



# Seed disinfection & seed enhancement

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3 March 2026



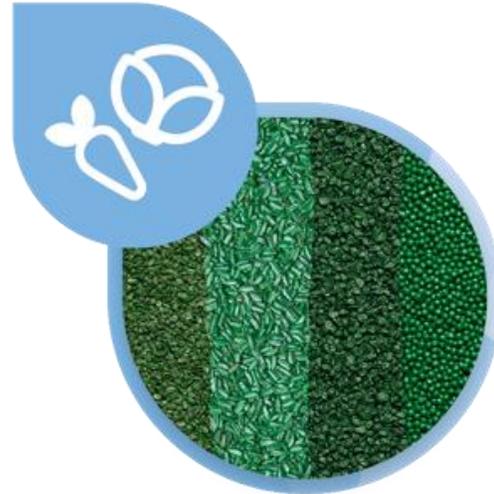
**Exploring nature never stops**

# TODAY



**2,300**

Employees  
worldwide



Broad  
assortment

**40+**  
crops

**1000+**  
varieties



Organic  
Program

**35+**  
crops

**170+**  
varieties



Breeding,  
production &  
sales

around  
the world

BRASSICAS

ROOTED  
CROPS

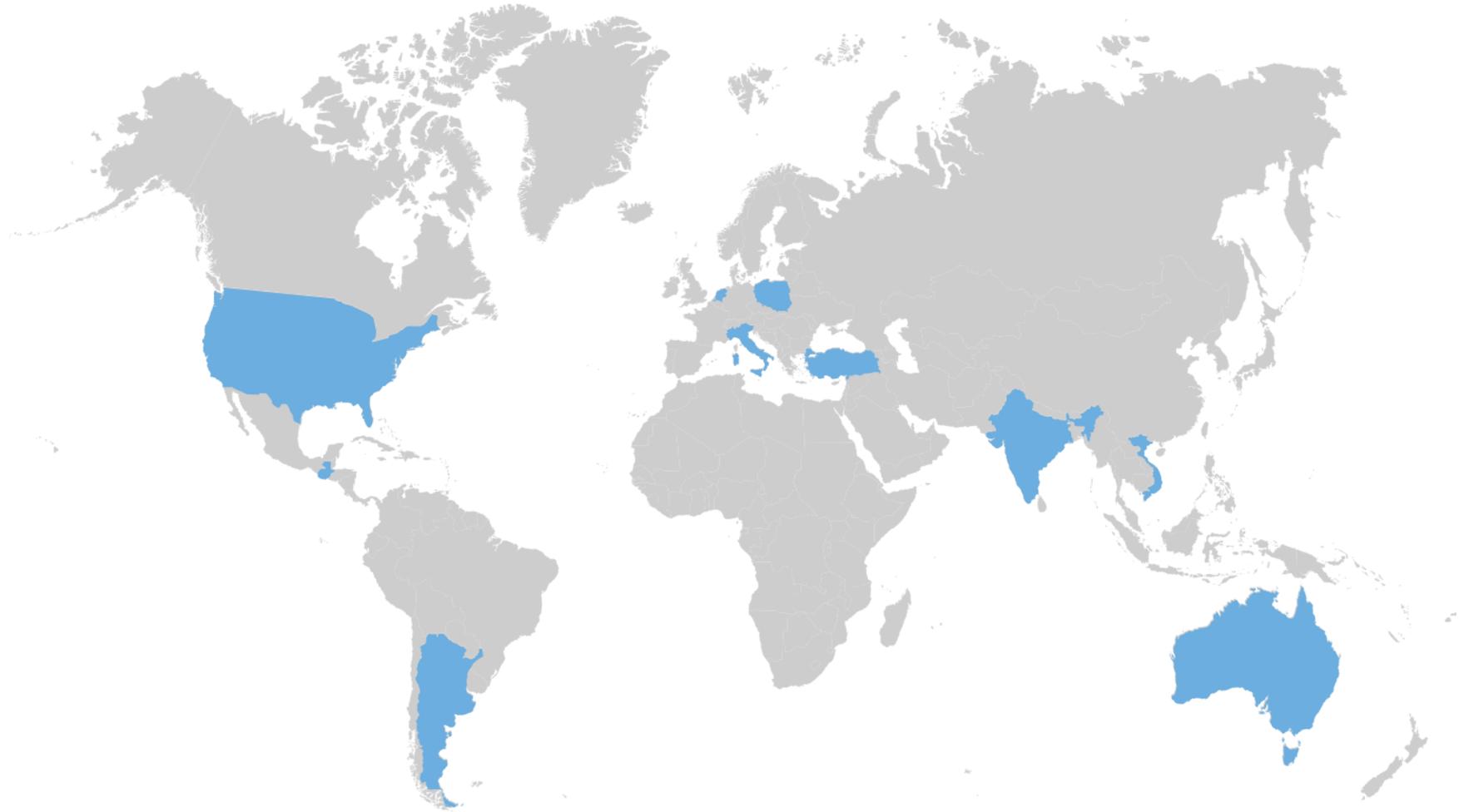
