Food & Business Knowledge Platform

Government of the Netherlands

WAGENINGEN UNIVERSITY & RESEARCH

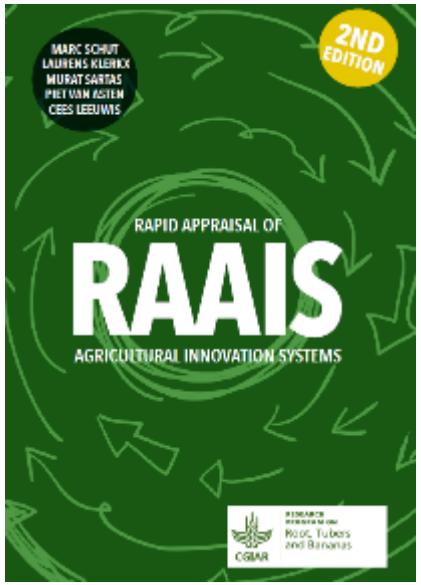
Agricultural Innovation Seminar

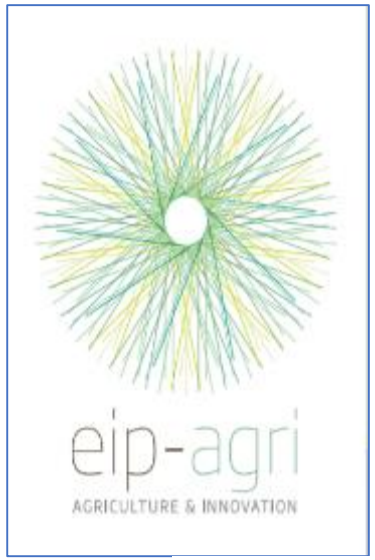
Innovation Thinking for Food System Transformation

Welcome

Date: Wednesday April 17, 2019 (13:00-15:30)
Location: New Babylon Meeting Center The Hague (room 2.1)
Organizers: Food & Business Knowledge Platform (F&BKP), Ministry of Agriculture, Nature and Food Quality, Ministry of Foreign Affairs and Wageningen Centre for Development Innovation

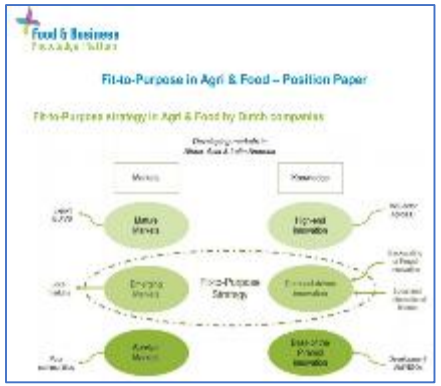
This is not a new discussion





European Commission

CDAIS



https://knowledge4food.net/working-papers-agricultural-innovation-systems/
https://knowledge4food.net/fit-purpose-strategies-dutch-agrofood-companies/
https://cdais.net/home/
https://ec.europa.eu/eip/agriculture/en
https://www.wur.nl/en/article/RAAIS-Toolkit.htm

Key questions

- What is the role of innovation thinking in food system approaches? Why does it matter?
- How can innovation thinking be adopted in practice? What are challenges and successes?
- How can policy-makers use and support innovation thinking in their policies and programmes?

Seminar programme

13:30	**Welcome & introduction** By Herman Brouwer (WCDI) and Geert Westenbrink
13:35	**Setting the scene** Making the case for innovation thinking in food system approaches by Cees Leeuwis (WUR-KTI)
14:00	**Case pitches** • Irene Koomen (WCDI) • Rutger Groot (East-West Seed) • Errol van Groenewoud (Omnivent) • Peter Jens (Koppert)
14:15	**Four parallel break-out sessions**
15:00	**Plenary discussion** Harvesting insights for practice and policy
15:15-15:30	**Wrap-up** Reflections and next steps: Krijn Poppe (WEcR), Cees Leeuwis (WUR-KTI) and Melle Leenstra (Min BuZa)

