Seed Congress of the Americas

Maximizing the value of genome editing in product development

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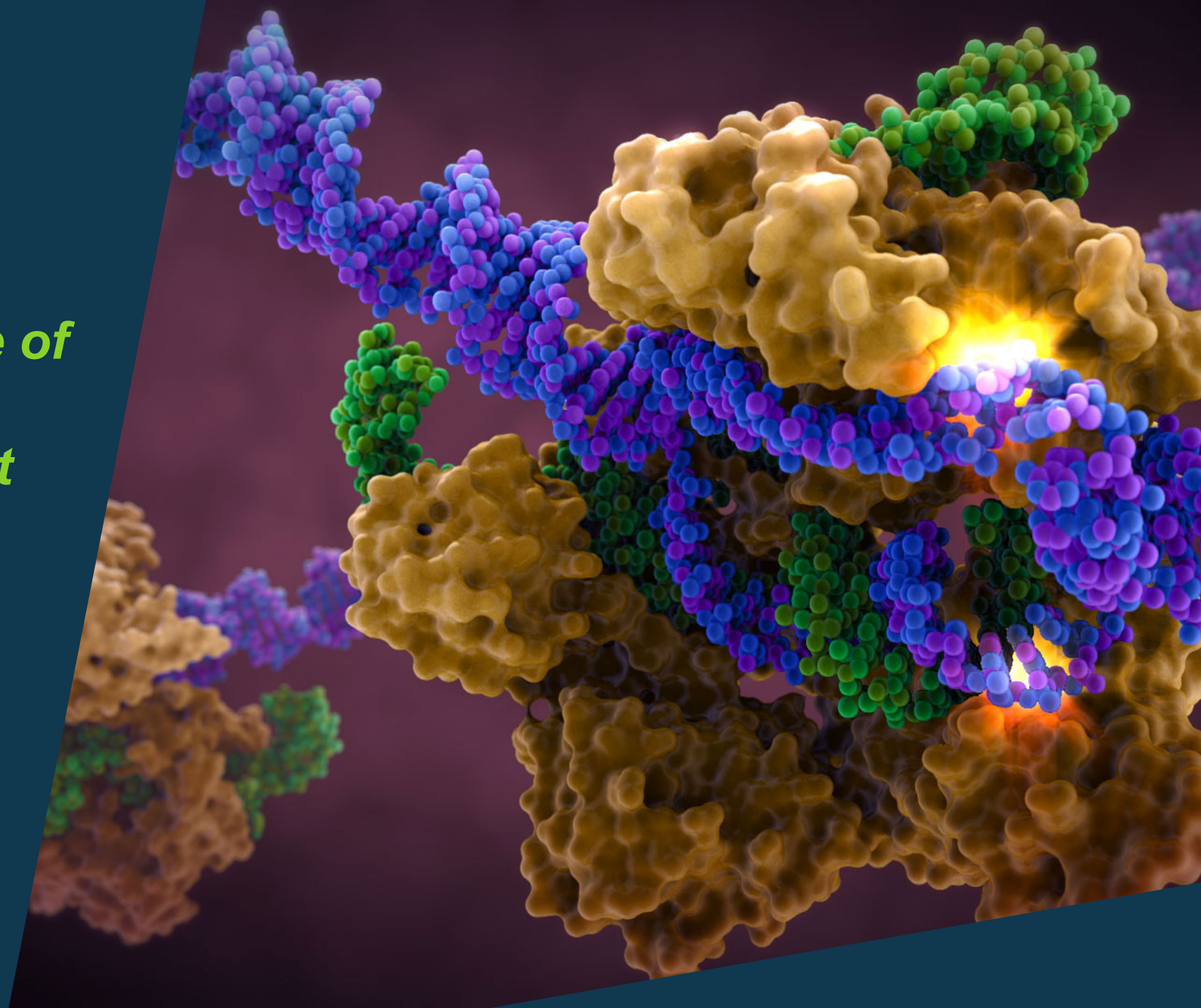
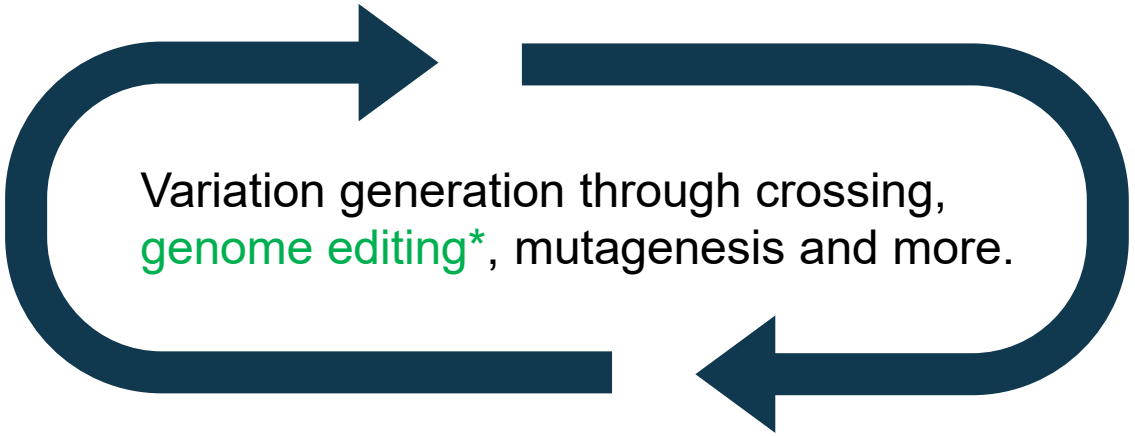
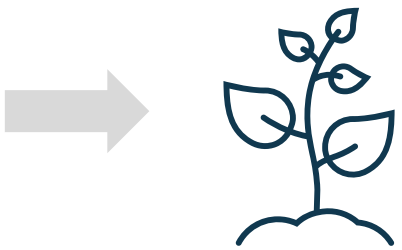


