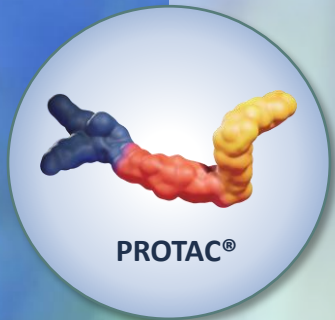


Restoring plants and rediscovering health.

# Revolutionizing agriculture for good™



A close-up photograph of a lavender plant with purple flowers and a bee on a stem. The image is partially obscured by a white overlay on the right side of the slide.

## Oerth Bio Company Overview

- **FOUNDING AND LAUNCH**

Foundation, Mission, Team

- **TECHNOLOGY**

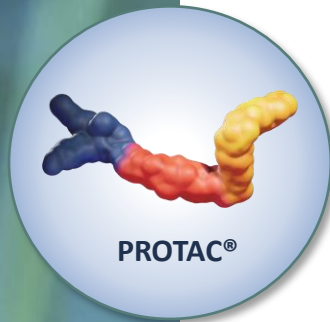
What is a PROTAC<sup>®</sup> Degradator and how does it work?

- **PLATFORM**

Attune<sup>™</sup> Platform & Pipeline

- **MARKET**

Market Opportunity





## BIOME DETERIORATION

Traditional ag chemicals are under review for potential disruption of soil health and plant ecosystems.



## CLIMATE RESILIENCE

Climate change is driving new patterns of disease, pest pressure and abiotic stressors.



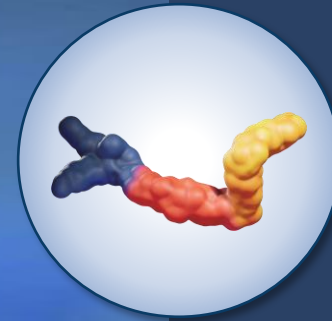
## EMERGING RESISTANCE

Pesticide resistance is increasing across insect, weed and disease control



## CONSUMER AWAKENING

Consumers are asking for unprecedented transparency into the food production system.



# New crop platforms are critically needed





# Oerth Bio: Advancing a novel, transformative crop modality

## FOUNDING AND EARLY SUPPORT

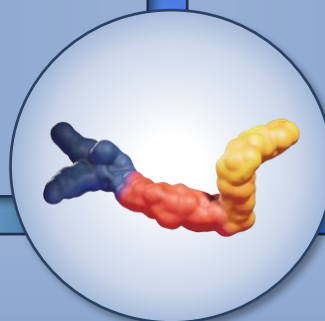
Technical Validation. Enabling IP.  
Best-in-class team. First Ag Mover.



ARVINAS

## PROTEIN DEGRADER TECHNOLOGY

PROTAC<sup>®</sup> (proteolysis-targeting chimeras)  
protein degraders remove vs. inhibit  
unwanted proteins



**2018 - 2019**



**2019 - 2020**



**2020 - 2021**



**2022+**

### The Big Idea

Could PROTACs cross  
over into agriculture?

