



A Grower Perspective on Biological Product Regulatory Landscape

Agenda

Introduction-PAGG

Case Studies

Growers Wish List



Introduction

Farmers Non-Profit Organization started 2020. Currently 450+ members across California. Operated by BY-LAWS & Board and Executive members

Key Focus area:

- Technical knowledge center
- Optimize complete farming operation (Nursery to marketing crops)
- Reduce Farm Input cost
- Marketing and pricing visibility
- Government Representation

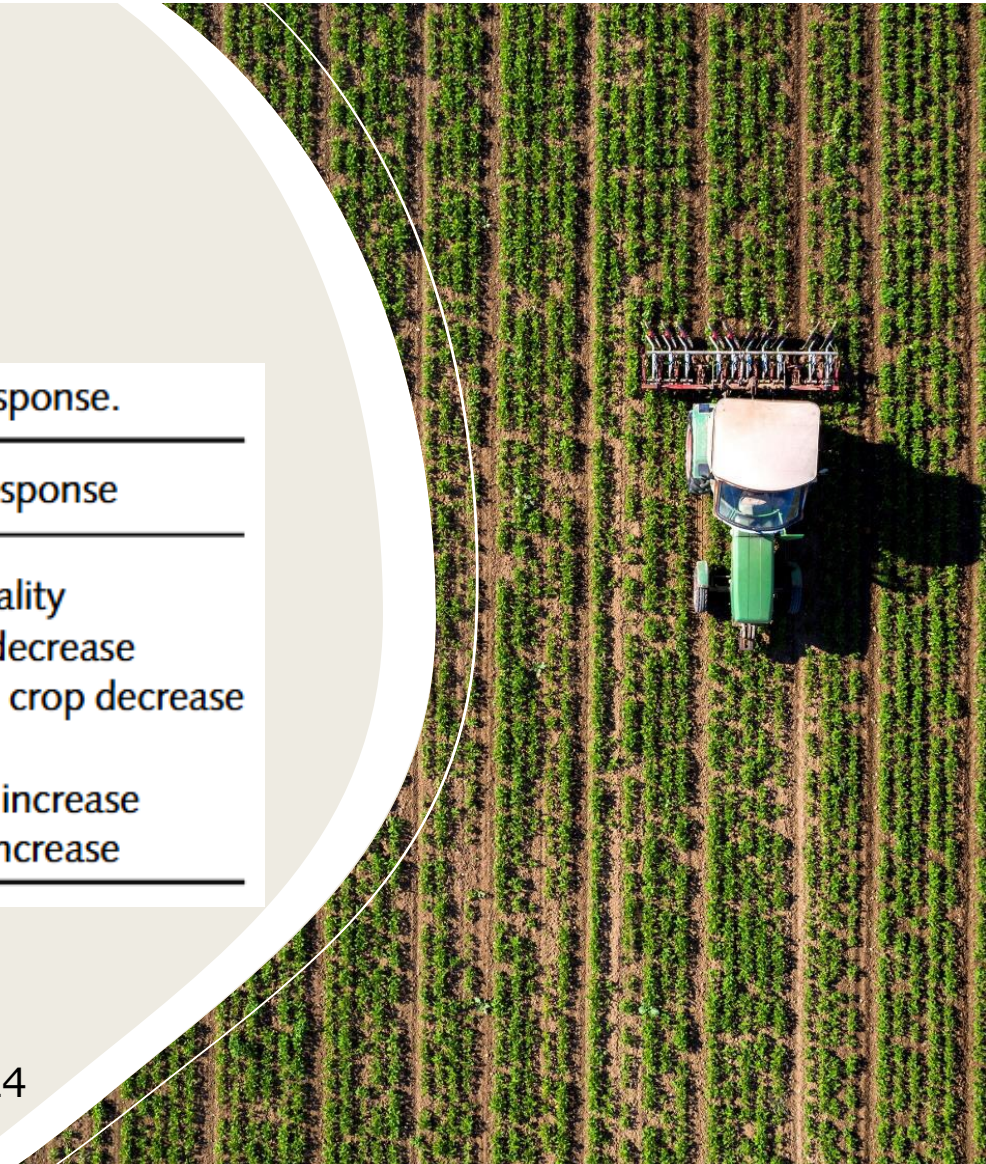
Empower all farmers with knowledge of services and resources from government, educational institutions and other entities to achieve sustainability. PAGG platform will provide end to end solutions by strategic alignment with leadership solution companies in each segment