“Editing to Breed” is where genome editing can make the highest impact to drive innovation and advance agriculture





Breeding cycles and selection processes

Line Derivation

Seed Increase

*Edits do not contain foreign DNA

Concept demonstrated in Lorenzo et al, BREEDIT: a multiplex genome editing strategy to improve complex quantitative traits in maize, The Plant Cell, Volume 35, Issue 1, January 2023, Pages 218–238,

Bayer Crop Science Genome Editing Pipeline

Prioritizing open innovation, transparency and sustainability on genome editing

Strategic investments, partnerships and collaborations

pairwise

License agreement with Pairwise

Global alliance against TR4 fungus in bananas

CoverCress

CoverCress majority shareholder

WISCONSIN

DONALD DANFORTH PLANT SCIENCE CENTER

UNI FREIBURG

Tool and target discovery collaborations with diversity of stakeholders

Launch of Open Innovation Platform for genome editing in vegetables

Product concepts

Row crops

The Preceon™ Smart Corn System further optimization through genome editing

Disease resistance, improved yield

Fruit and vegetables

Collaboration with G+FLAS to develop increased Vitamin D tomato

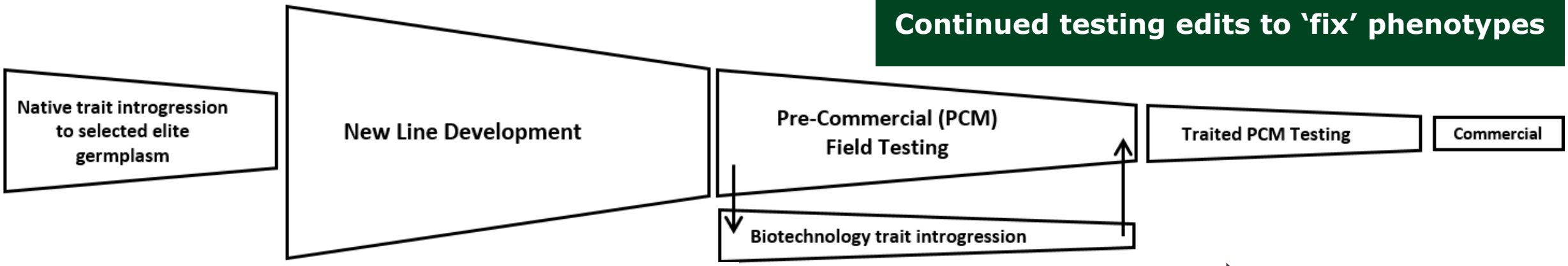
License to work with and commercialize Pairwise's genome edited leafy greens

