

# In Our Lifetime

- Microorganisms becoming recognized and proven to be integral parts of the processes of life
  - Manganese as the "MOA" for controlling "Take All" disease in wheat
  - Gut microbes accepted as providing benefits breakdown of lactic acid in elite athletes, 2019
  - Bacteria in fungus??



# **Industry Performance Criteria**

- Function First
  - First it has to work!!
- Sound Science
- Meets Existing Use Practices
- Return on Investment



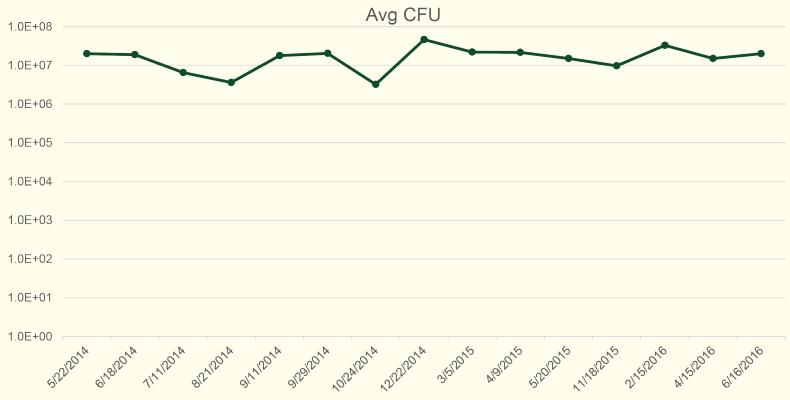
## TerraMax Works with Microorganisms

- IDENTIFY microbial strains
- **SELECT** for specific activity
- **STABILIZE** for survival and longevity
- Effective / Consistent



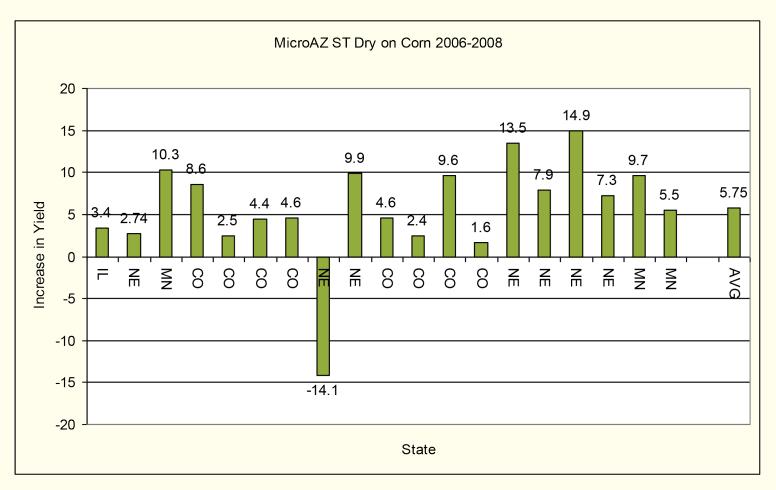
## Bradyrhizobium Inoculant Stability

### in kegs, Colony forming units (CFU)





# **Summary of MicroAZ-ST Dry Seed Treatment 2006 –2008 Corn - Consistency**





# PRACTICAL FARM RESEARCH

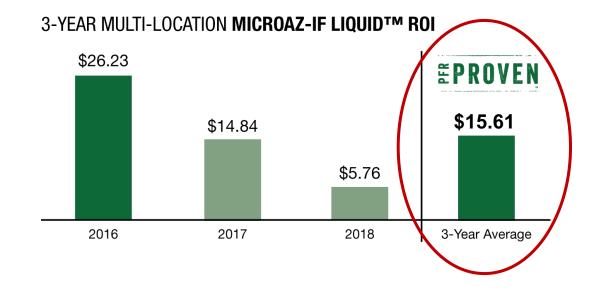


IN-FURROW Treatments	EMERGED POPULATION	POPULATION DIFFERENCE	BU./A.	BU./A. Difference	RETURN ON INVESTMENT
Control Starter:	32,165		222.3		
Starter + 1 pt. NanoZyme 2.0	31,599	-566	226.8	+4.5	+\$13.89
Starter + 1 qt. MicroCarb ZMB™	32,366	+201	226.7	+4.4	+\$12.83
Starter + 12.8 oz. MicroAZ-IF Liquid™	32,020	-145	225.3	+3.0	+\$5.76
Starter + 1 pt. Environoc® 401	32,553	+388	223.5	+1.2	-\$3.30

Corn \$3.92/Bu. Environoc® 401 \$64.00/gal. MicroAZ-IF Liquid™ \$60.00/gal. NanoZyme 2.0 \$30.00/gal. MicroCarb ZMB™ 17.63/gal. These results are based on the disclosed study parameters and participating sites.

