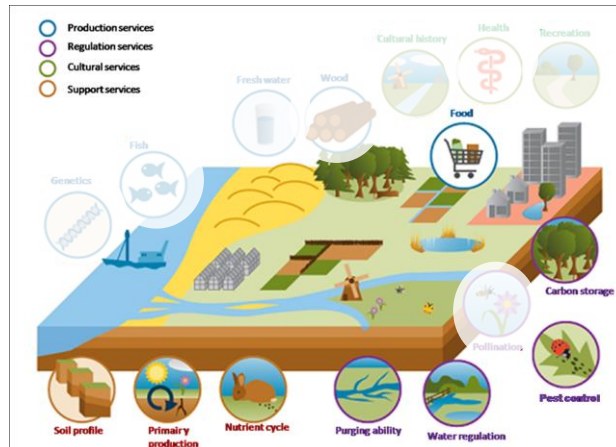
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Soil biodiversity in agriculture

■ Ecosystem services

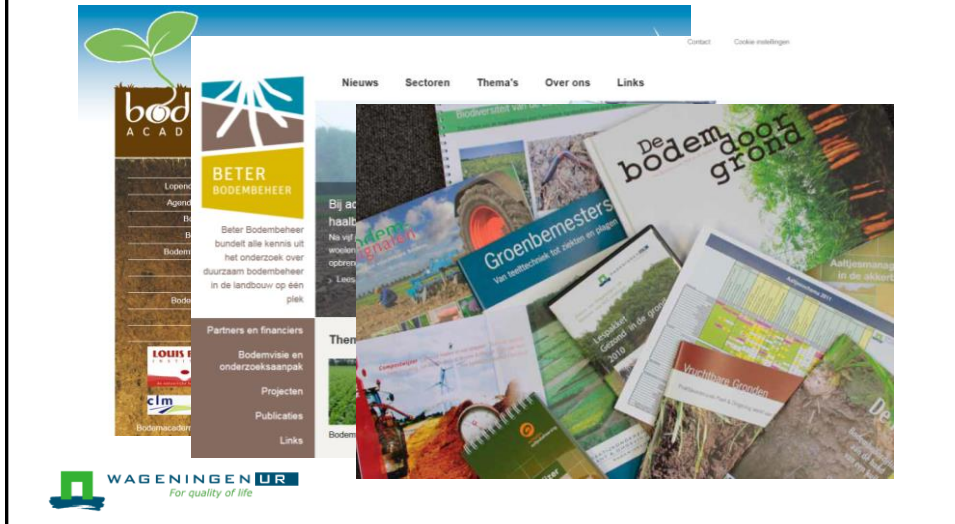


The importance of soil biodiversity



The importance of soil biodiversity

■ Growing awareness



Why farmers don't seem to care?

- A *feeling* of having few options
- Short term priorities
- *Apparently*, few consequences of bad choices (resilient systems)
- Long reaction times, cause-effect relationships not evident
- Low levels of knowledge
- Fragmented information
- Complexity of soil life ('black box')



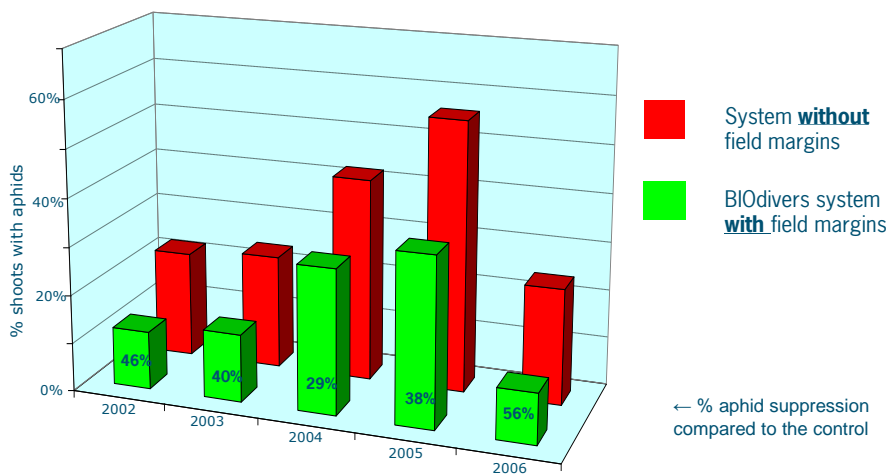
Parallels farmers perceptions of above-ground biodiversity

- Nature & landscape elements cause troubles (pests, weeds, diseases)
- Costly field margins
- Difficult to manage
- No clear, direct benefits, effects (pest control) not evident
- Low levels of knowledge
- Fragmented information
- Complexity of ecosystems



Strategies to convince farmers

5 years experiment showing aphid suppression in wheat and potatoes



On-farm research and demonstration

LTO FAB Pilot Hoeksche Waard 2005 – 2007 and 2008 - 2011



On farms:

— = flower margins

— = grass margins

4 arable farms

Approx. 400 ha

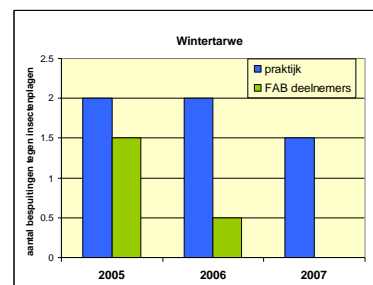
Wheat, consumption potatoes, Brussels sprouts

Include the landscape and regional policies



LTO project Functionele AgroBiodiversiteit (FAB): Results

- On-farm demonstrations and results
- Natural suppression of aphid pests in wheats and potatoes through flowery field margins
- Reduction in the use of crop protection products
- Lots of effort in extension activities



Functionele AgroBiodiversiteit (FAB) has become (*or: became*) mainstream activity



The image shows a screenshot of the 'Bloeiend Bedrijf' website on the left and a map of the Netherlands on the right. The website features a header with a tractor and flowers, and a navigation menu. A sidebar lists 'Organisatie', 'De akkerranden', 'Foto's', 'In de pers', 'Nieuws', 'Agenda', 'Downloads', 'Nieuwsbrieven', 'Links', 'Colofon', and 'NIEUW: Twitter'. A red circle highlights the text: 'Bloeiend Bedrijf is: 550 boeren, Ruim 30 regionale partners, zoals agrariërs, Aan de slag met nuttige biodiversiteit, Honderden kilometers bloeiende akkerranden, Zichtbare duurzaamheid, and Beleefbaar aantrekkelijk landschap'. The map shows numerous green icons across the country, with a legend indicating 'deehemer met akkerrandverslag' and 'deehemer zonder akkerrandverslag'. The Wageningen UR logo is at the bottom left.

Some critical notes

- Topics become trends and hypes
 - difficult to maintain lasting attention, financial support and research efforts
- For FAB a 10 -15 years process
 - FAB still not standard policy (subsidies, CAP)
- To change farmers perceptions requires
 - prolonged, active learning in groups
 - in the field
- Key factor for success:
 - Clear, direct benefits for the farmer's income and labour



How to address 'soil biodiversity' in (arable) farming?

- Knowledge transfer to intermediates
- Working methods, tips and tricks



Strategy



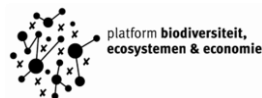
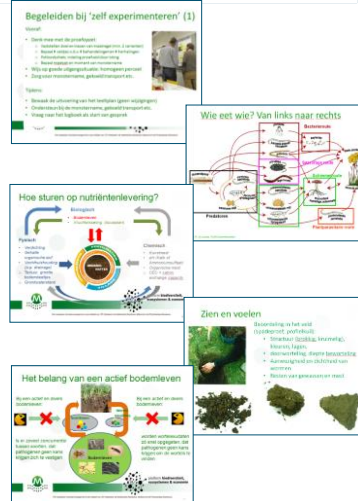
Products (1)

Introduction

Backgrounds, users manual, learning styles
Advising on soil biodiversity

Thematic PowerPoint presentations

- 2.1 How to use soil biodiversity
- 2.2 Soil biodiversity and mineral management
- 2.3 Soil biodiversity and soil structure
- 2.4 Soil biodiversity and disease suppression



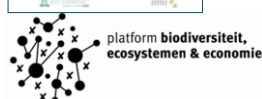
Products (2)

Identification charts

- 3.1 Indicator set soil biodiversity
- 3.2 Nutriënts & deficiencies
- 3.3 Soil structure
- 3.4 Earthworms
- 3.5 Soil pests & diseases

Best Practices soil biodiversity

Description & references



At your disposal

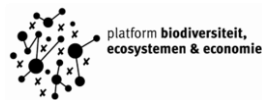


<http://www.kennisakker.nl>

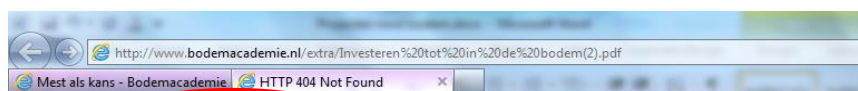
/document/kennisontsluiting-bodembiodiversiteit

All in Dutch

THEMA'S:	POWERPOINTS:	HERKENNINGSKAARTEN:	BEST PRACTICES	VAKBLADARTIKELN
ALGEMEEN	Benut het bodemleven	Meetset bodembiodiversiteit Herkenningskaart bodembiodiversiteit	# 1	++
CHEMISCH	Nutriëntenlevering	Nutriënten	# 2-3	++
FYSISCH	Bodemstructuur	Bodemstructuur Regenwormen	# 4-7	++
BIOLOGISCH	Ziektevering	Bodemziekten en -plagen	# 8-12	++
OVERIG	-	-	# 13-14	+



Reasons for worry



The webpage cannot be found

HTTP 404

Most likely causes:

- There might be a typing error in the address.
- If you clicked on a link, it may be out of date.

Internet is suffering from Alzheimer's disease

How sustainable is our knowledge infrastructure?



*Thank you for
your attention*

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