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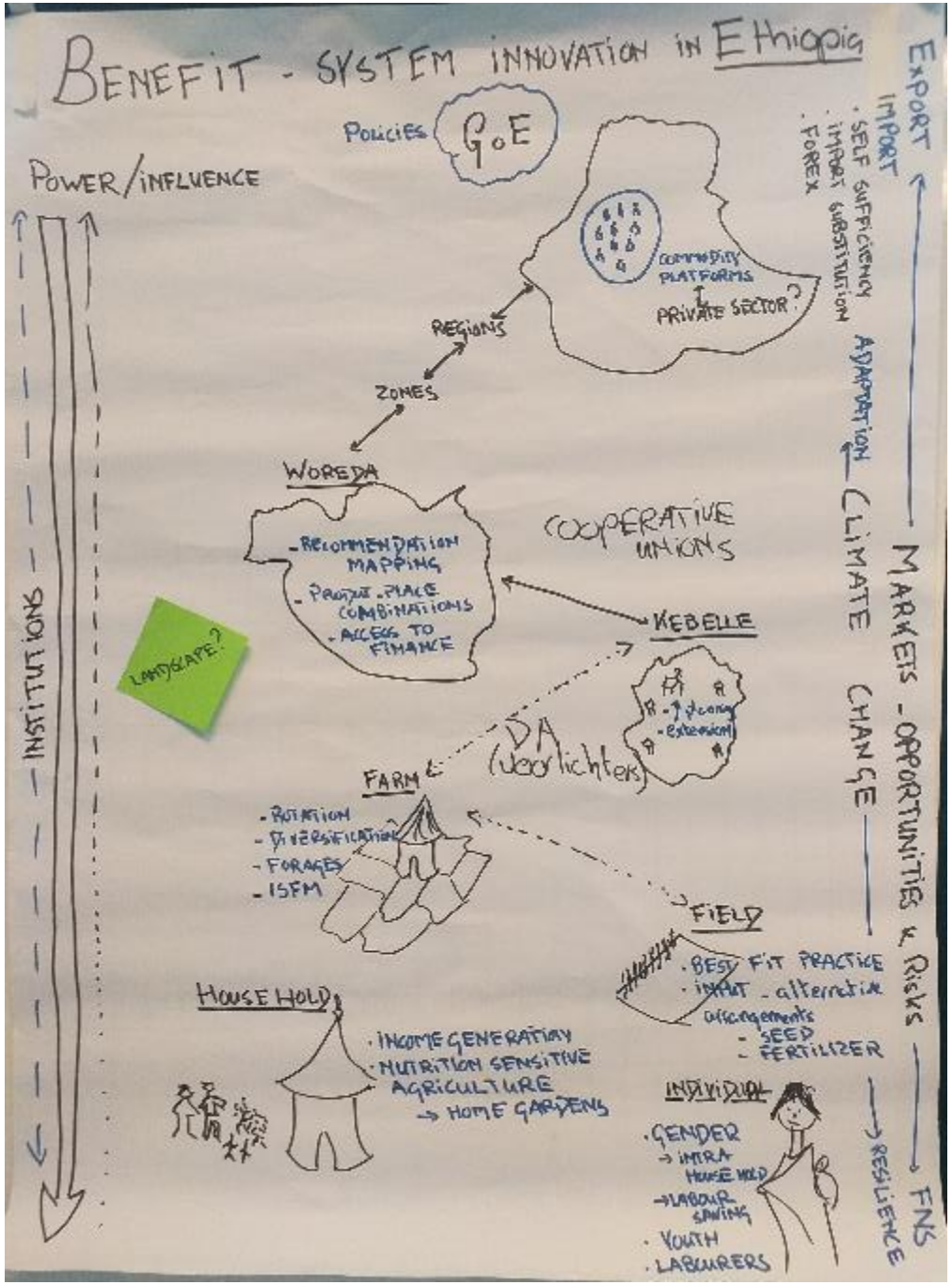
4 Pitches

Irene Koomen (WCDI)
Rutger Groot (East-West Seed)
Errol van Groenewoud (Omnivent)
Peter Jens (Koppert)

Date: Wednesday April 17, 2019

Irene Koomen



www.wur.nl/en/project/BENEFIT.htm

Rutger Groot (East-West Seed Knowledge Transfer) #1

East-West Seed is a tropical vegetable seed breeding company with the mission to improve smallholder farmers' livelihood. It does by bringing them quality seeds in combination with farmer training programs through its EWS Knowledge Transfer Foundation, in which it invests a percentage of its turnover. EWS serves 20 million smallholder farmers and trains 120,000 of them annually. EWS KT runs a pre competitive operation working on market development. It operates in areas with the potential of developing a vegetable- and seed market within a timeframe of 5 years. It starts knowledge transfer programs and demo's and stays for 3 years in the area with its teams. After this period farmers and traders will have picked up the new farming skills and a vibrant market for quality seeds and improved varieties has been created.

