



**Enabling fungicide free agriculture**

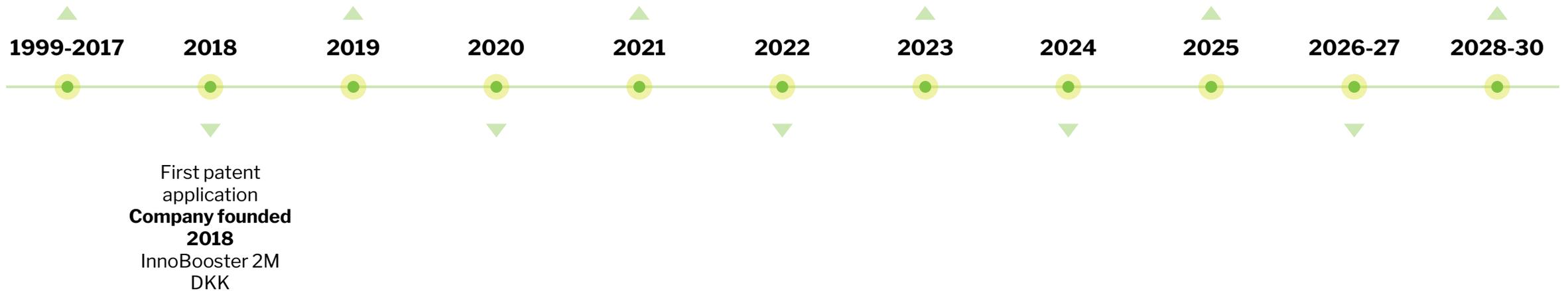
**DanSeed Symposium  
3. marts 2026  
Pernille Ollendorff Hede  
CEO - Healthycrop**

# TIMELINE



“When I saw the data, I knew this could make a real impact. My ambition was to take the invention out into the world and make a difference—wherever and as widely as possible”

R&D at AU looking at overexpressing Phytase in cereals for animal feed  
**PoC in Barley**



# PROBLEM

## Europe is phasing out key fungicides

### Fungal pressure is not declining

- Multisite fungicides already removed
- Fewer modes of action available
- Resistance development accelerating
- Yield and quality increasingly genotype-dependent

### Disease control is moving from chemistry to genetics



# SOLUTION

Healthycrop's patented invention boosts the crop's natural defenses.

## Facts:

Over 95% resistance to fungal infections

NGT-1 solution

Utilizes the crop's natural defense mechanism

Consistent high yield independent of fungal load

No mycotoxins › Higher food safety

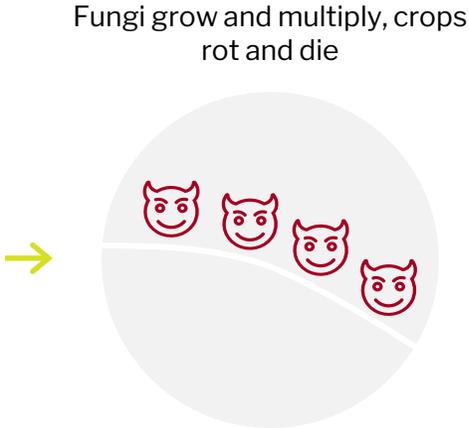
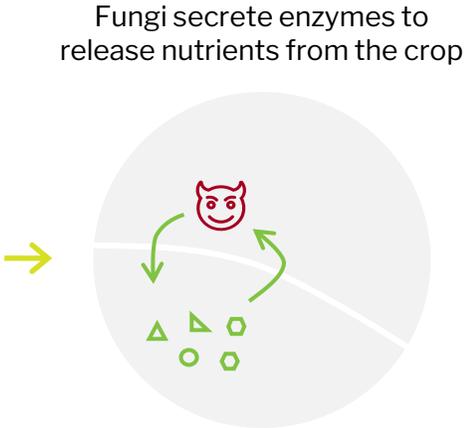
Patent protected



