PLANT HEALTH CARE

Supporting Sustainable Agriculture

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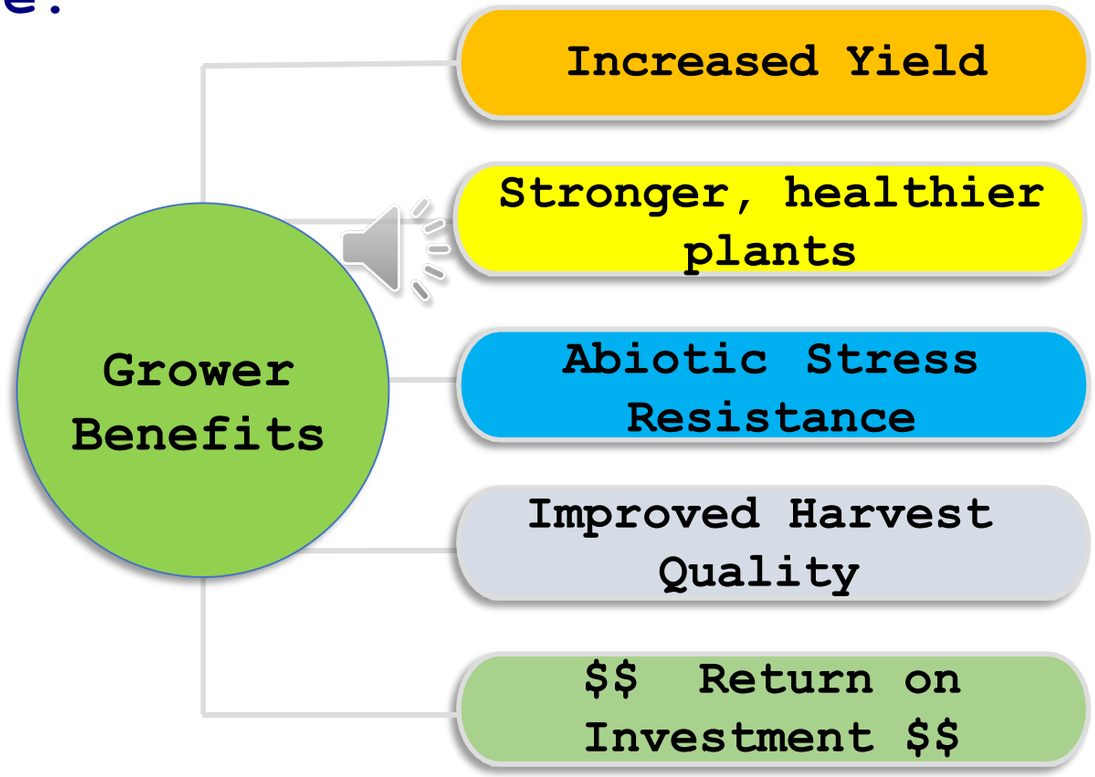
Introductions

PLANT HEALTH CARE

Operations:

- HQ: Holly Springs, NC (outside of Research Triangle Park).
- Satellite offices: Seattle, WA (R&D lab), Spain, UK, Mexico, & Brazil.

Sustainable Agriculture:



Introductions

PLANT HEALTH CARE

Harpins - peptide elicitors produced by plant pathogenic bacteria

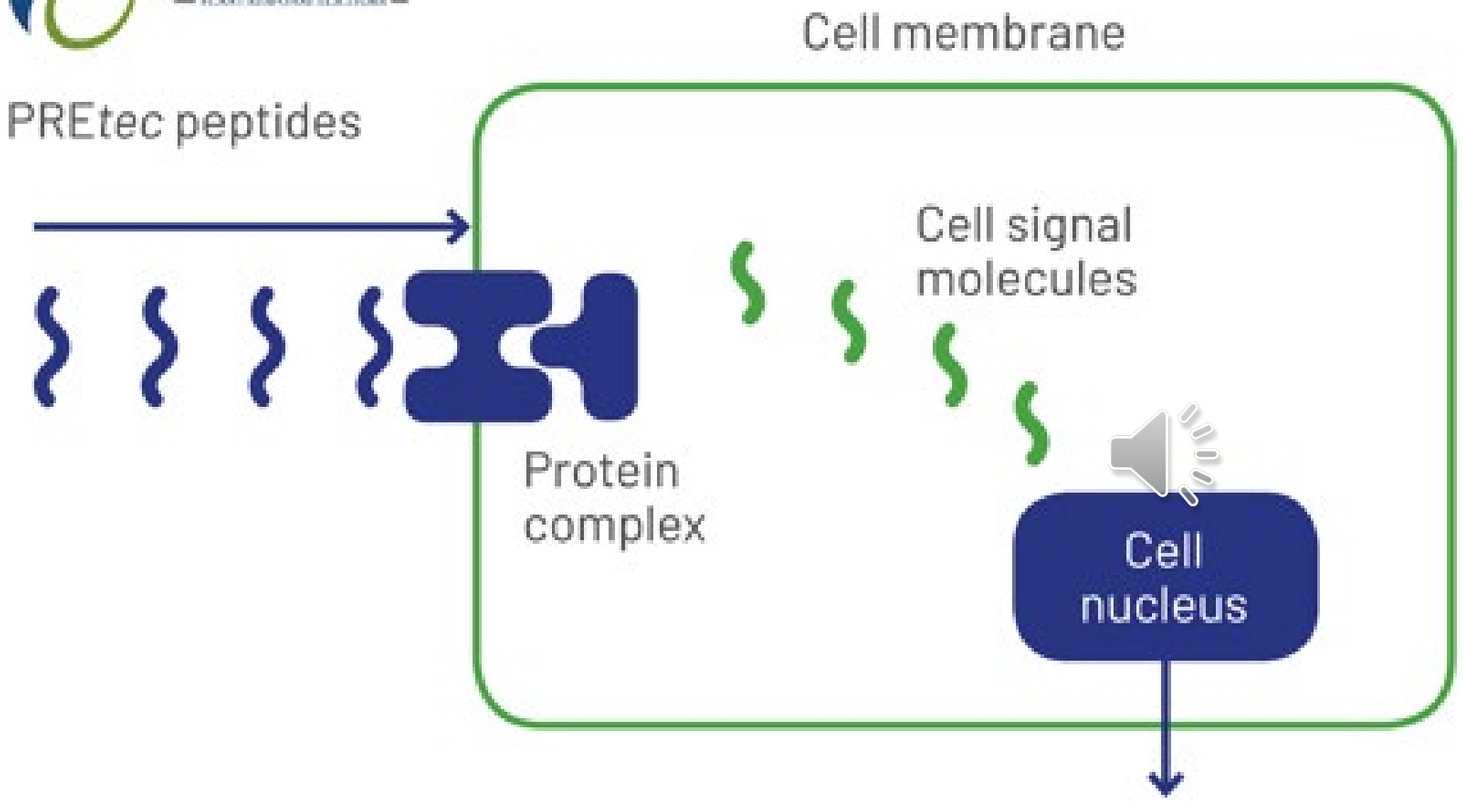
- Harpinαβ ~ 41kDa polypeptide formulated as 1% WDG.
- Launched in > 25 countries as biochemical pesticide or biostimulant / fertilizer.
- US Brands: ProAct® FOLIAR SPRAY, N-Hibit® SEED TREATMENT, Employ® PLANT HEALTH PROMOTER, Messenger Gold®

Next Generation= PRE*TEC* – 'Plant Response Elicitor Technology'

- ~ 2kDa Harpin-Derived Peptides, Biochemical Pesticides / EPA.
- PHC25279 – Fungal & Bacterial Pathogens.
- PHC68949 – Nematodes.
- Late State Development / Product Launch.

PRE*TEC* Mode of Action & Pipeline

PLANT HEALTH CARE



Late-Stage Products

PHC25279

- Broad-spectrum plant pathogen defense.
- Registered Brazil & USEPA.
- FRAC Code = BM-02

Saori™ FUNGICIDE OBRONA™

PHC68949

- Protection vs. nematode & drought.
- Under review Brazil & USEPA.

Elicitation of plant defense pathways / response.

- Systemic acquired resistance (SAR) → Not cidal, it has no direct activity on pathogens or pests.
- No residues… Peptides are Labile. No Crop Tolerance / MRL restrictions.

Product Profile

- Efficacy validated by years of field testing on annual & perennial crops.
- Novel MoA, option for reducing potential resistance issues.
- 0-day PHI, 4-hour REI
- Low Use Rates:

  Seed Treatment = 30-90 µg/seed

  Foliar = 35-140 g/Ha

- WDG Formulation:

  2+ years Shelf Life.