There are several points in a breeding program to implement genome editing followed by multiple years of testing before commercialization

Editing to create novel variation in elite germplasm for breeding and selection

Pre-commercial testing and selection of edits

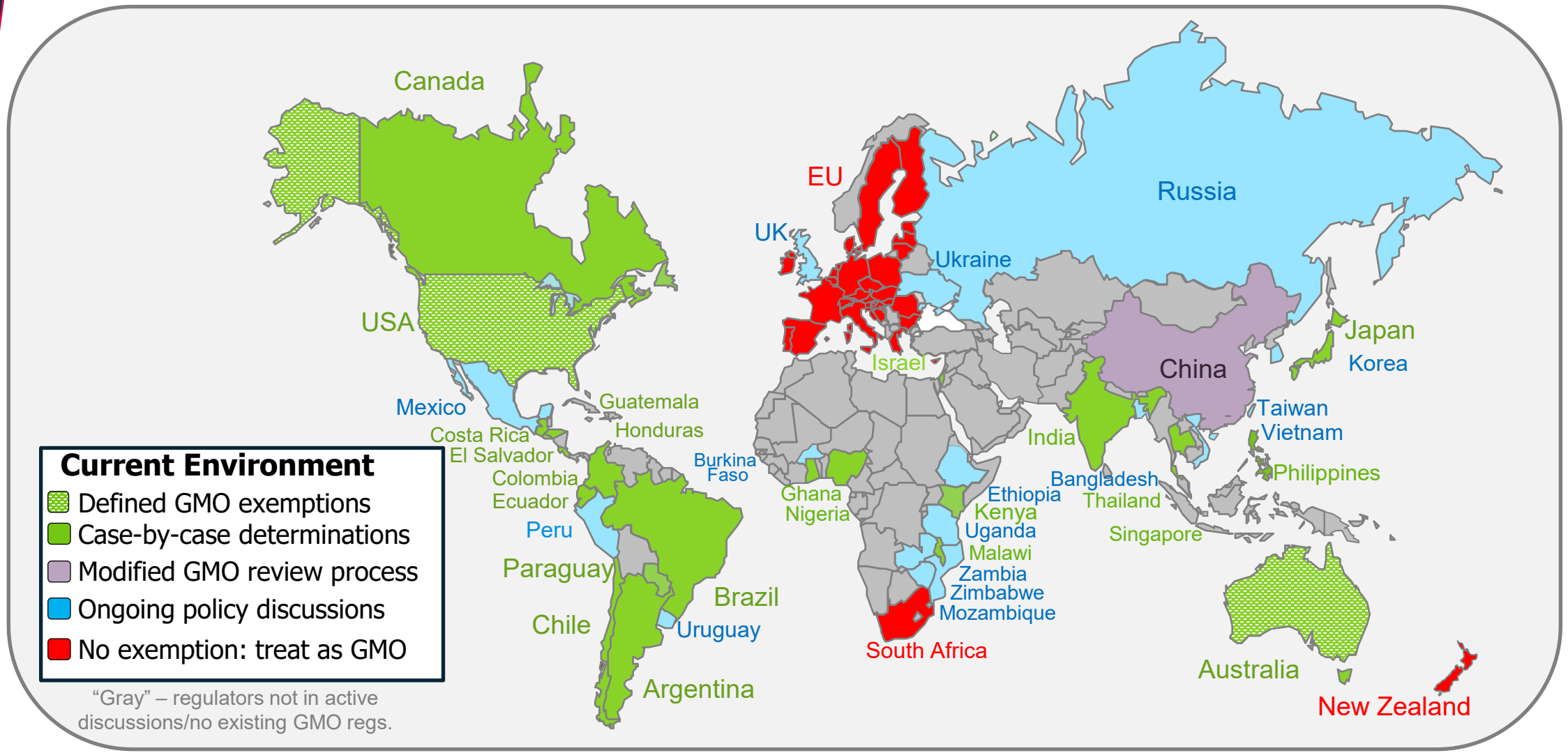
Continued testing edits to 'fix' phenotypes



More than 99% of plants are discarded by breeding selection and testing

≥ 10 yrs
100s locations

Differences in regulatory policies lead to complex global landscape



"Gray" – regulators not in active discussions/no existing GMO regs.

v.8.24


Thank
you