EWS KT works closely with donors who usually co-invest on a 50/50 basis. The Netherlands Government has adopted a very pragmatic approach and supports several very successful EWS KT programs across Asia and Africa. EWS KT teaches farmers basic skills since else there is no point in upgrading from farmer saved seeds to better variety OP and hybrid crops. Skills include nurseries, crop protection, fertigation and crop management. Trainings have been developed in close collaboration with Wageningen UR.

During a three year project in a region EWSKT develops demo fields at key farmers, who are getting intensive guidance by field officers. These field officers organize field days and farm visits for farmers from the area. Crop guides with little text (in local language) are being distributed. `seeing is believing´ is the motto in giving farmers access to new knowledge and technologies. Actually seeing new varieties with bacterial wilt resistance surviving, and seeing new techniques like mulching, raised bedding and trellising give much higher yields convinces many and creates a ripple effect. Thus many farmers start applying new knowledge and skills.

EWS continuously develops new varieties with better resistance, higher yields, longer shelf life and higher customer appreciation. EWS KT continuously introduces new technologies to areas, like drip irrigation, trellis netting, fertilizers, silver mulch and crop protection material. For dissemination social media, YouTube, apps and WhatsApp are being utilized. Close collaboration with Wageningen UR keeps EWS at the brink of new technologies. Government extension programs have a history of failure. The close collaboration with a commercial company secures long term sustainability of the programs. On a longer term farmers will be supported in making steps in sustainable intensification, the optimal use of soil, capital, human resources and market knowledge, to work with several crops in rotation leading to profitable vegetable production.

Rutger Groot #2

Myanmar – making vegetable markets work for smallholder farmers

(http://seasofchange.net/wp/wp-content/uploads/2017/06/2017MVMWS-CaseStudy.pdf)

The Making Vegetable Markets Work for the Poor (MVMWS) Program is funded by the Livelihoods and Food Security Trust (LIFT), a multi-donor fund established in 2009 to improve the lives and prospects of smallholder farmers and landless people in rural Myanmar. The program focuses on improving the vegetable market chain throughout Myanmar and the income of 15,000 smallholder farmers in the country. By utilizing the Market systems development approach, the program seeks to impact an additional 9,000 farmers indirectly through the effects of crowding in and replication.

The program focuses on two states within the country: Southern Shan State, a hilly region with much vegetable cultivation, and Rakhine State in the western part of the country, which has traditionally focused on paddy production. The Myanmar case study shows how the income of farmers and that of the company are intertwined, but what is a common oversight is that a good product sells itself. The intensive approach to field-based training and demonstration of EWS seems necessary to convince risk-averse farmers to adopt new technologies. The ripple effect whereby neighboring farmers in the community replicate the practices of those hosting demonstrations is crucial, next to the importance of bundling inputs with services by MercyCorps.

Outcomes:

- The program brought improved technology and services to more than 12,000 farmers;
- The Vegetable Acceleration Task Force has been created - a multistakeholder platform to help engage the government in policy and sector reform;
- 16 businesses were involved in the program, and adopted more inclusive business models;
- 75% of farmers increased their income by 50% or more

Introduction Omnivent Myanmar

Errol (E.) van Groenewoud

Director

Omnivent Holding

The Netherlands	Poland	Latin America	China	India	UK

Omnivent Techniek

Omnivent Cooling

Omnivent Spzoo

Omnibox Spzoo

Omnivent Techniek India Ltd.

Omnivent Techniek Ltd.

Head office
Int. Sales
Project man.
R&D
Factory:
Fans
Humidifier
CO2 extrac.

Refrigeration Solutions

Sales:
Poland
Belarus
Ukraine

Factory:
Plenums
Fans
Humidifier
CO2 extrac.