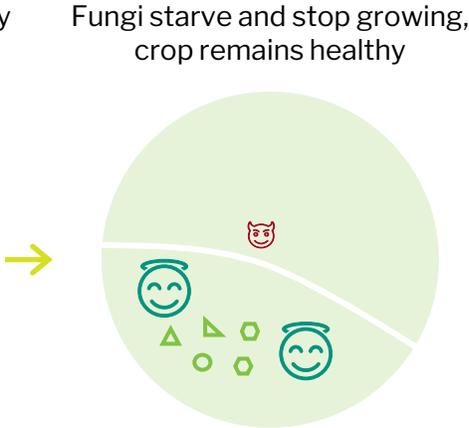
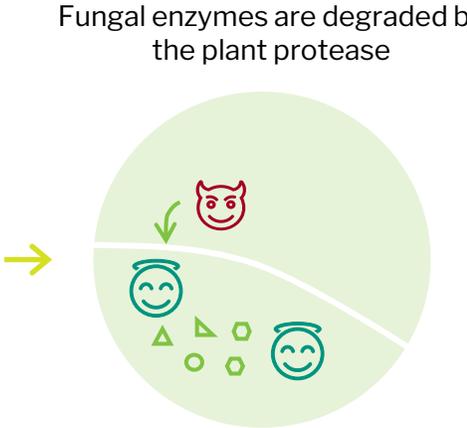
# HOW IT WORKS



