The Commercial Horizon of NGTs

Driving Sustainability and Market Acceptance in the Vegetable Seed Sector

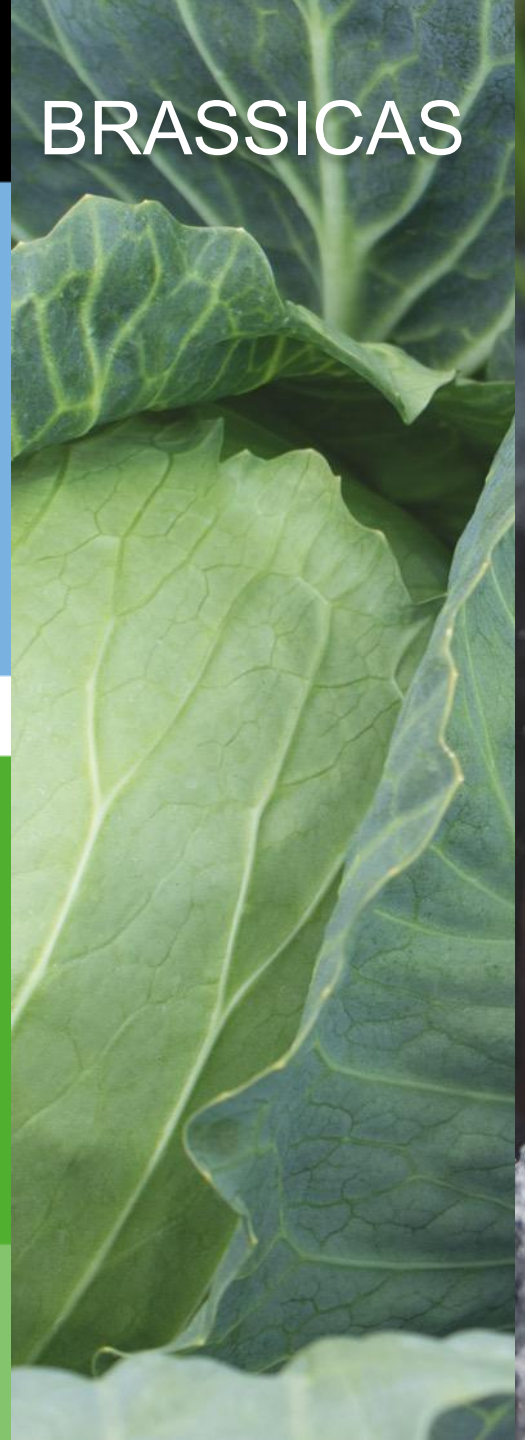
Laurens Kroon, Head of Research Bejo

Studiekring voor Plantenveredeling en de Koninklijke Nederlandse Plantenziektekundige Vereniging (KNPV)

Overview

- Introduction Bejo
- Level playing field
- Freedom to operate
- Technological boundaries
- Collaborations
- Organic dilemma
- Questions


Exploring nature never stops


BRASSICAS


ROOTED
CROPS


ALLIUM


FRUIT
CROPS

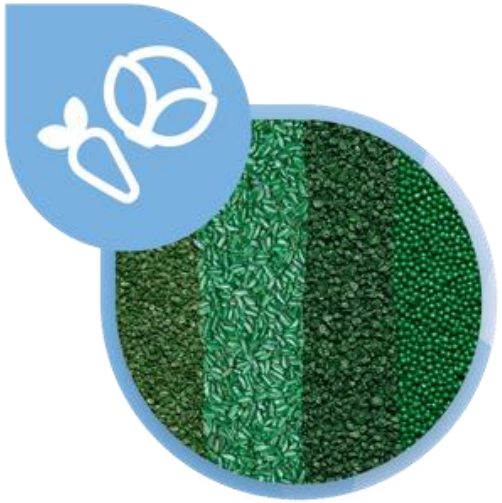

LEAF
CROPS

TODAY



2300

Employees worldwide



Broad assortment

40+ crops

1100+ varieties



Organic Program

30+ crops

150+ varieties



Breeding, production & sales

around the world

VARIETY DEVELOPMENT CYCLE

Market identification



10 -15 years



Development process breeding research



Testing field trials with customers

3 years



Seed production & processing



Market introduction

RESEARCH AND INNOVATION

- Shortening the development cycle for new varieties
- Assuring the quality of new varieties
- Innovations in seed processing and production
- Assisting customers with cultivation issues
- Development of new breeding and research techniques

We carry out some of our research in partnership with universities & research institutes for scientific studies.