ALLIUM

FRUIT  
CROPS

LEAF  
CROPS

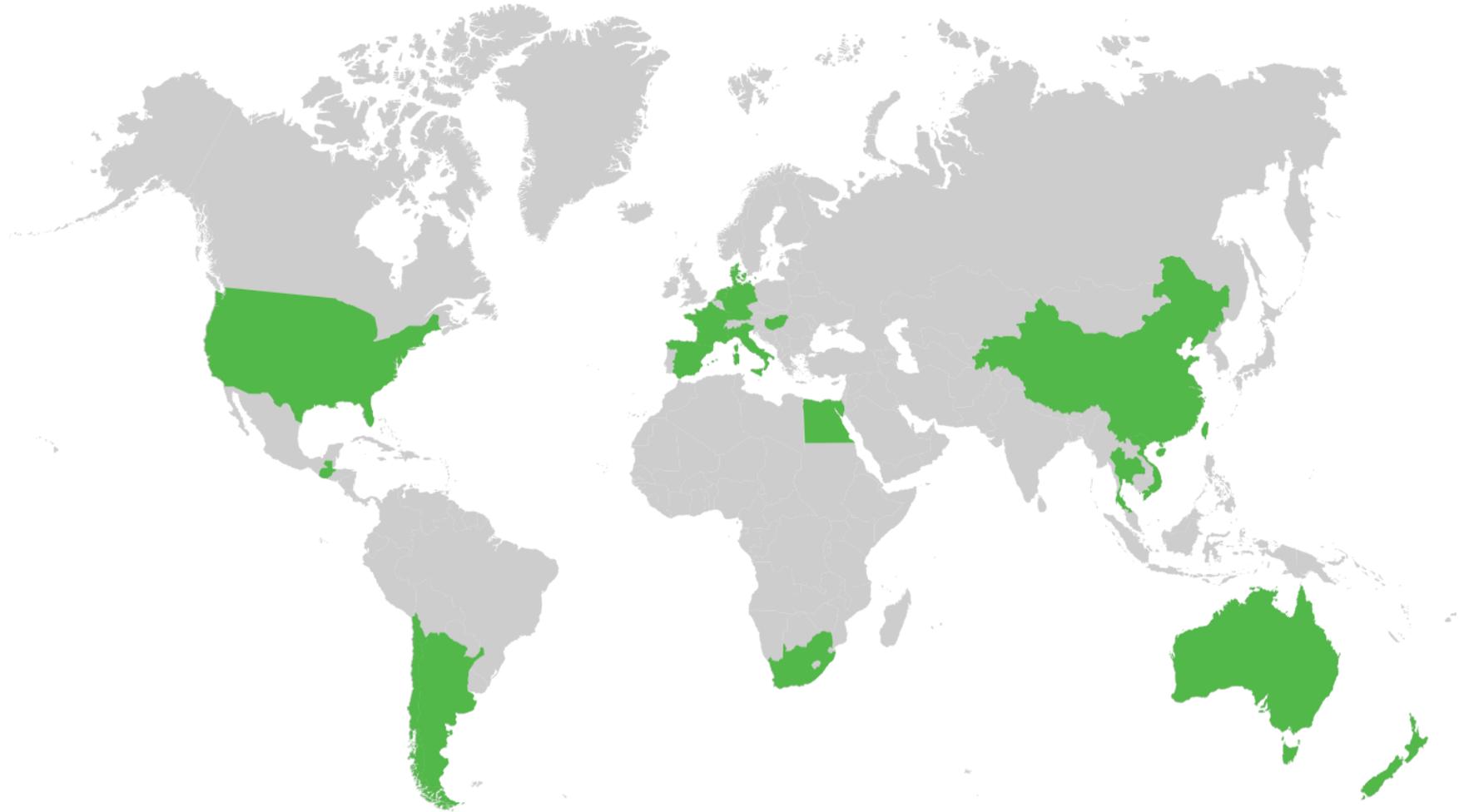


# THE WORLD OF BEJO



**Breeding stations**

# THE WORLD OF BEJO



**Production fields**

# THE WORLD OF BEJO



**Sales offices**

# THE WORLD OF BEJO