**Standard crop**



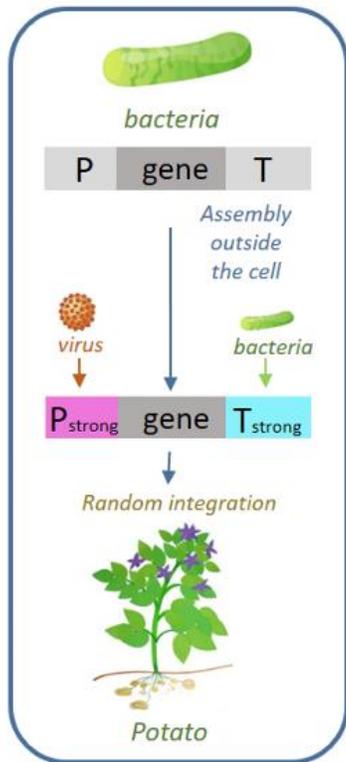
**Healthycrop crop**  
>95% resistance



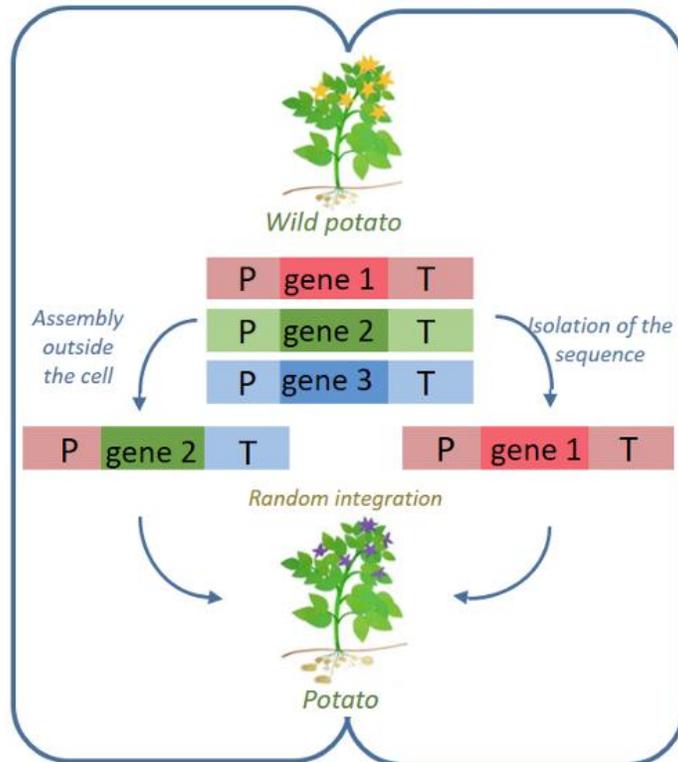
# HOW IT IS DONE

## NEW GENOMIC TECHNIQUES (NGT)

### A. Transgenesis

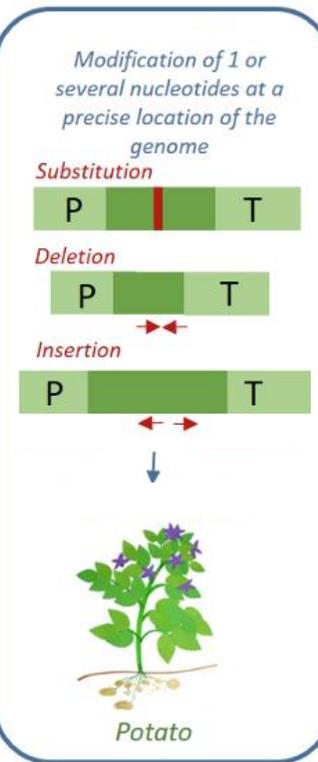


### B. Intragenesis



### C. Cisgenesis

### D. Targeted genome editing



### Transgenesis

Insertion of genes from an unrelated species or synthetic genes into an organism.

### Intragenesis

Insertion of rearranged genetic material from the same gene pool.

### Cisgenesis

Insertion of an exact copy of a gene from the same gene pool.

### Targeted genome editing

Precise modifications in DNA, such as insertions, deletions, or base changes.

P: promoter of expression T: terminator of expression  
© CRA-W, F. Deboe.



# STUDIES IN CORN



Transgenic corn overexpressing the barley Nepenthesin in the seeds

>95% relative resistance compared to normal crop

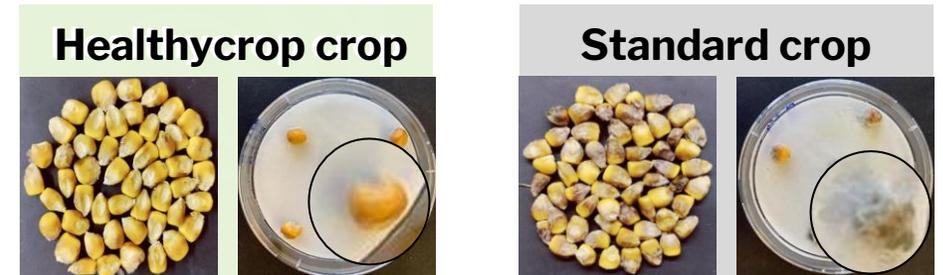
- *Fusarium graminearum* causing ear rot
- Testing done on semi-open field

No build-up of mycotoxins pre- and -post harvest

- DON, NIV, ZEN

No phenotypical change

- Plant height
- No. of cobs
- Thousand kernel weight (TKW)



Plant species	In vitro efficacy of NEP proteins on pathogenic fungi						
	<i>F. graminearum</i>	<i>F. culmorum</i>	<i>F. verticillioides</i>	<i>S. turcica</i>	<i>F. oxysporum</i>	<i>F. solani</i>	<i>P. infestans</i>
Barley	√	√	X	X	—	—	—
Maize	X	—	√	√	√	√	√
Soy	—	—	—	—	√	√	X
Potato	—	—	—	—	X	√	√



In vitro data indicates great potential for application of Healthycrop technology in other crops !



