



# RAINBOW CROPS

engineering complex traits in crops

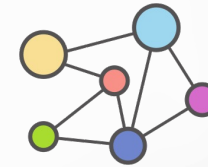


**Giacomo Bastianelli**

Entrepreneur in Residence @VIB  
CEO @ Rainbow Crops



We need a **resilient yield**  
against abiotic and biotic stress

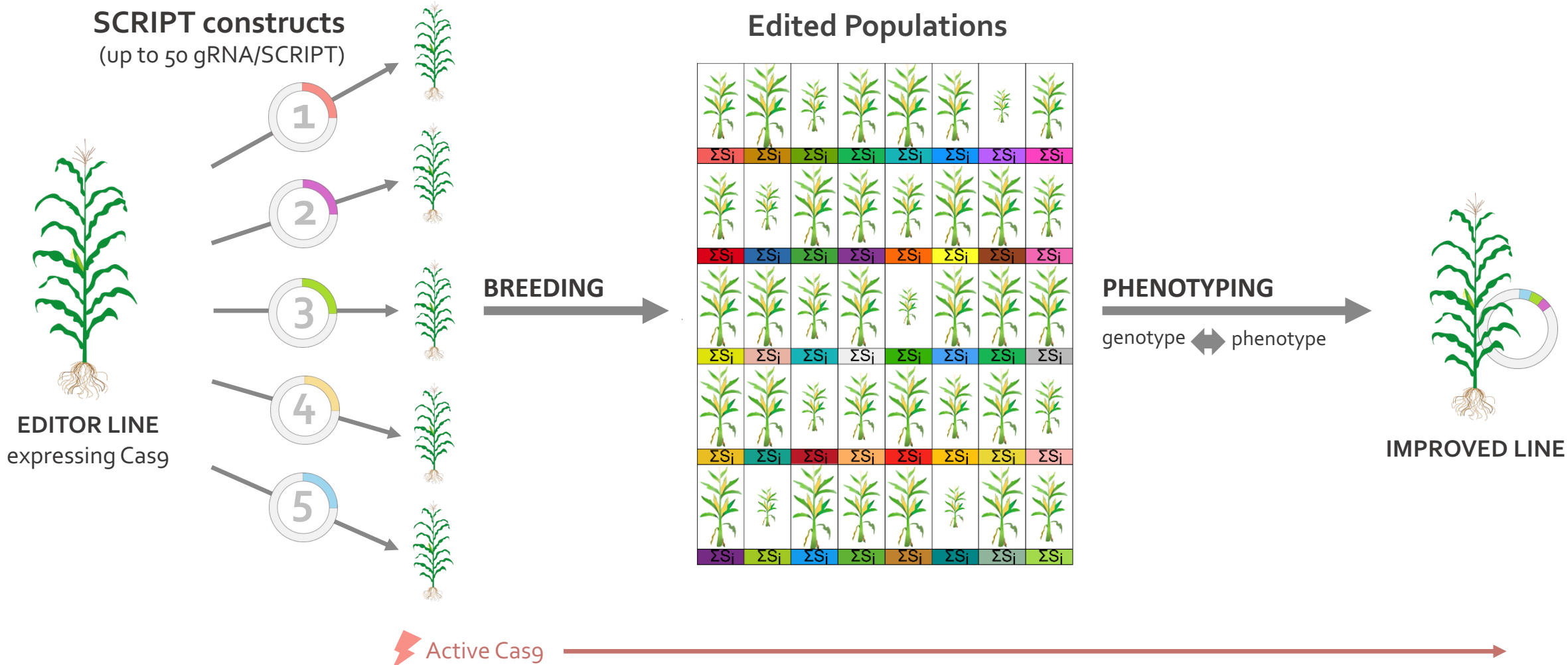