RESEARCH AND INNOVATION



Phytopathology
& Content Matter



Tissue Culture
& Cell Biology



Trait Discovery & Genomics /
Applied Genomic Technologies



Seed
Pathology

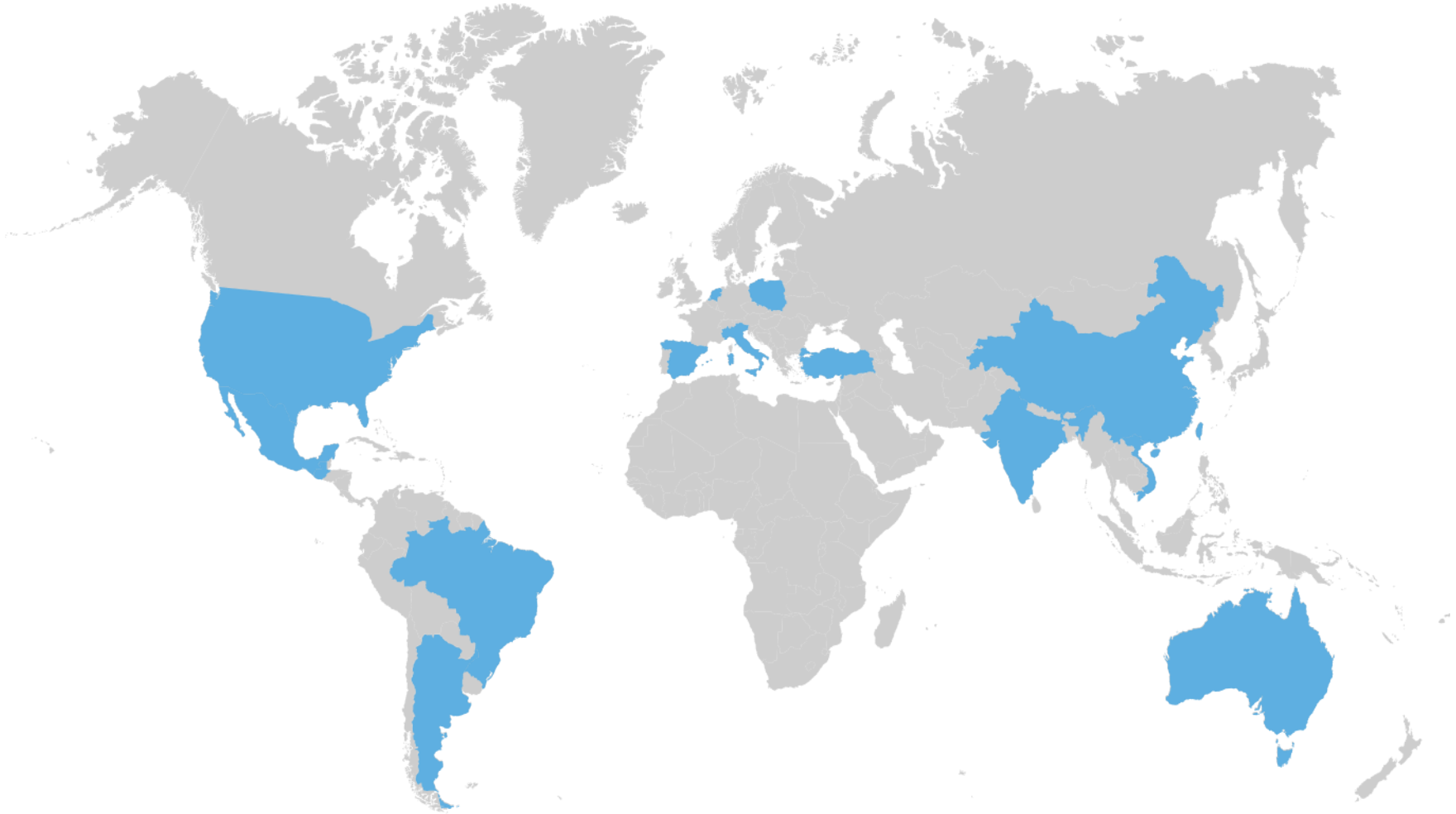


Physiology

Level playing field

- Variety development takes place all over the world

THE WORLD OF BEJO



Breeding stations

Level playing field

- Variety development takes place all over the world
- Opportunity in areas where NGTs are deregulated
- However, (almost) all seeds come back to NL
- Compliance issues -> dependent on EU regulations
- Active role in deregulation process (fact finding mission, branch organizations, press releases, media)
- EU deregulation of June ‘26 opens the way to go to market in July 2028

Freedom to Operate (FTO)

- IP landscape for gene editing technology is complex
- Bejo opted for a license of Broad Institute/MIT and Harvard through Corteva in 2021

Freedom to Operate (FTO)

Press Release · 17/05/2021

Corteva Agriscience and Bejo Sign Agreement on Genome Editing

Agreement grants Bejo access to game-changing CRISPR-Cas9 intellectual property

Wilmington, Delaware, United States – May 17, 2021 – Dutch vegetable seed breeder Bejo has entered into a non-exclusive research and commercial license agreement with global agriculture company Corteva Agriscience and the Broad Institute of MIT and Harvard, a U.S.-based biomedical and genomic research center.