#### PARTICIPATING SITES

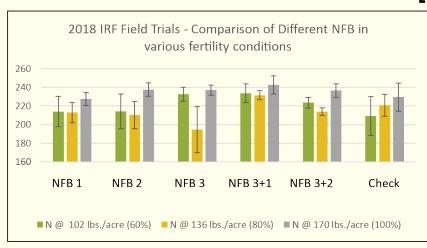
IN	KY	C.IL	S.IL	ОН	IA
MN	WI	МО	S.KY	TN	

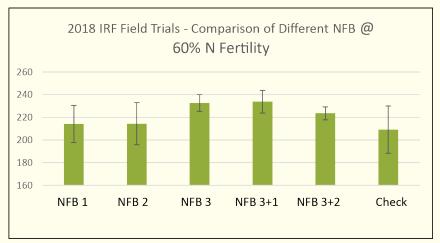


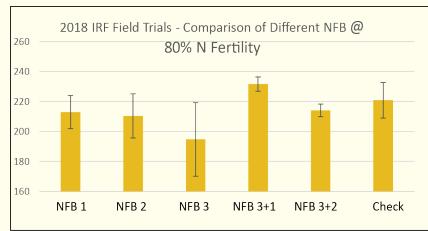


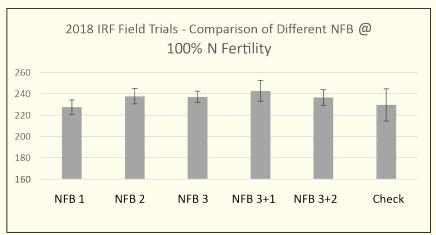
# 2018 Field Trial Evaluations - Future

#### IRF [Corn]







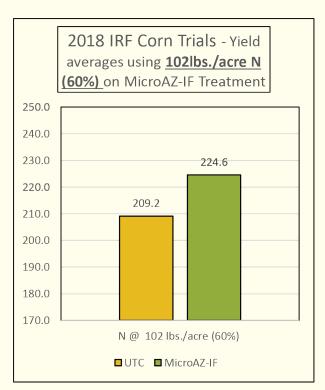


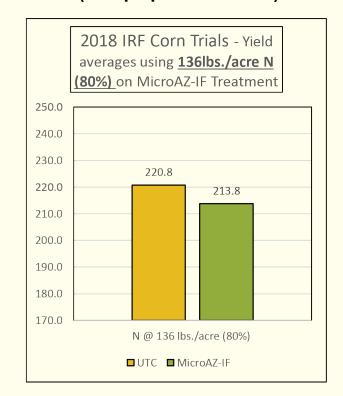


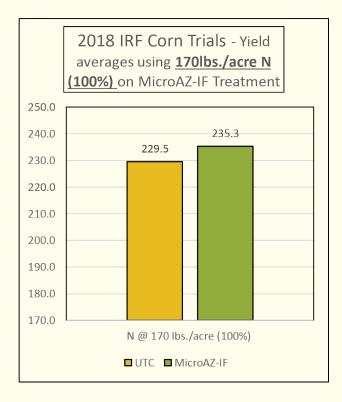
**Terra Max** 

## 2018 Corn Field Trial Evaluations

## 2018 IRF Corn In-Furrow Treatment Field Trials (4 Reps per Treatment)







#### Overall Results:

- MicroAZ-IF > UTC, 2 out of 3 fertility regimes
- An assessment can begin determining the amount of nitrogen the treatment of MicroAZ-IF supplies to the corn in these trials.



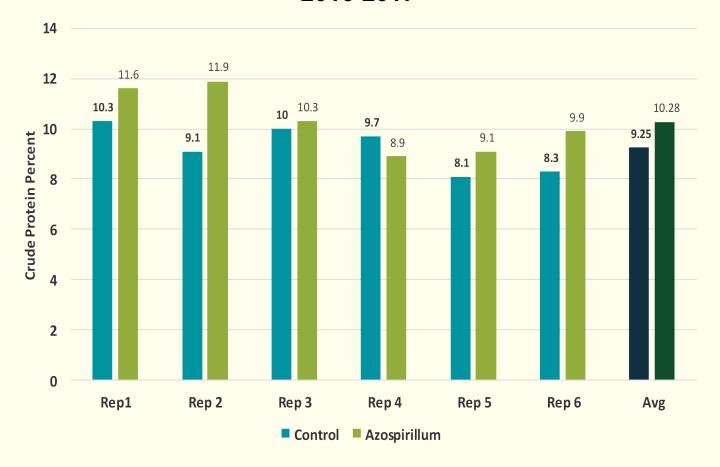
# Winter Forage – Triticale – Protein per Acre

Field work done by a TerraMax distributor on winter forage Triticale. The product was MicroAZ-ST Liquid and used at a rate of 4 oz / 100 lbs. Applied and planted Mid October 2016, Harvested 5/12/2017.

Protein analysis done by Oklahoma State University



# Percent Protein Triticale - Oklahoma 2016-2017



## **Market Direction**

Nitrogen Fixing Bacteria (NFB)

Nutrient Availability / Mobilization

Select Biocontrol Opportunities



# TerraMax, the Company

- Founded in 1998
- Focused on improved plant performance with microbial products
- Global provider of Agricultural, Horticultural and Turf products (exporting to Asia and Europe)
- Products service both the conventional and organic markets
- Products utilize a versatile, proprietary microbial stabilization technology
- Products are scientifically evaluated for performance
- A performance-driven working culture



# TerraMax Inc. New Facility

3650 Dodd Road, Eagan MN 55123