Yield is a complex trait  
governed by **gene networks**

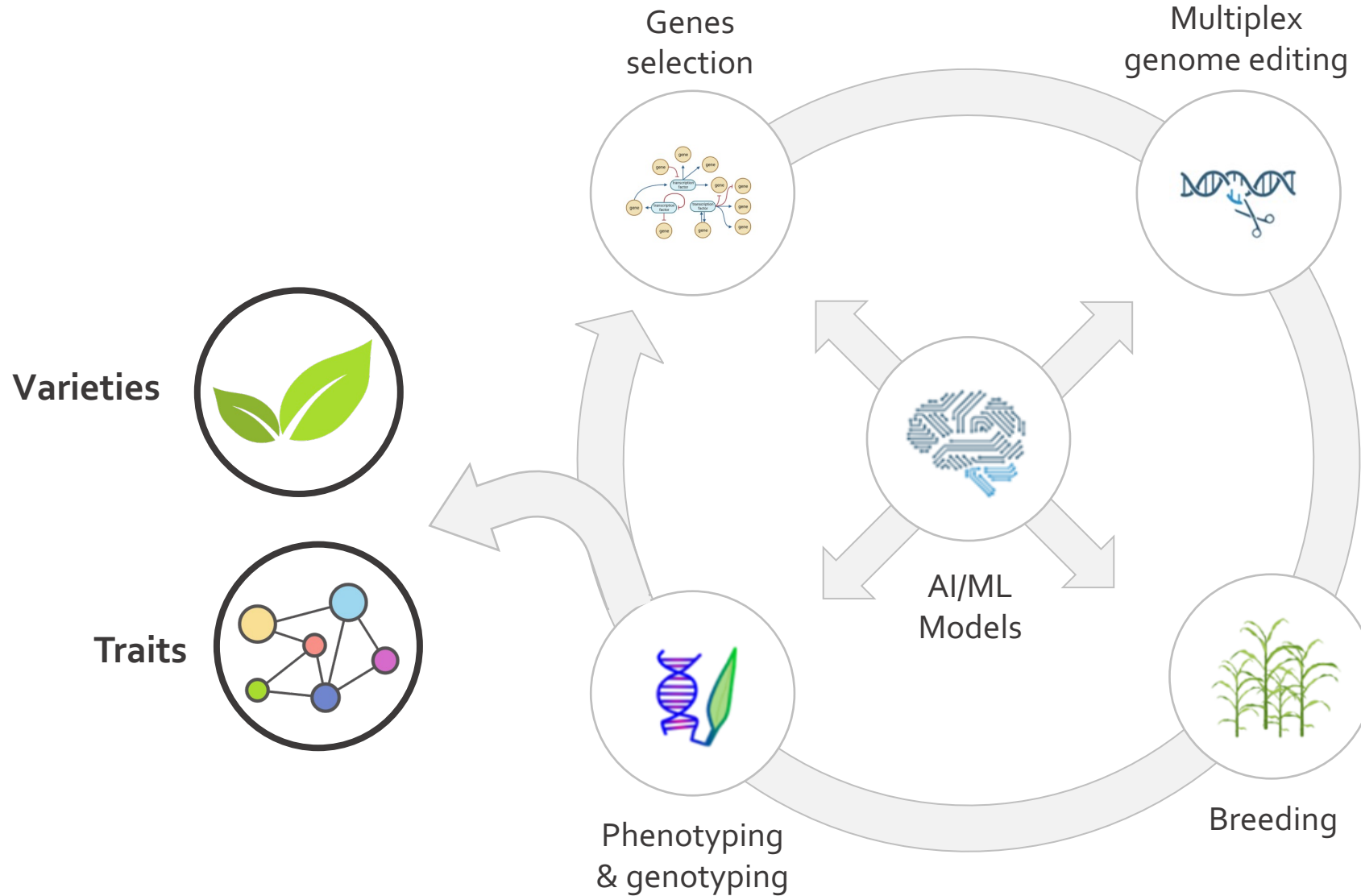


Can we engineer these gene  
networks via **gene editing**?

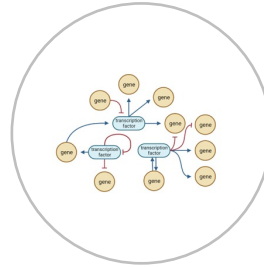
# Multiplex Genome Editing + Breeding = Targeted Genetic Diversity