Box Factory

Sales & Service Support

Sales Office & Service

Sales & Service Support

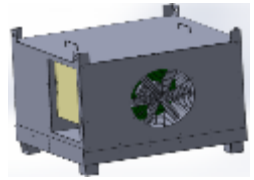
History

1960-1980	1980-1990	1990-2000	2000-2010	2010-2015	2016 ->

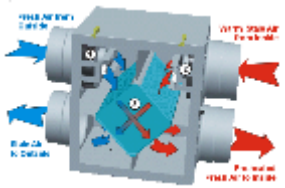
Omnivent Techniek

Omnivent Spzoo

OMNIBOX

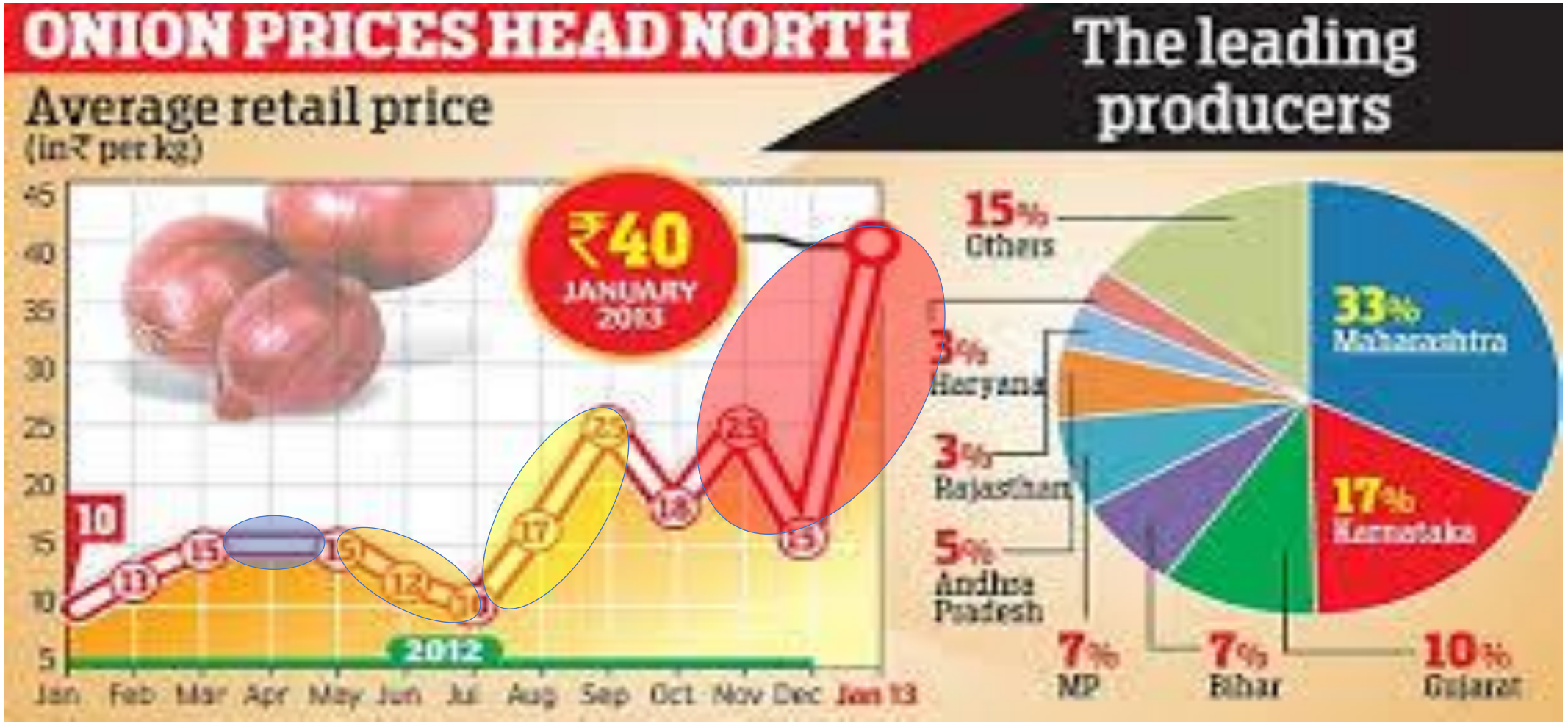


Omnivent Cooling



Storage facilities

Myanmar (+ Asian) market



Dutch quality versus local

Voordelen geconditioneerde bewaring

- Drogen vd uien minder rot / verspreiding ziektes
  - Reduceren van de risico's
- Betere bewaarbaarheid
- Betere controle op kwaliteit gedurende de regentijd
- Bewaarverliezen beperkt tot minimum
- Verkoop van het product wanneer vraag hoog en aanbod laag is → € € €
- <u>Capacity building:</u>
- *Verbetering aanlever kwaliteit noodzakelijk*
  - Bewustwording akkerbouwer
- *Rooimethodiek aanpassing gewenst*
  - Langere nek voor betere bescherming ui tegen veldziektes