### Launch

\$56M funding from Bayer.  
Arvinas IP transfer

### Validation

Hits across insect,  
disease and weed control

### Pipeline

Building valuable pipeline in  
crop protection and beyond

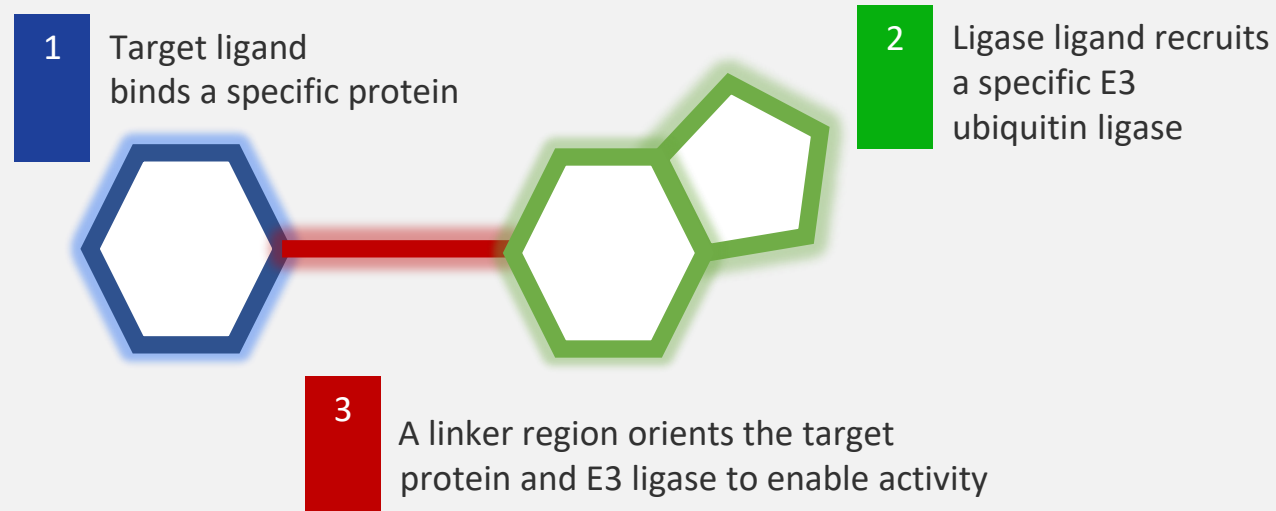


# What is a PROTAC<sup>®</sup> Molecule?

Oerth designs all three components of a PROTAC<sup>®</sup> molecule

**Proteolysis-targeting chimera (PROTAC)** compounds, which are chimeric, modular small molecules designed to induce the degradation of specific proteins via the ubiquitin-proteasome system

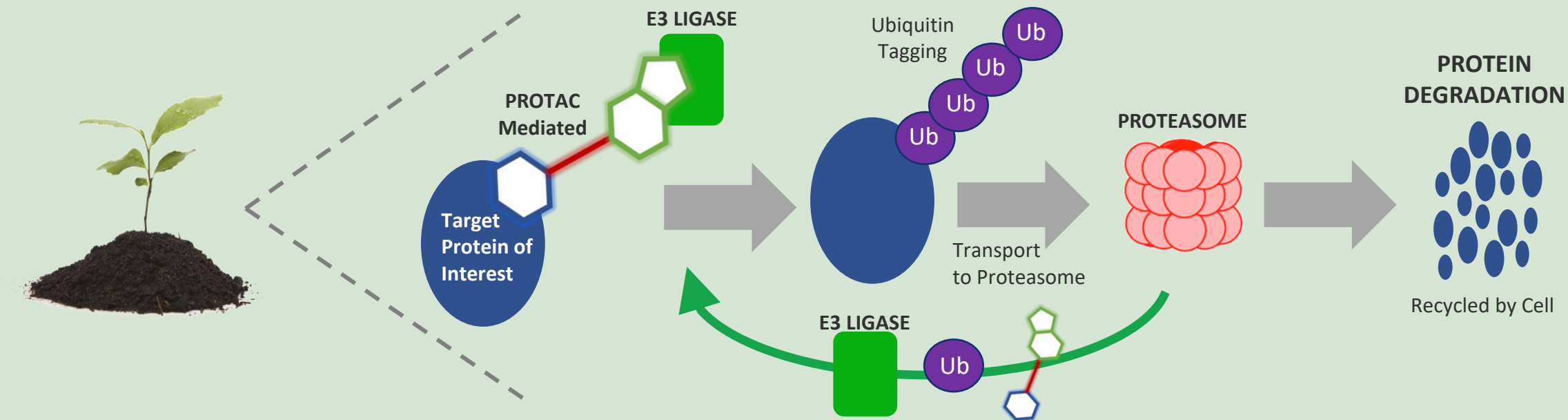
PROTAC<sup>®</sup> is a registered trademark of Arvinas Operations, Inc., and is used under license.