# Trait Foundry™ : an integrated approach to engineer gene networks



# Identify a combination of gene edits that improves biomass and yield in corn



**60** genes (growth repressors)



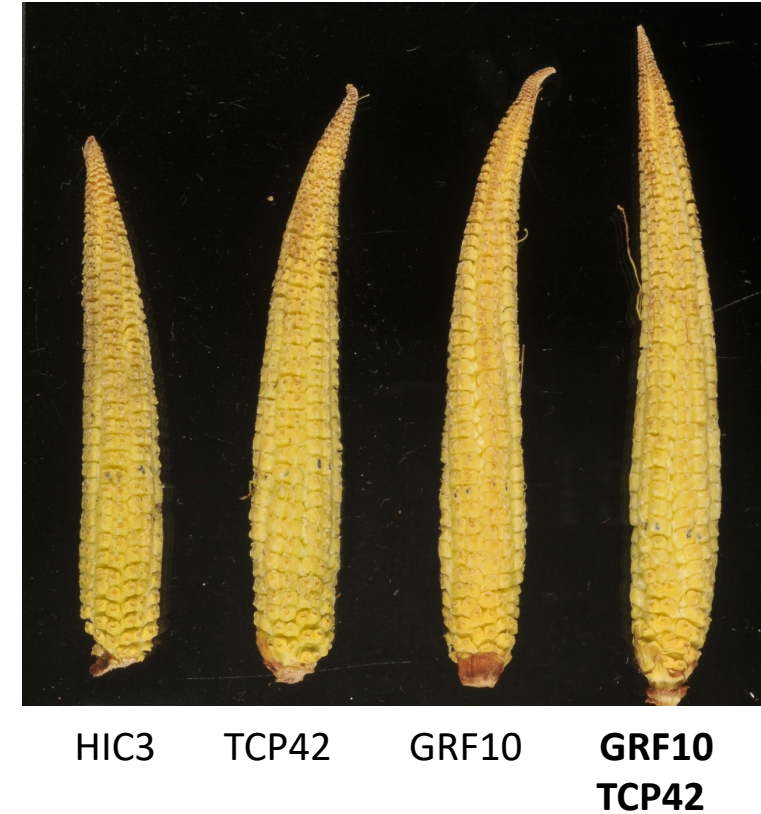
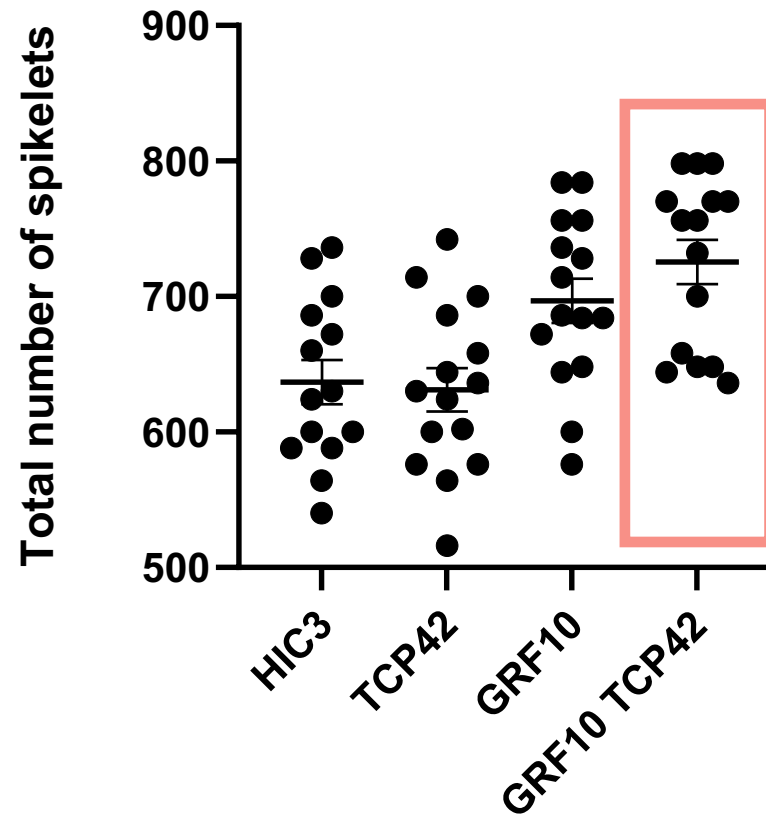
**5** SCRIPTs-edited plants



**>1000** plants

# A plant with 2 edited genes (GRF10-TCP42) has improved phenotypes

- ✓ Leaf size
- ✓ Biomass
- ✓ Stem diameter
- ✓ Seed yield potential



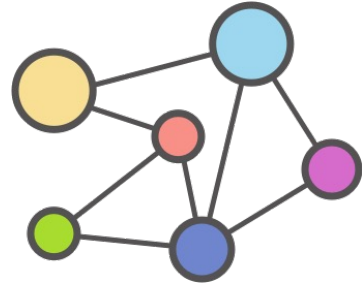
A **patent** was filed on this combination of edited genes