# STRATEGIC FOCUS AND PARTNERSHIPS



Collaboration with University of Aarhus  
Supported by Innovation Fund Denmark

NGT-1  
Expected to finish Q2 2027



Strategic collaboration to develop non-GM fungal resistant “table and processing (crisps and chips) potatoes” in EU and US

NGT-1  
Expected to finish Q4 2027



Looking for strategic partners to implement in commercial elite lines and test on open fields

Target field crops: Corn, Wheat, Soy, Canola, Cotton, Rice, Sunflower



# TEAM



**Dr. Pernille  
Ollendorff Hede**

CEO  
Co-founder  
*University of Copenhagen  
Biotech and Business Dev.*



**Dr. Henrik  
Brinch-Pedersen**

CTO  
Co-inventor, -founder  
*University of Aarhus  
Plant Genetics*



**Dr. Zelalem  
Eshetu Bekalu**

Scientific Officer  
Co-inventor  
*University of Aarhus  
Crop Defense Mechanisms*



**Dr. Michael  
Panting**

Scientific Officer  
*University of Aarhus  
Crop Modification  
CRISPR*



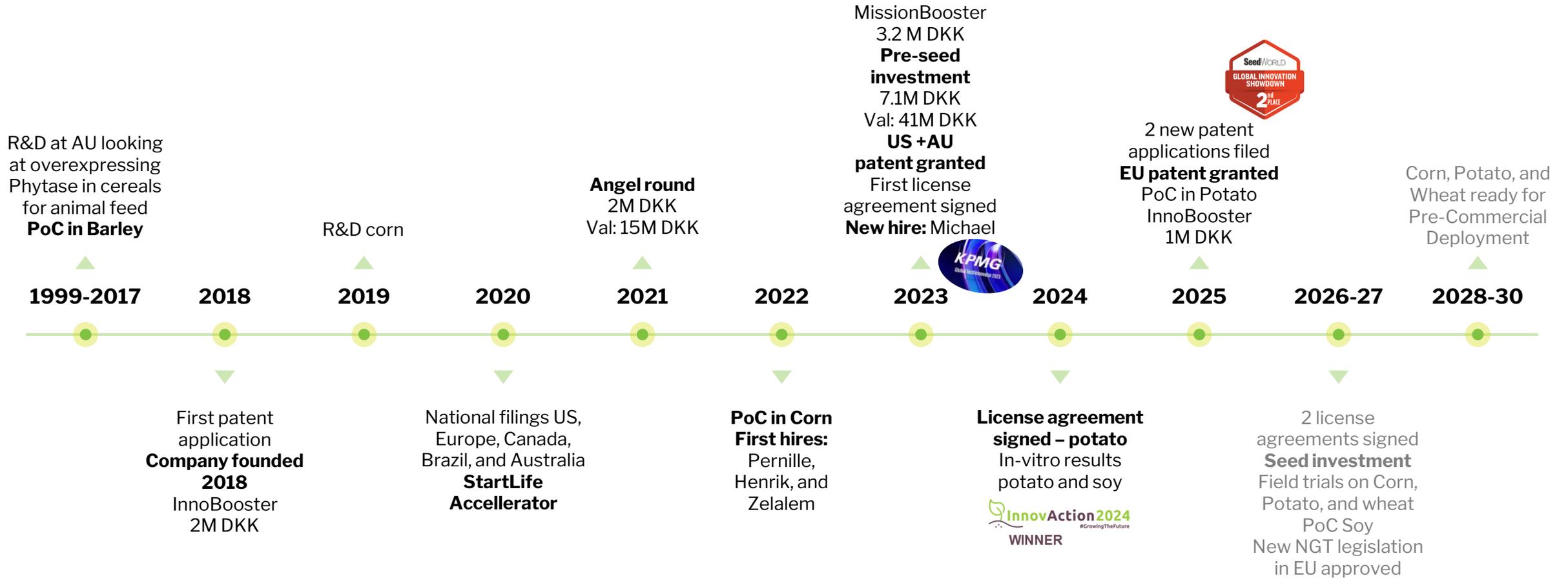
And  
>10 **partners**  
and **advisors**



**Dr. Leo Melchers**



# TIMELINE





## Contacts

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## Supported by:

Innovation Fund Denmark



**STARTLIFE**  
Agrifoodtech Accelerator



## Awards:



 **InnovAction2024**  
#GrowingTheFuture

**WINNER**