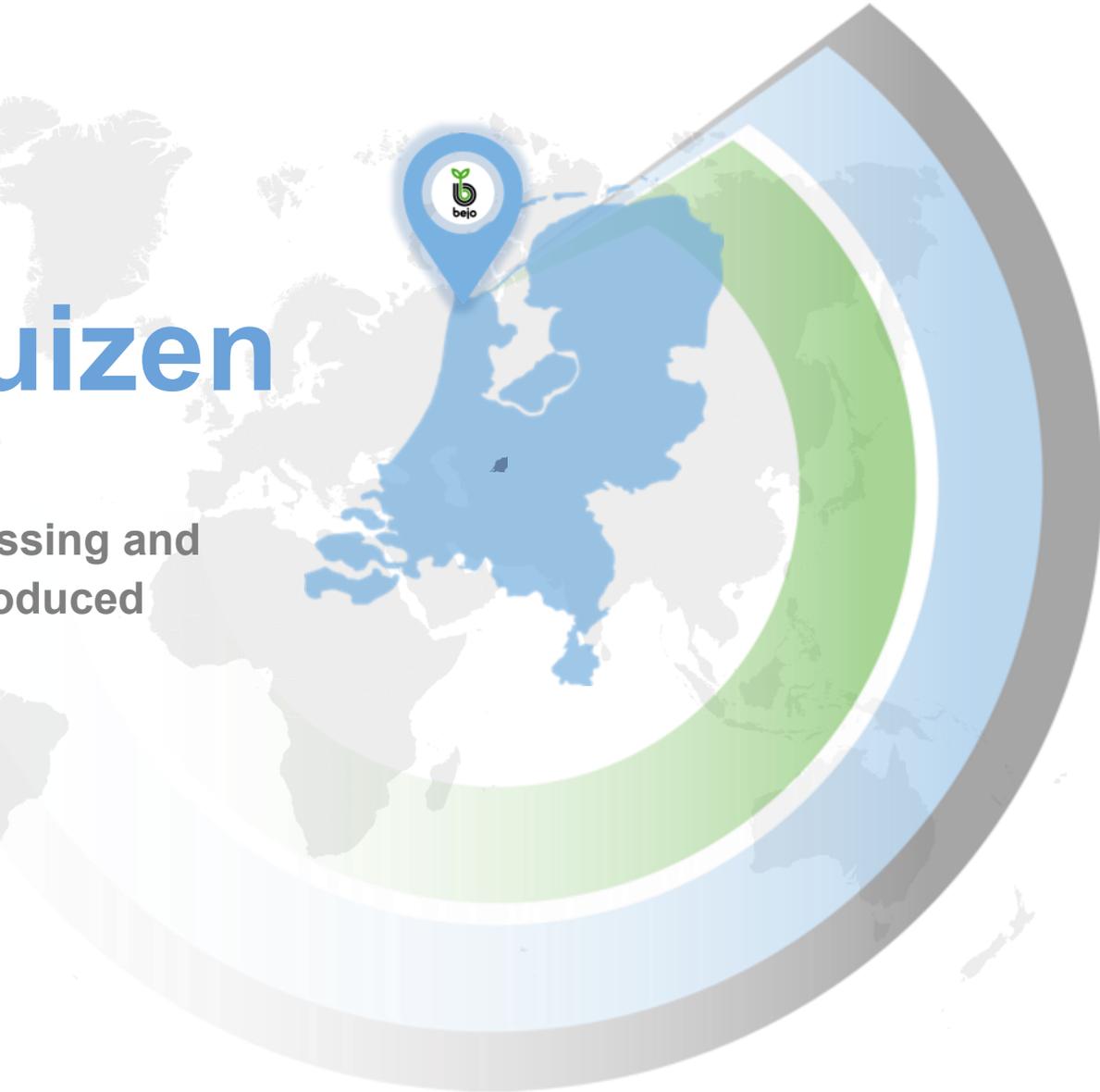


**Sales activities**

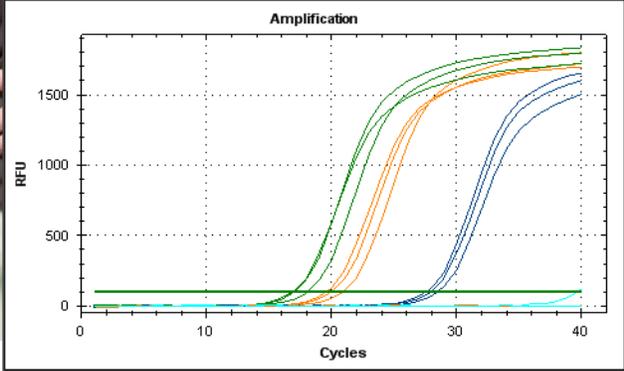
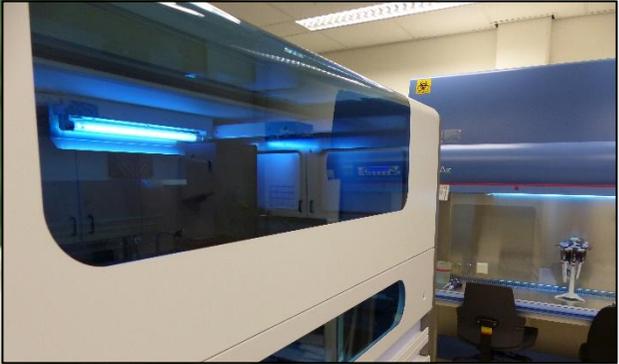
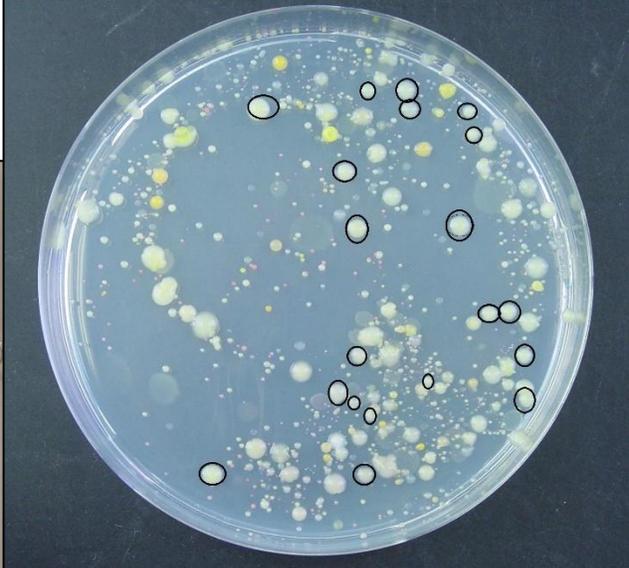
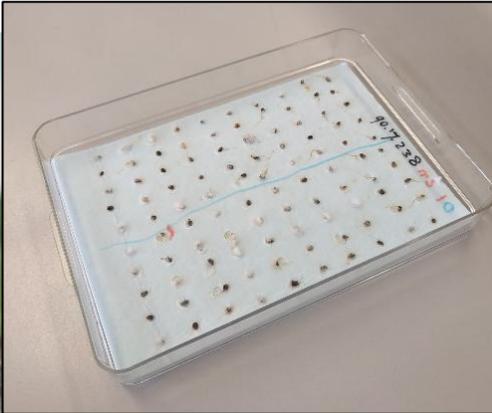
## Warmenhuizen