Through the agreement, Bejo will access CRISPR-Cas9 intellectual property for genome editing for agricultural use, allowing research work and programs as well as potential future commercial applications. For the time being, however, following the development in legislation Bejo will use CRISPR-Cas9-technology for research purpose only.

Media Contact

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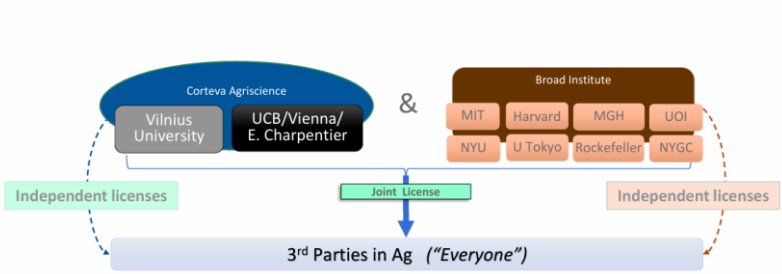
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Freedom to Operate (FTO)



- IP landscape for gene editing technology is complex
- Bejo opted for a license of Broad Institute/MIT and Harvard through Corteva in 2021
- For Research purposes and for commercial use
- A score of University IP is also included in the IP portfolio (Tokyo, Vilnius, Vienna,…)
- Benefits flow back to public domain (Corteva is intermediary because of their network)

Technological boundaries

Requirements for a useful edit



Validated gene target

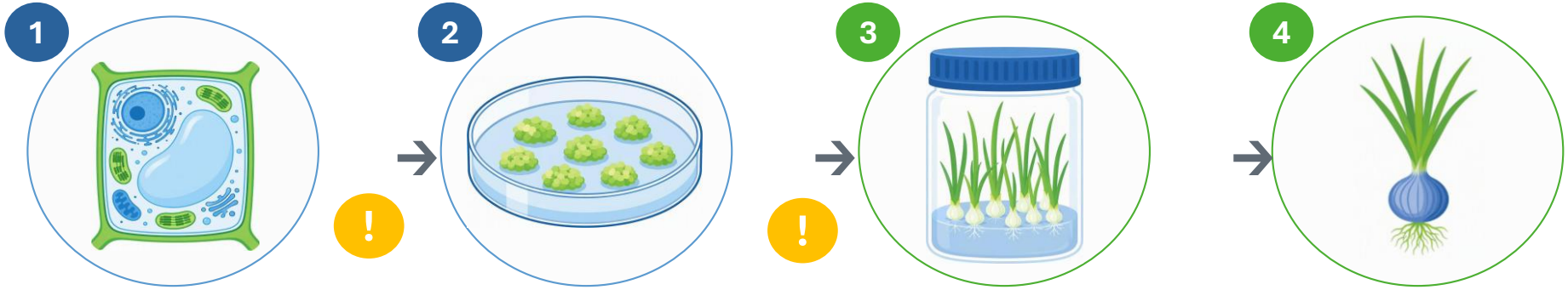
Editing works in the crop

Regeneration from cells

Each requirement must work

Technological boundaries

Regeneration limits practical application



1 single cell → **Callus / tissue culture** → **Shoot formation** → **Complete plant**