1st test result

<u>Testrun met opslag van winter uien</u>

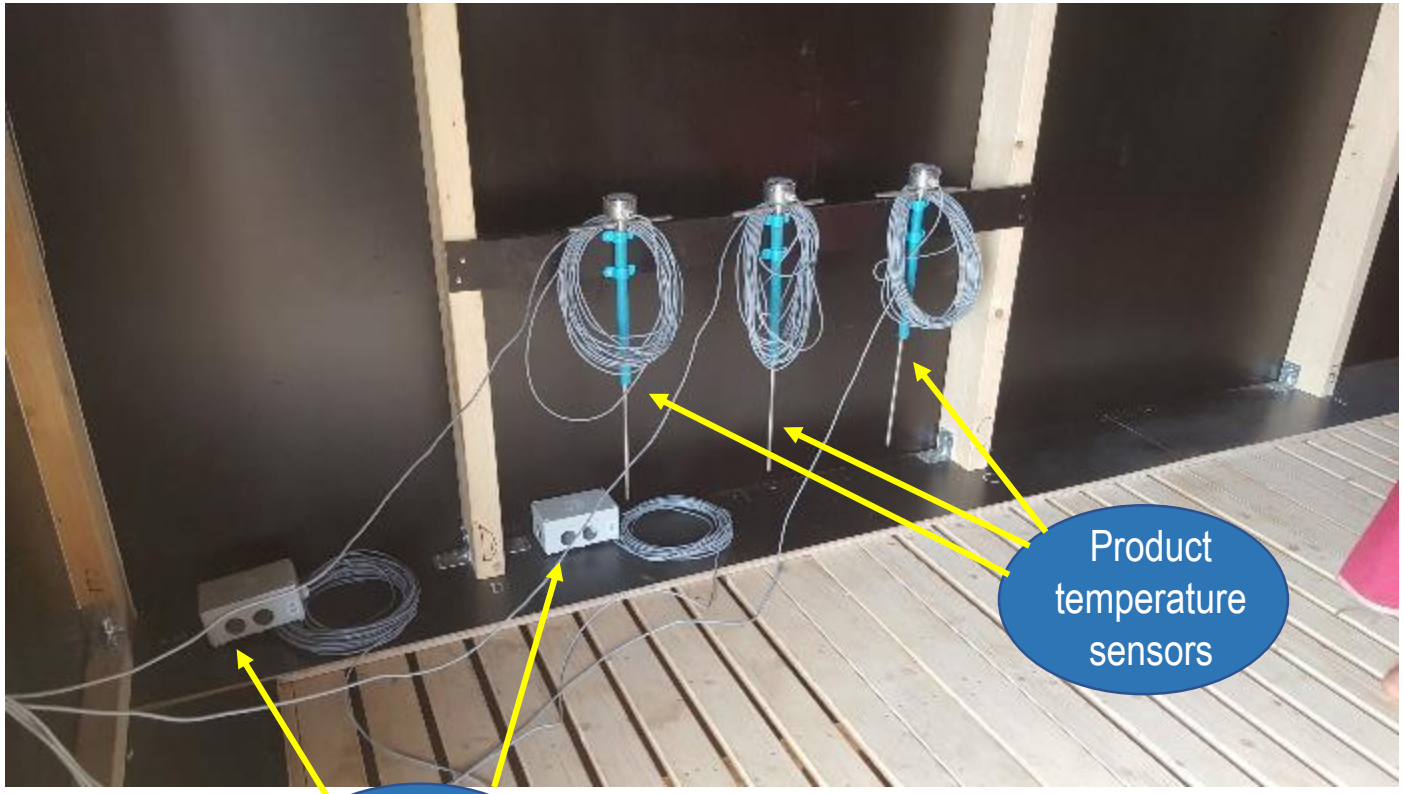
- (niet goed voor opslag, door zeer matige kwaliteit!)
- 3 weken geconditioneerd gedroogd
- Lokale methodiek (oogst en transport) gehanteerd