The Netherlands

- ▶ Quality control, processing and storage of globally produced Bejo seed
- ▶ Seed Research



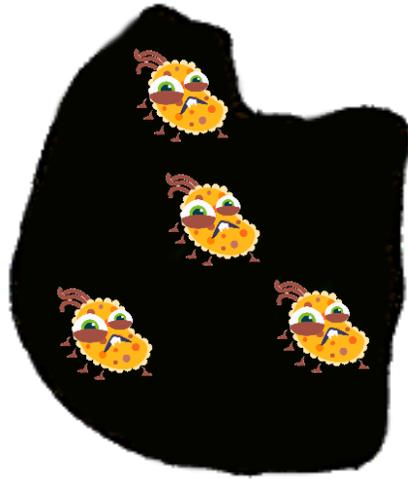
# Seed Health & Seed Quality





**Seed Pathology** guarantees the  
delivery of healthy seeds

# Why Seed Pathology?



Seedborne pathogen



# Movement of Seeds





# Physical seed disinfection for healthy seed

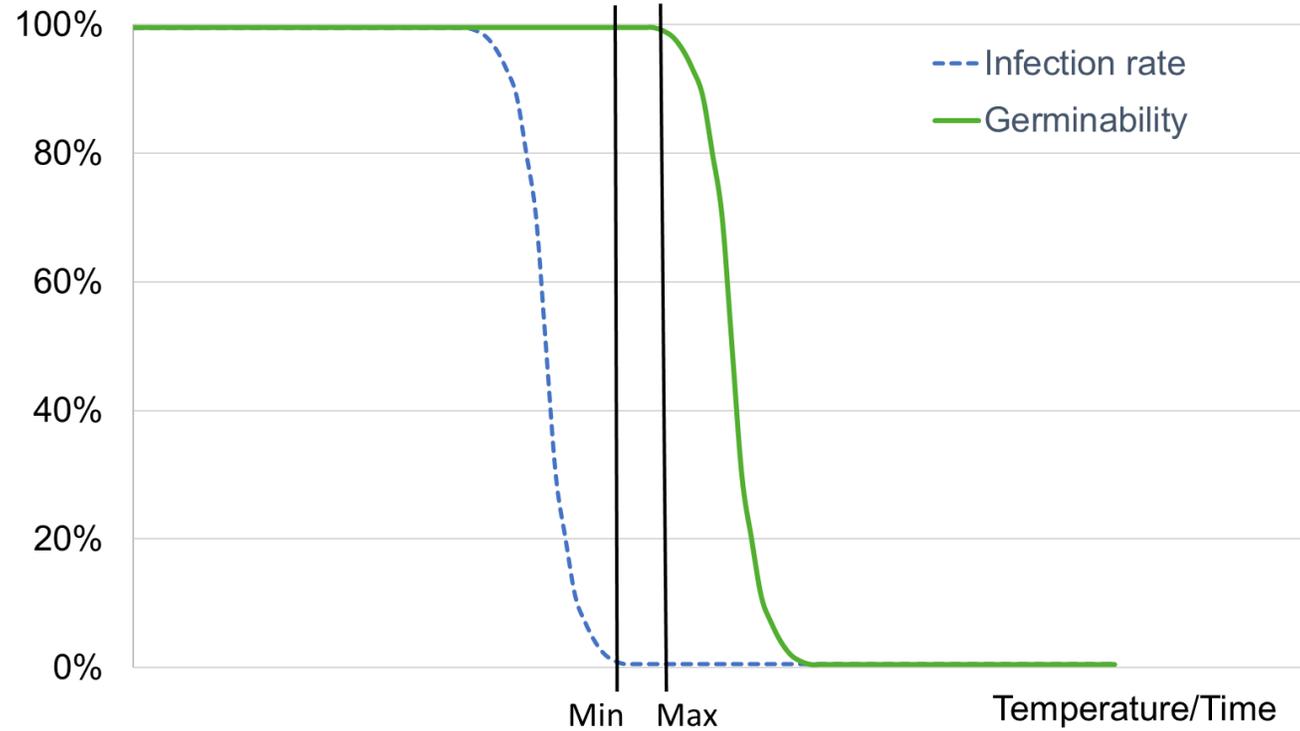
# Hot water treatment



# Steam vacuum treatment



# Physical seed disinfection



# Steam vacuum treatment

- A batch-wise treatment



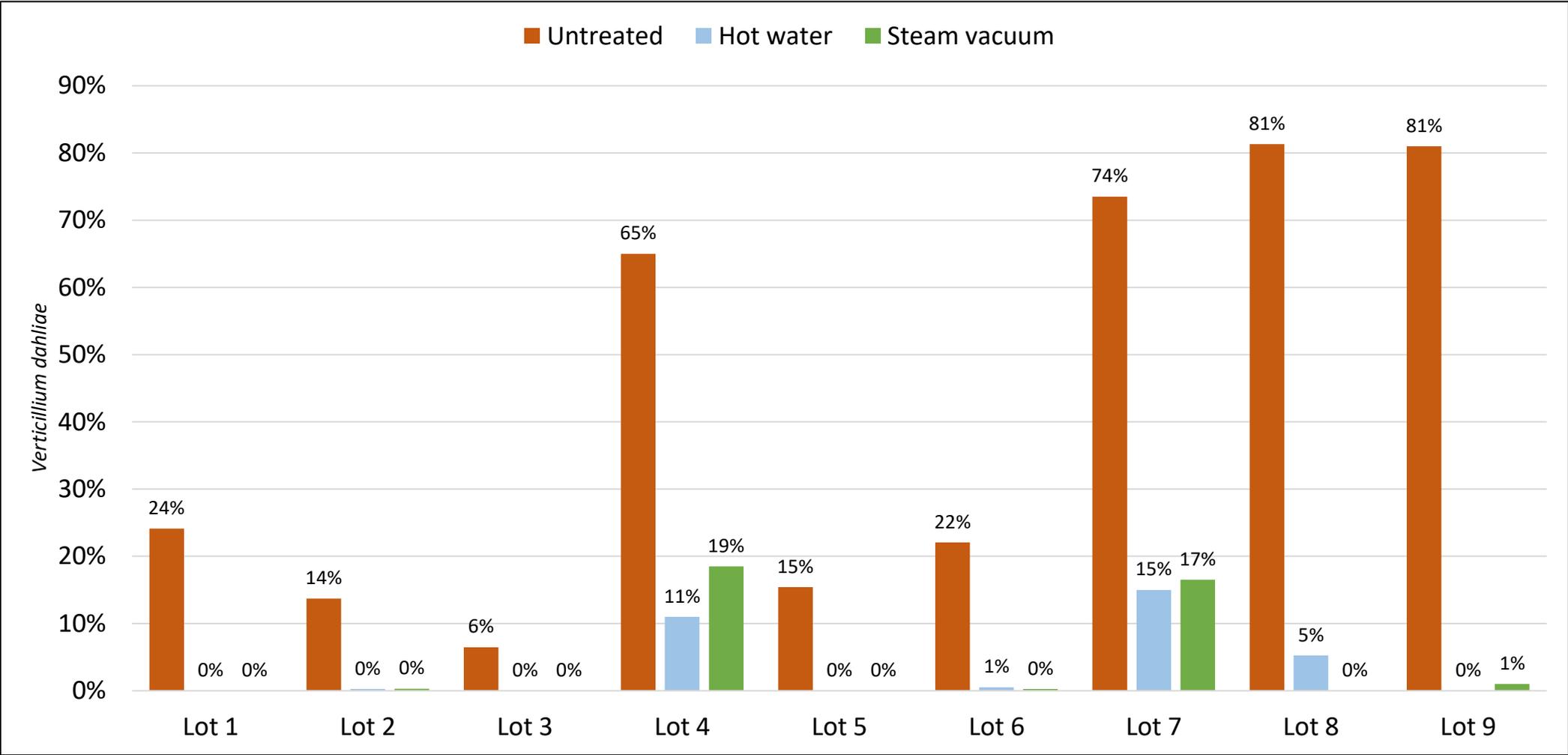