Lorenzo et al. 2022

Impens et al. 2023



# Business model and value creation



## Trait Discovery

We license our **patents on gene combinations** to breeding companies



## Variety Development

We apply our Trait Foundry™ technology to **elite germplasms** of selected crops

# Rainbow Crops is ready to enter the agriculture biotechnology market

2032

\$222B

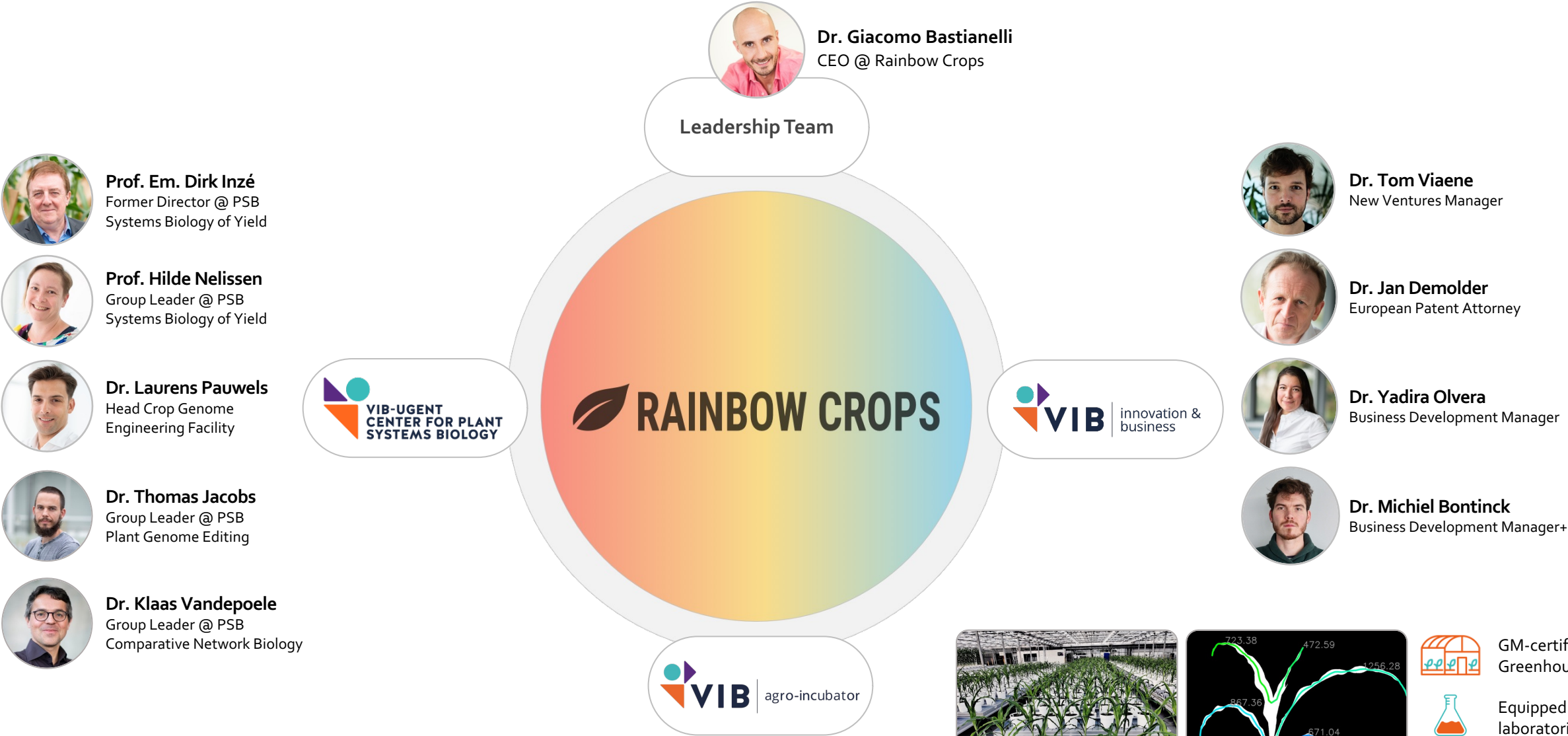
+8.1%

Predecence Research 2023

- ✓ Trait Foundry™ tech platform **validated in corn**
- ✓ **Strong interest** from breeders to partner up
- ✓ Markets are **relaxing regulations** (e.g. EU)



# Combining top-notch science, infrastructures and entrepreneurial drive



**Dr. Giacomo Bastianelli**  
CEO @ Rainbow Crops

Leadership Team



**Prof. Em. Dirk Inzé**  
Former Director @ PSB  
Systems Biology of Yield



**Prof. Hilde Nelissen**  
Group Leader @ PSB  
Systems Biology of Yield



**Dr. Laurens Pauwels**  
Head Crop Genome  
Engineering Facility



**Dr. Thomas Jacobs**  
Group Leader @ PSB  
Plant Genome Editing



**Dr. Klaas Vandepoele**  
Group Leader @ PSB  
Comparative Network Biology



**Dr. Tom Viaene**  
New Ventures Manager



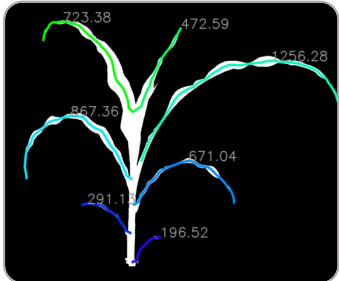
**Dr. Jan Demolder**  
European Patent Attorney