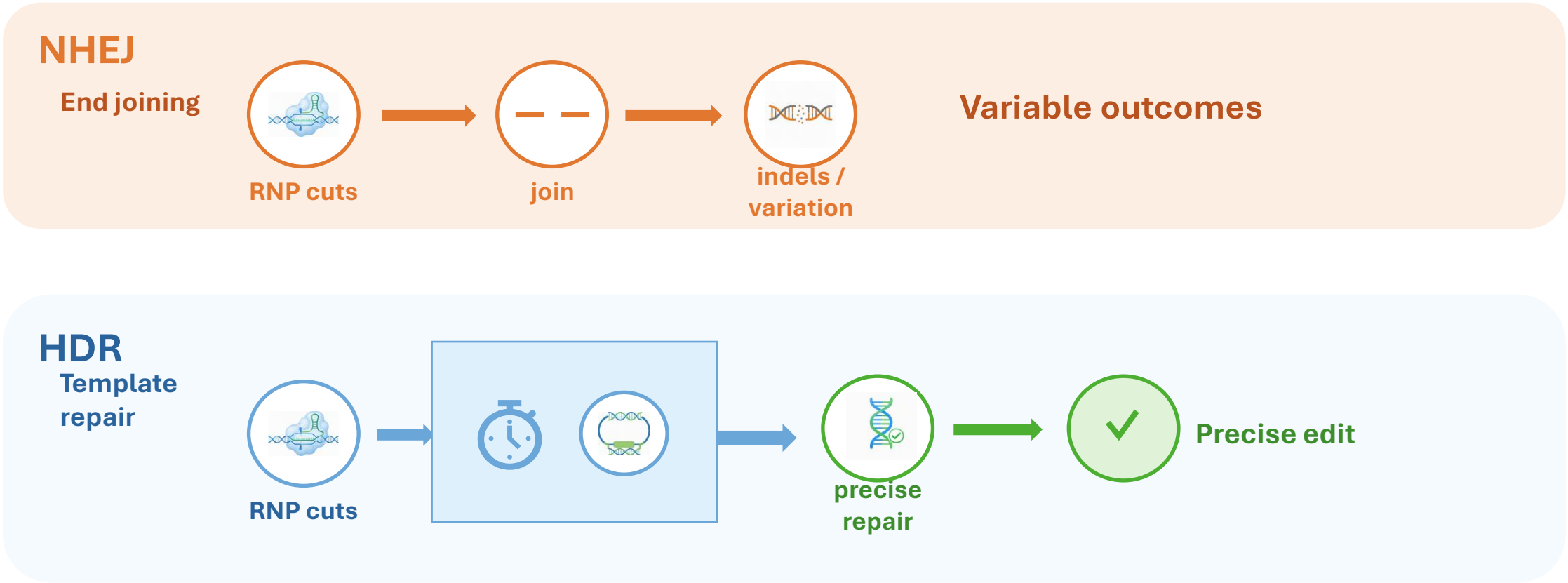
Regeneration determines whether an edit becomes usable — a highly complex step.

From one cell to a complete plant = biggest bottleneck

Technological boundaries

NHEJ and HDR in plant gene editing

Repair pathways produce different outcomes



Collaborations

bejo Exploring nature never stops

NEWS VEGETABLES TECHNOLOGIES ABOUT CAREERS



HOME / ARTICLES / BEJO AND TROPIC PARTNER TO DEVELOP DURABLE DISEASE RESISTANCE IN CARROTS USING GEIGS®

SHARE

Vegetable breeding company Bejo and tropical seed industry leader Tropic Biosciences have launched a collaboration deploying Tropic's ground-breaking Gene Editing induced Gene Silencing (GEiGS®) technology platform to develop durable disease resistance against multiple diseases in Bejo's elite carrot germplasm.

Successful outcomes from this multi-trait partnership will create precision-edited carrot varieties that exhibit robust GEiGS®-mediated resistance to pathogens that threaten the long-term viability of carrot production worldwide.

Collaborations

Tropic's Non Browning Banana Named One of TIME's Best Inventions 2025





Collaborations

Biologicals | United Kingdom

Resurrect Bio and Bejo target spinach downy mildew in new crop-immunity push

UK biotech Resurrect Bio signed a joint development deal with vegetable breeder Bejo, applying its AI-driven trait-discovery platform to spinach downy mildew.

Published: July 1, 2026 2 min read By Dirk Vandenhirtz , AgTech advisor · 4 exits · €120M+ raised

UK biotech Resurrect Bio signed a joint development deal with vegetable breeder Bejo, applying its AI-driven trait-discovery platform to identify disease-resistance mechanisms against spinach downy mildew.

The agreement extends a relationship that predates the startup's $10.3M Series A and aligns Resurrect Bio's crop-immunity approach with Bejo's global spinach breeding programme.

Collaborations



- NGT as a tool to provide proof of principle in network analysis
- How to combine all resilience related genetic components with quality traits?
- Edit quality traits into resilient germplasm or edit resilience traits into quality germplasm
- Translate Arabidopsis knowledge into cabbage, onion, carrot, tomato, potato and Chrysanthemum

Dilemma: NGTs and the organic assortment

- Bejo remains committed to a high-performing organic assortment
- Current organic standards exclude NGT-derived plants
- Shared breeding resources (gene pool) make traceability and separation important
- Transparency supports informed choice throughout the seed chain

Key messages

- NGTs add targeted options to Bejo's R&B toolbox
- Regeneration and target validation determine practical progress for introducing NGT traits in our portfolio
- Research examples include disease resistance and product quality, with future applications for climate stress resilience
- Responsible adoption in the market requires transparency and choice

Questions and discussion