**SPINACH**

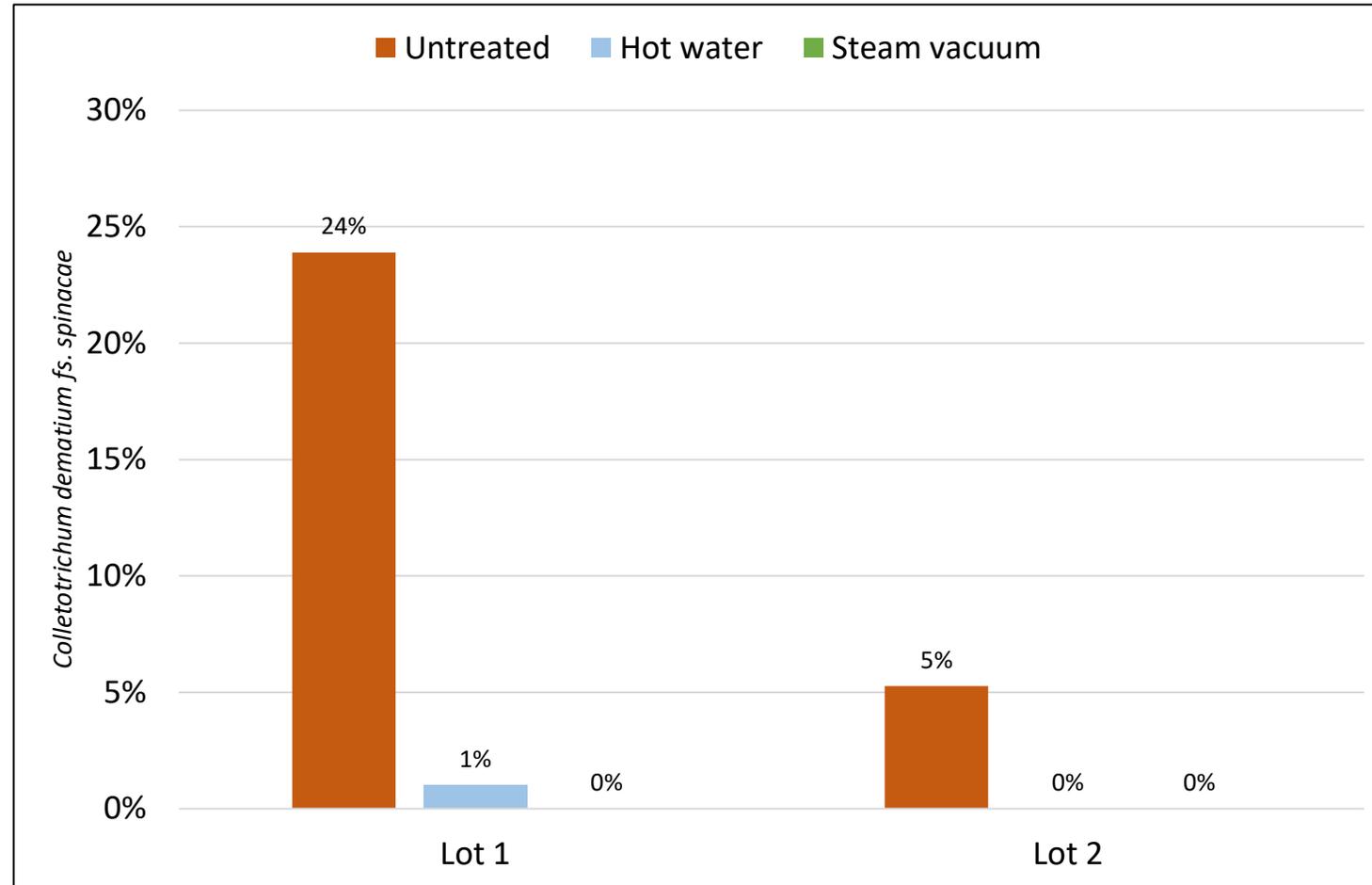
# Spinach seeds

- Bejo seed production in Denmark
- Important pathogens i.a.
  - *Colletotrichum dematium* f. *spinaciae*
  - *Cladosporium variabile*
  - *Verticillium dahlia*
  - *Fusarium oxysporum* f.sp. *Spinaciae*
- Development of steam vacuum treatment