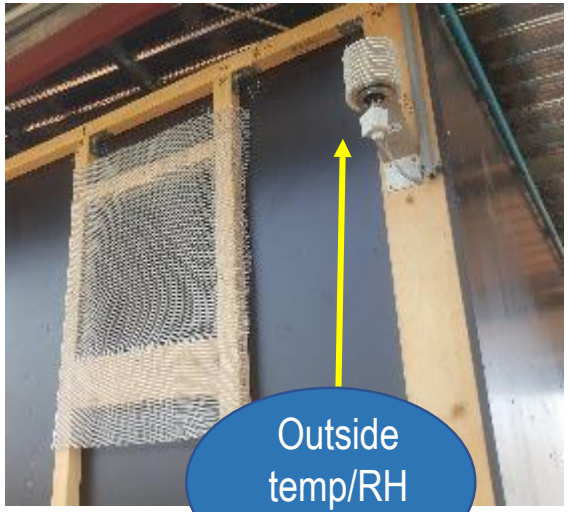
- Bewaarverliezen gereduceerd naar 5-10%
  - (ipv 35-40%)
- Opslag winterui ook mogelijk is !!
- Opslag ook bruikbaar voor andere gewassen!


Thank You
OMNIVENT

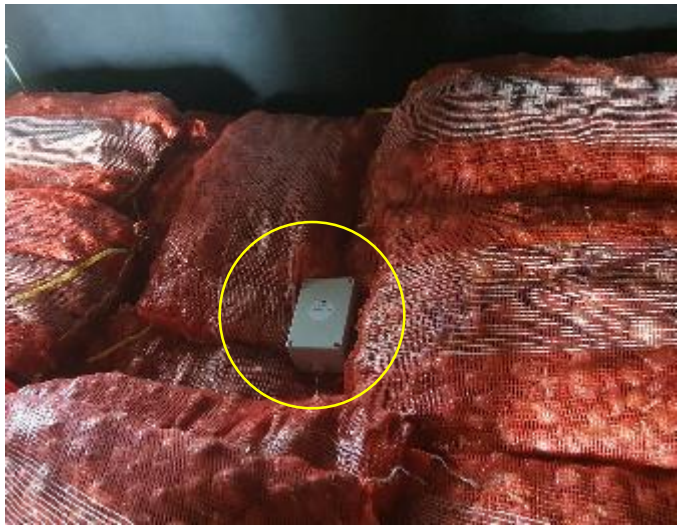
Custom-made Onion Storage Cell

Custom-made Onion Storage Cell





Custom-made Onion Storage Cell



Custom-made Onion Storage Cell

A curious case of biologicals: DNA Selftoxicity

AKIS in practice?

Peter Jens

KOPPERT BIOLOGICAL SYSTEMS

KOPPERT FOUNDATION

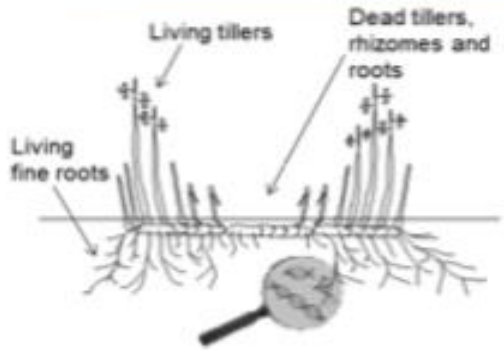
AND BIOPHARMA

PARTNERS WITH NATURE

The Discovery

A new function of extracellular DNA

Why plants in arid environments form rings?