**EACH REGION OF THE PROTAC MOLECULE PLAYS A ROLE IN ITS SPECIFICITY AND POTENCY MAKING IT TUNABLE TO A GIVEN APPLICATION**

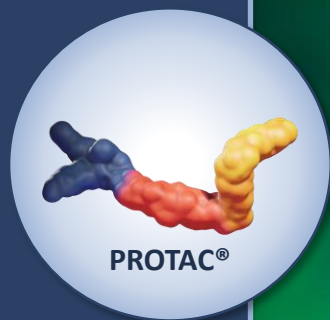
## How do PROTAC<sup>®</sup> molecules work?

Oerth's PROTAC<sup>®</sup> degraders harness the ubiquitin proteasome (UPS) pathway to remove targeted proteins



PROTAC molecules selectively recruit an E3 ligase to a protein target of interest, which induces ubiquitination and subsequent degradation of the target by the proteasome.

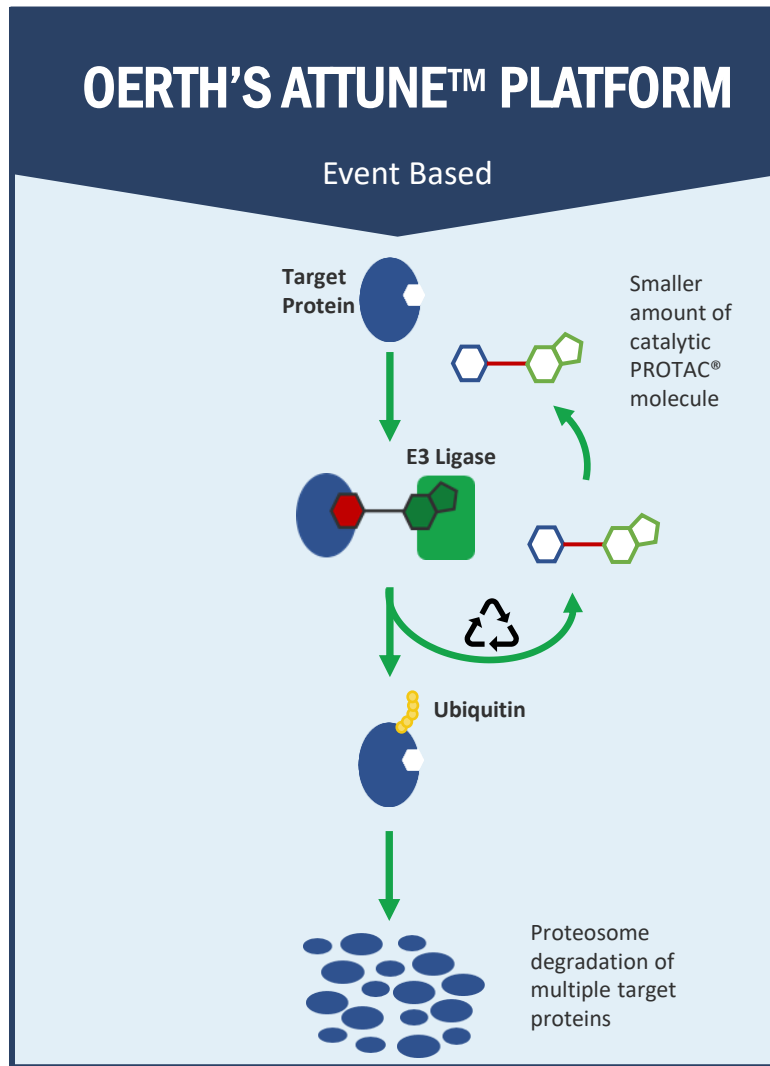
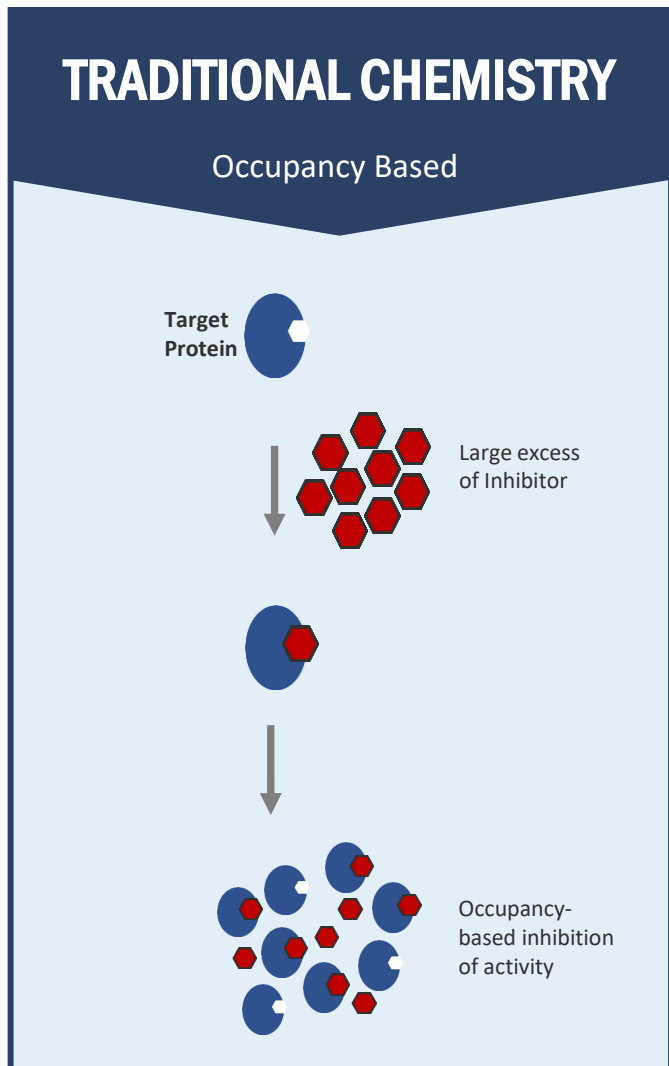
 Watch a PROTAC<sup>®</sup> in action (video)