# Disinfection of spinach seeds - *Verticillium*



# Disinfection of spinach seeds - *Colletotrichum*



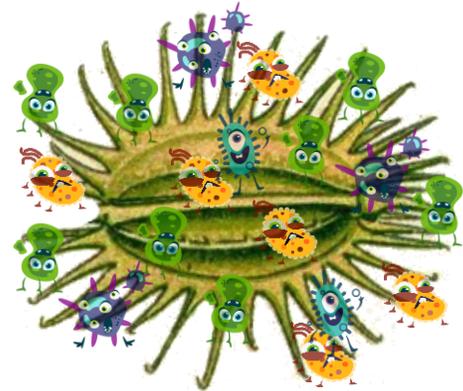
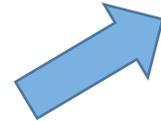
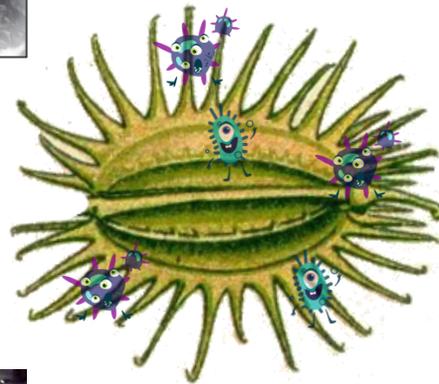
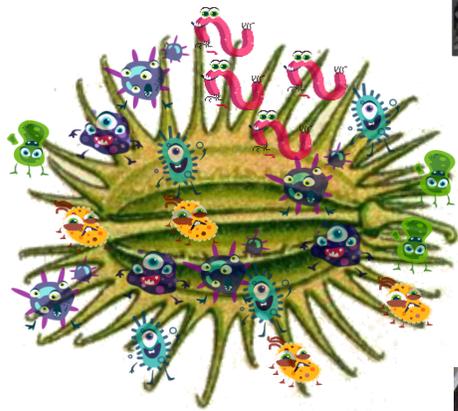


# Biostimulants and microbials

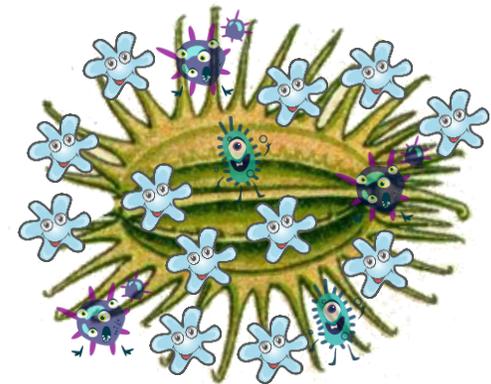
# Plant protection seed treatments

- We consider seed treatment (chemical & non-chemical) as significant part of the total package we offer growers/farmers worldwide.
- Seed treatment can be a very efficient and often most sustainable method to fight several diseases and pests.
- Development of PP seed treatments may not be Bejo's core business, however we wish to closely cooperate with major development companies to be a frontrunner in offering solutions to our customers.
- Apart from true PP seed treatments Bejo does invest in developing alternative treatments that lead to improved stress tolerance and better overall health.

# Missing microbes



Microbiome recovery



Microbial biocontrol agents  
(biofungicides)

# Biofungicides

- Effectiveness
  - Effective against damping-off diseases (*Fusarium*, *Pythium*, *Phoma*, *Rhizoctonia*)
  - Greater variation in effectiveness, depending on soil, moisture, temperature, crop, pathogen, etc.
  - Part of integrated pest management for healthy cultivation
- Stability
- Registrations
- Scale



Testing under controlled conditions.



Testing different soil types in the field.

# Biofungicides

- Effectiveness
- Stability
  - Coating process
  - Storage at Bejo
  - Transport
  - Storage at the customer
- Registrations
- Scale



# Biofungicides

- Effectiveness
- Stability
- Registrations
  - Long and uncertain process
  - Expensive
  - Various requirements worldwide
  - Collaboration with producers
- Scale



## Seed Disinfection Research



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## Seed Treatment & Additives Research



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