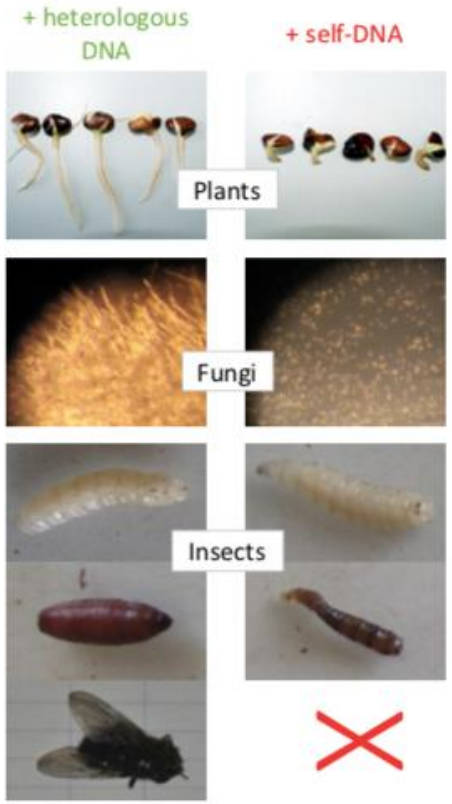


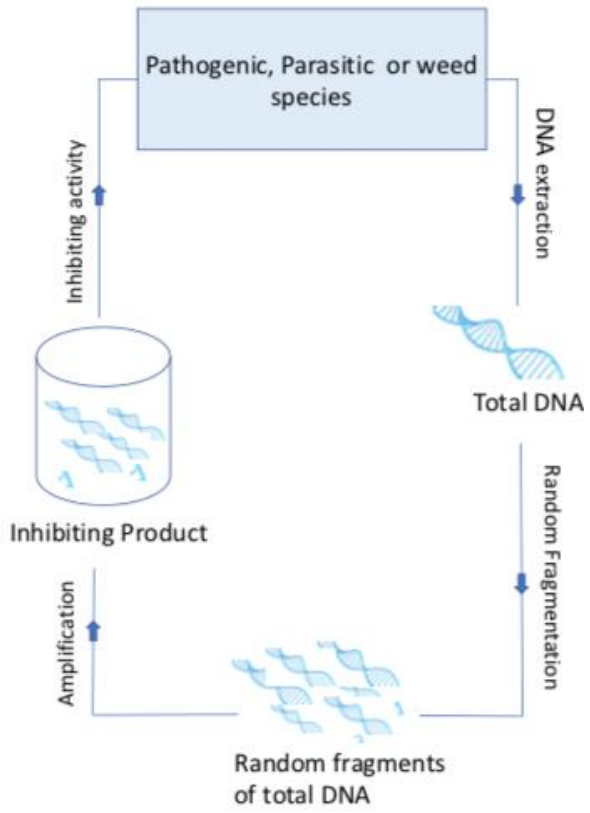
Why seedlings die under their mother plant?

DNA released by the decomposition of plant litter inhibits the growth of the same species. This new function of extracellular DNA may explain the plant-soil negative feedback in natural ecosystems as well as the soil-sickness in agriculture.

Methods and Lab evidence

A general biological phenomenon





All species can use the DNA of other species (heterologous DNA) as a source of nutrient, whereas the **uptake of self-DNA is toxic.**

Harmful organisms can be controlled by the exposure to their own DNA.

Patent no. WO/2014/020624 (PCT/IT2013/000193)

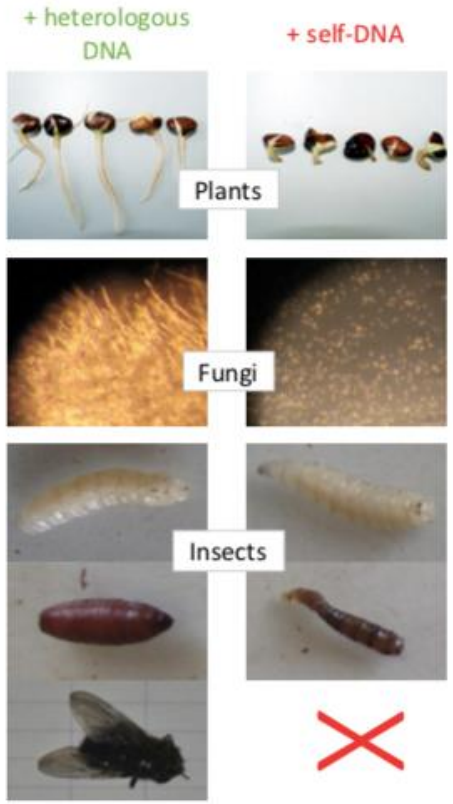
Discovered in 2010, patents granted in 2017 and today around 100 agri-, food and farma researchers work on a variety of projects:

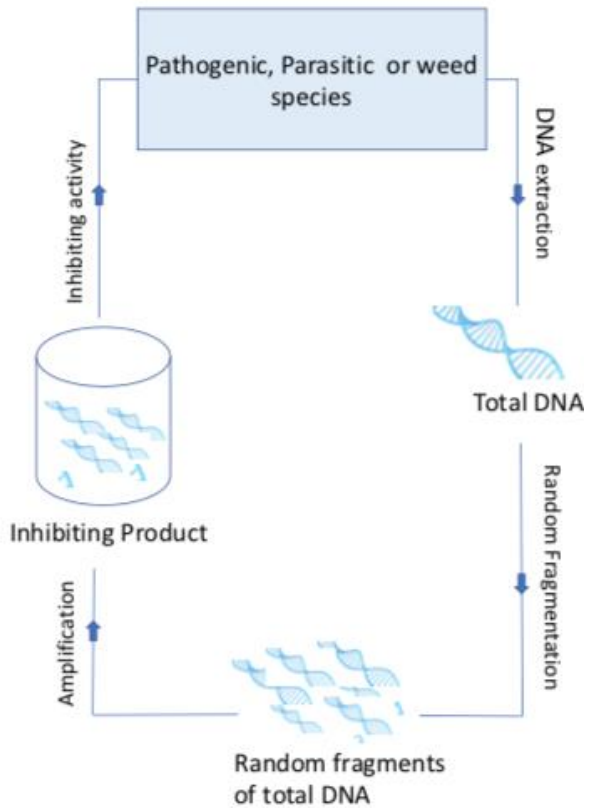
Plant, soil and mammalian microbiome, obesitas, oncology human celllines, cystic fibrosis/biofilms, nematodes, anti-infectives, malaria, leishmaniasis, fungi, weeds etc.

Extracellular self-DNA leads to a natural, very ancient, method for population density control.

Methods and Lab evidence

A general biological phenomenon





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Biocontrol in Agriculture

Inhibit growth of fungi, nematodes, insects larvae and weeds

Gut Microbiome Stabilizers

Inhibit proliferation of species/ strain specific pathogens

Topical Skin Conditions

Inhibit Malassezia, bacterial/fungal skin conditions and Dandruff

Medical Conditions

Inhibit bacterial respiratory disorders, acute medical conditions like Cancer

We see an accelerated uptake of this new finding in Asia, the Americas and Africa. Slow in Northern Europe. Fear of novelty?

Big innovation- obstacles :

= help the establishment to **unlearn and learn**.

= Innovators and policymakers are **to be synchronized**:

= Precompetitive cooperation must be **enabled.**

KOPPERT BIOLOGICAL SYSTEMS

KOPPERT FOUNDATION

AND BIOPHARMA

PARTNERS WITH NATURE

Education and networking

KOPPERT
DEVELOPMENT
INSTITUTE
BERRIES

CABI

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Improving lives by solving problems in agriculture and the environment

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- CABI medium term strategy
- Our staff
- Vacancies
- Our scientists' output
- Case studies
- Our history

Farmers in Malawi fund first purpose-built permanent plant clinic to fight pests and diseases

10 April 2019 - A group of farmers in Ntcheu district, Central Malawi, have clubbed together to fund the first purpose-built permanent plant clinic to help fight a range of crop-devastating pests and diseases that threaten their livelihoods and food security.

Pengapenga Plant Clinic, which previously operated under a tree in the market place, is now providing a more attractive and fit-for-purpose brick structure which is giving the 1,000 smallholder farmers it serves shelter from the rain.

Synchronizing practitioners and policy makers

Latia

We Build Agripreneurs

Precompetitive collaboration:
Farmers' needs FIRST

AKIS in practice?

2. Building a **network** rapidly outside the R&D establishment (India, Kenya, Mexico, Indonesia) AND within through PhD funding
3. Offer a novel vision to agriculture where “too much of the same becomes toxic”
4. We offer entrepreneurs start-up facilities from equipment to licenses
5. We create markets for novel agricultural products and (agri-and livestock) and medical therapies and insights
6. We engage in lots of public interactions and dialogues about the discovery.
7. We mobilize other people’s money and energy, without extracting it for our own good.