  Compatible with Agrochemicals, Fertilizers, etc.

  No special handling requirements.

PHC279 - Potato Late Blight / UK 2021 trial

Standard Program*

Untreated

Standard Program* + PHC25279**

PHC25279** Solo

* Cymoxanil + Mancozeb at label rates / timings.
** PHC279 @ 140 g/ha, every 14 days from rosette.

IR-4 Interests

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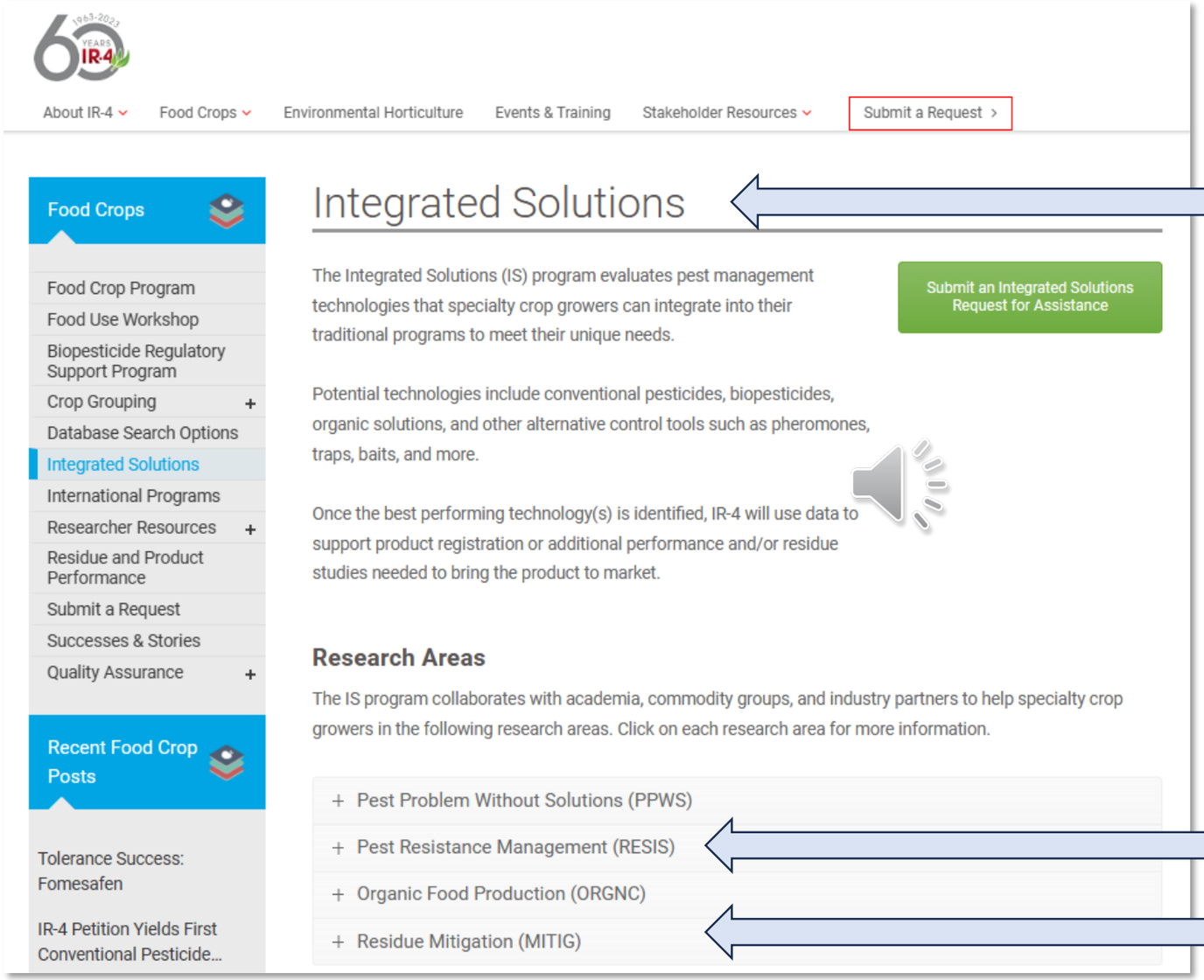

- e.g., PHC25279 FRAC BM-02.
- e.g., PHC68949 on Potato / Grapes.