Click [HERE](#) for a video demonstration.



# PROTAC<sup>®</sup> degraders represent an entirely novel class of action



## KEY BENEFITS




- 1 Tunable specificity**  
*Modular design*
- 2 Increased potency and lower dosage**  
*Catalysis affects multiple target proteins per molecule*
- 3 Expanded target landscape**  
*Access to previously inaccessible protein targets*

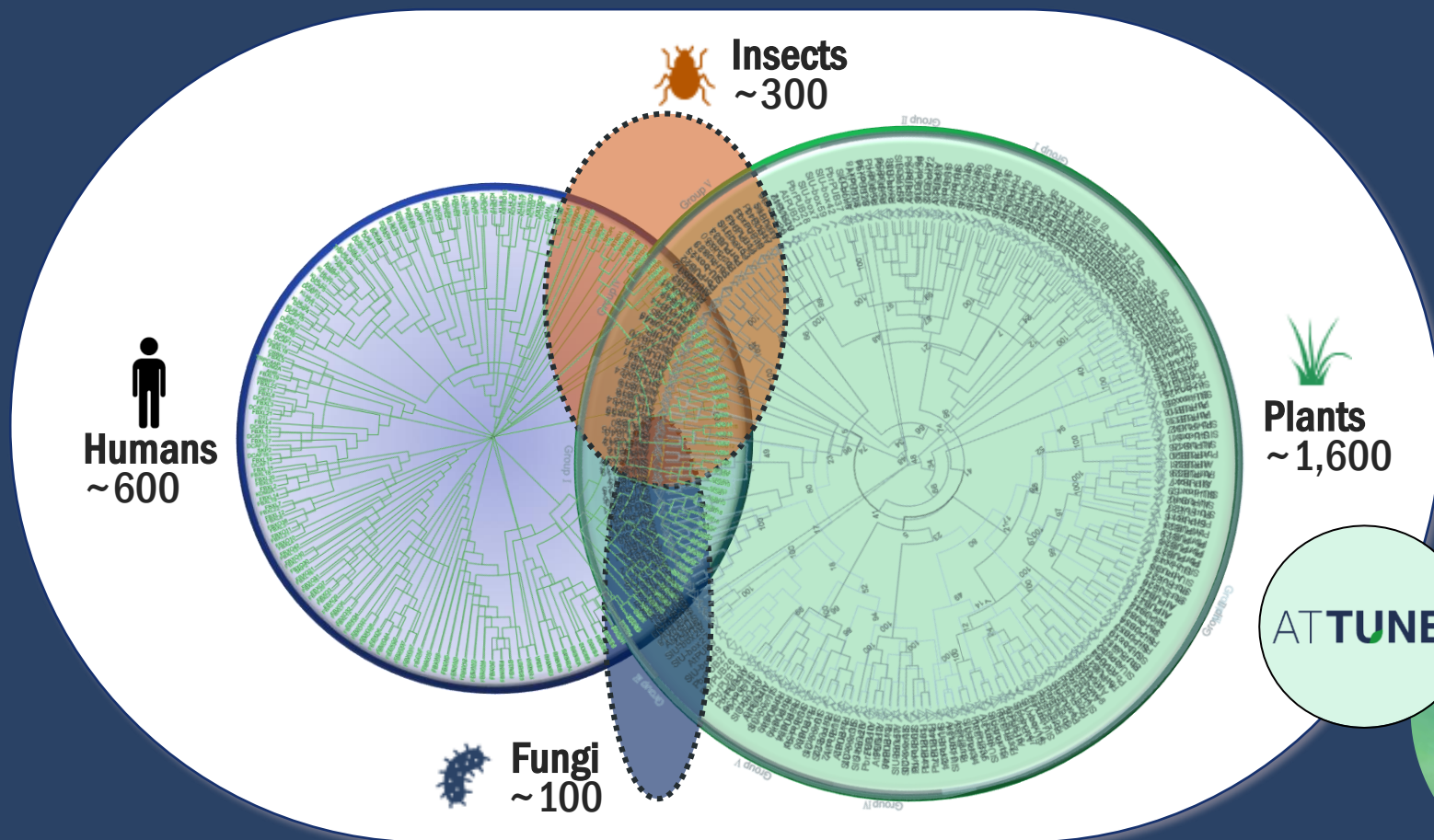


# **PROTAC<sup>®</sup> advantages for agriculture**

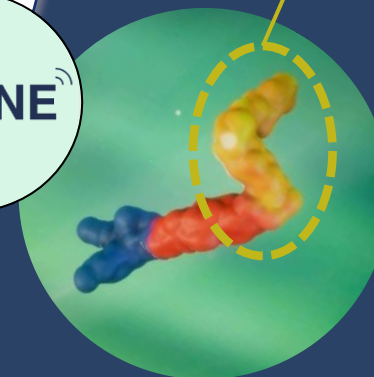


|   | <br><b>Oerth's<br/>PROTAC<br/>Technology</b> | <br><b>Traditional<br/>Pesticides</b> | <br><b>Crop<br/>Genetic<br/>Solutions</b> | <br><b>Biologic<br/>Chemistry</b> |
|---|---|--|--|--|
| Reaches previously inaccessible targets | +++   | +  | +++  | ++   |
| Novel mode of action                    | +++   | +  | ++   | +  |
| Iterative mechanism of action           | +++   |  | ++   |  |
| Utilizes existing farm equipment        | +++   | +++  | +++  | +  |
| No modifications to genome              | +++   | +++  |  | ++   |
| Sustainable and soil-health positive    | +++   |  | ++   | +++  |
| Improved environmental footprint        | +++   |  |  | ++   |
| "On demand" application                 | +++   | +++  | +  | +  |