Mycorrhiza Studies

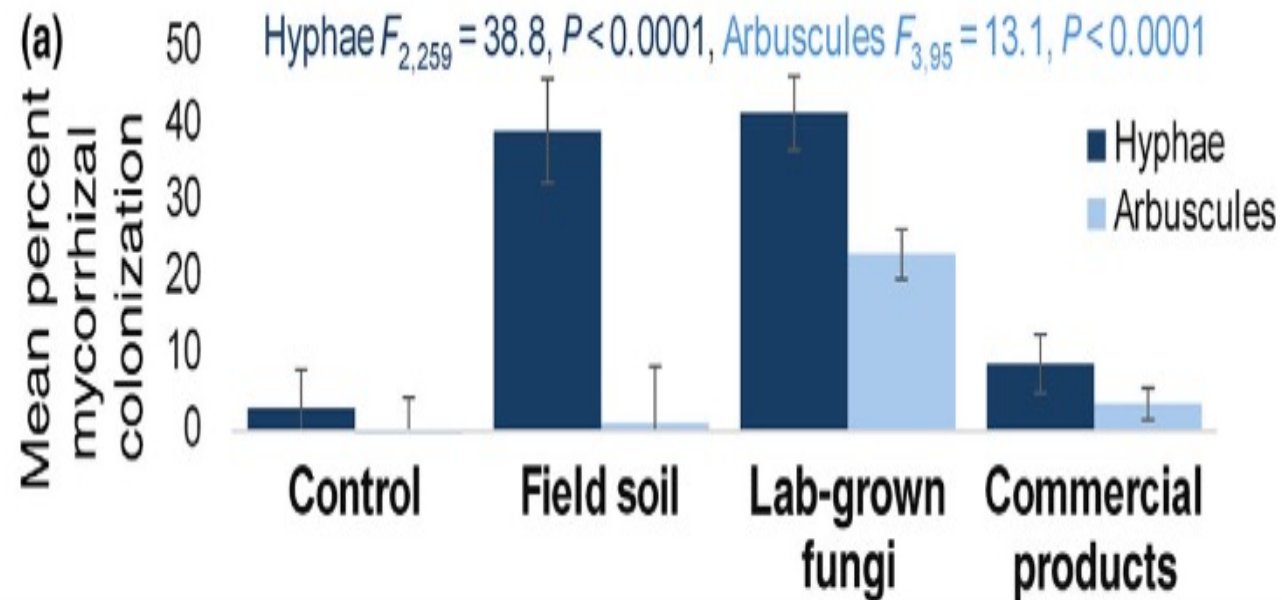
Table 1 Inoculant effect categories based on crop growth response.

Effect on crop	Plant growth response
Complete mortality in all replicates	Complete mortality
Extremely negative	> –20% crop decrease
Negative	–5% to –20% crop decrease
Neutral	–5% to +5%
Positive	+5% to +20% increase
Extremely positive	> +20% crop increase

Koziol et. al., New Phytologist 2024



Lab grown vs. Commercial Biologicals



Grower Wish List

- Transparency for the product information is important for grower which one is biofertilizer, biopesticide, biostimulants.
- Federal regulation and state regulations are important. The lack of federal regulation means labeling claims are inconsistent, making it difficult for growers to compare products.
- Some products are regulated as fertilizers in one state but not in another, complicating multi-state operations.
- **TRUST and Confidence**
- Very helpful for organic growers or growers who want less exposure to synthetic chemicals
- Biofertilizers, boost root health in sandy soils.
- They improve nutrient uptake in low OM soils
- The gap between growers and regulatory bodies needs to be bridged

The background is a light beige color. On the left side, there are several overlapping organic shapes with white outlines. These shapes contain different textures: a solid reddish-brown, a brown paper with small dark specks, a dark olive green paper with fine yellow fibers, and a dark brown paper with a fibrous texture. On the right side, there are two more organic shapes with white outlines, one containing a dark brown textured paper and another containing a reddish-brown textured paper.

Thank You

Arshdeep Singh

559-451-6270

arsh@paggusa.com

www.paggusa.org