**Dr. Yadira Olvera**  
Business Development Manager



**Dr. Michiel Bontinck**  
Business Development Manager+



GM-certified  
Greenhouse

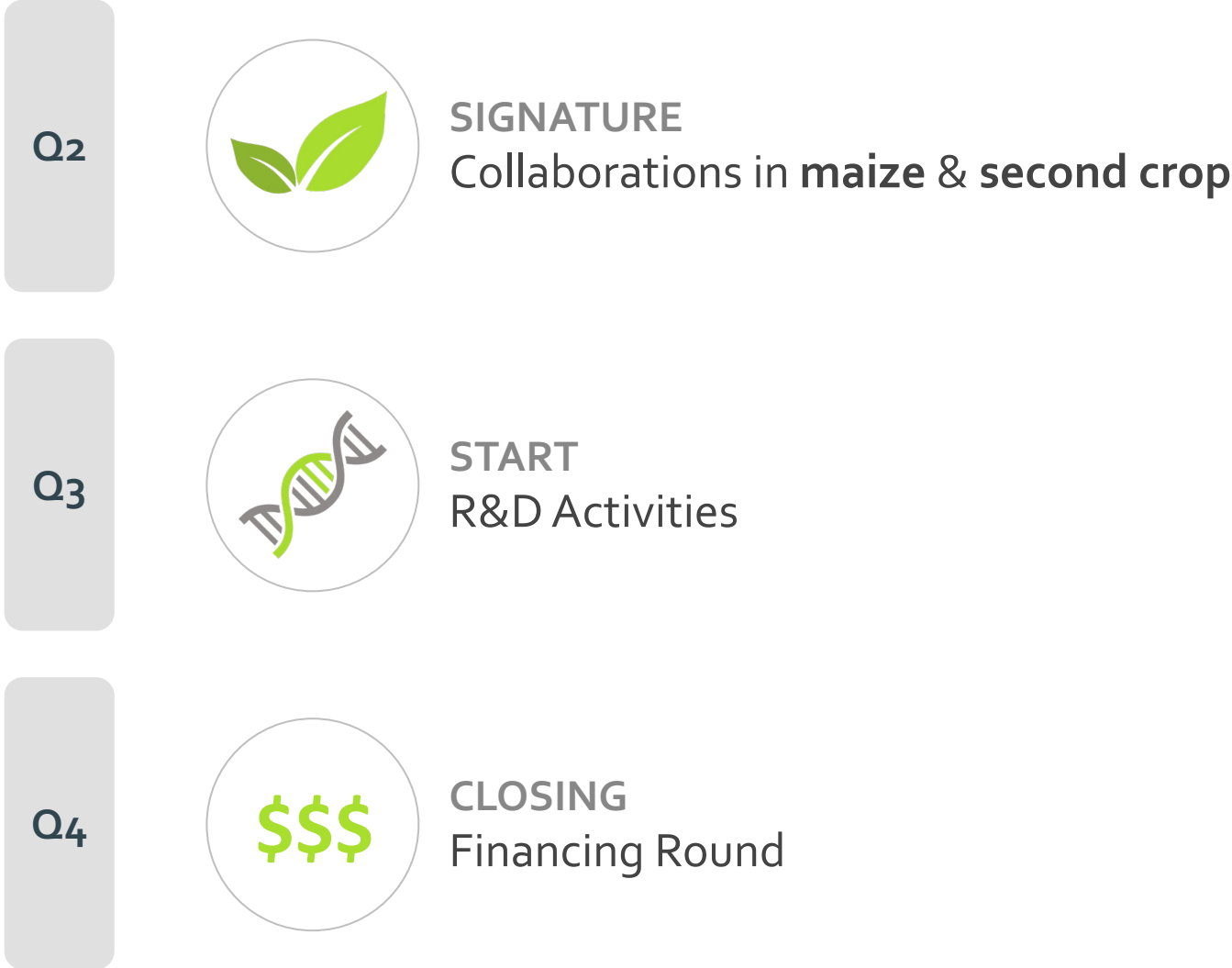


Equipped  
laboratories



Automated  
Phenotyping

# Plan and milestones



# Are you an **Investor** or a **Breeding Company?**



**Giacomo Bastianelli**  
giacomo.bastianelli@vib.be



**Tom Viaene**  
tom.viaene@vib.be