# Pioneering the agricultural 'degradome'



ATTUNE<sup>®</sup>

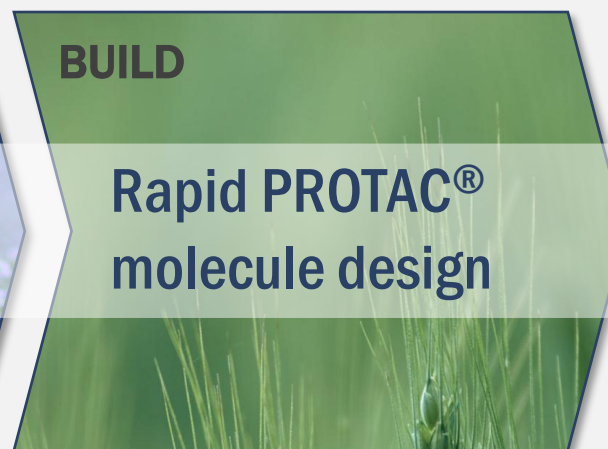
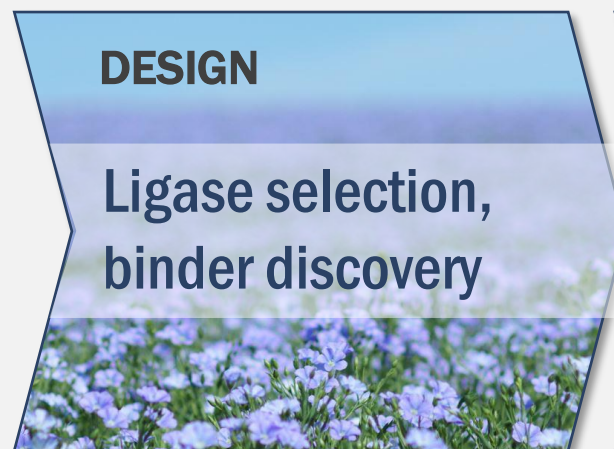


Oerth is building a  
proprietary library  
of agro-centric  
**E3 ligase binders**

# Acceleration with Attune™ – a PROTAC® discovery platform for agriculture



## Rational Design Approach



# Cross-indication discovery strategy

## Crop Protection FARM YIELD

Major Innovation Step-Change Required

Weeds

Insects

Disease

### BIO ACTIVATED AGRO- CHEMICALS

---

Control pests with improved safety,  
lower application rates, and less  
reliance on GMO traits

## Crop Efficiency\* PLANT RESILIENCE *Sprayable Traits*

Mitigate farm-level losses

Climate  
Resilience

Yield Boost

Pest Defense

### THERAPEUTICS FOR PLANTS

---

Input traits to mitigate abiotic stress  
impacts, improve plants' functionality,  
and protect against traditional pesticides

## Crop Efficiency\* NUTRITION *Sprayable Traits*

Unlock germplasm biodiversity

Nutrition

Taste

Alt. Protein

### CONSUMER DRIVEN “SPRAYABLE TRAITS”

---

Output traits that can be applied in a  
tertiary sprayable format, without  
permanent genome changes, across a  
broad array of germplasm

\* The Ubiquitin Proteasome System controls various processes in almost all aspects of plant homeostasis, comprising cell division, plant development, responses to plant hormones, as well as abiotic and biotic stress responses (Shu and Yang,, 2017)



## CONTACT US

**JOHN DOMBROSKY**

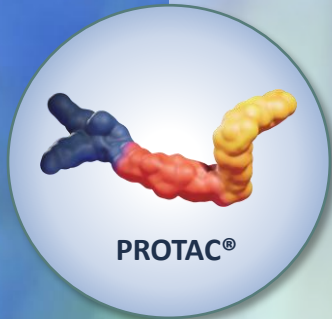
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Restoring plants and rediscovering health.

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**Certh**bio