



**TALC USA**

A **BRANDT** COMPANY

# Talc USA Trial Results 2022

# Talc USA Soybean Trial Results



# Talc 80/20 + MicroSURGE for Soybeans



Talc 80/20  
w/graphite



**MicroSURGE**  
**Soybean Inoculant**  
*Contains*  
*Bradyrhizobium japonicum*

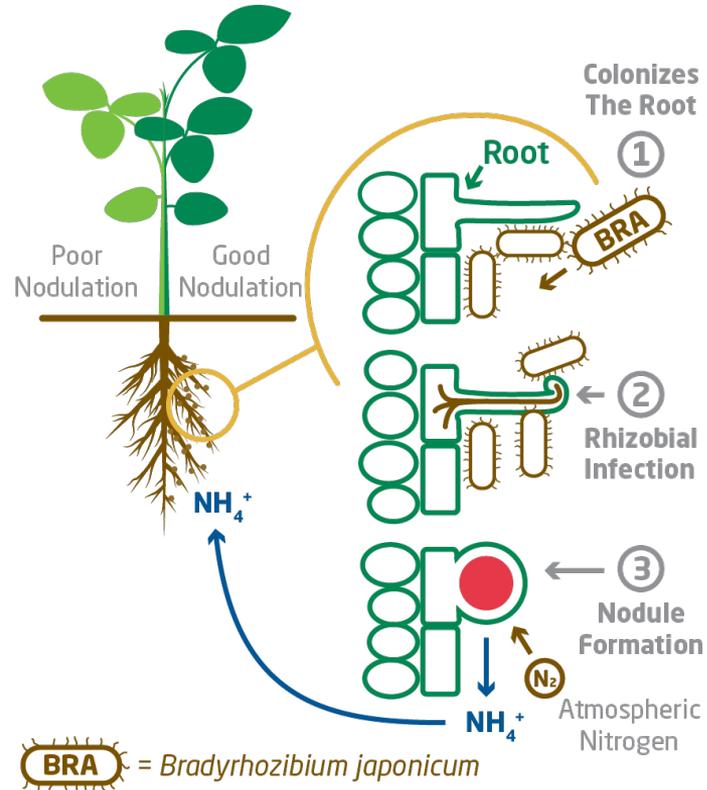
# MicroSURGE for Soybeans

**Inoculant:** *Bradyrhizobium japonicum*

Symbiotic nitrogen-fixing soil bacterium

Legume crops are a host for the  $N_2$ -fixing bacteria, *B. japonicum* and they can obtain up to 50% or more of their N needs through biological nitrogen fixation are present in the soil

## Nodulization



# Talc 80/20 + MicroSURGE for Soybeans

## 2022 Soybean Trial Locations and Yield Results

 **Trial Locations**



U.S. Department of Agriculture, National Agricultural Statistics Service

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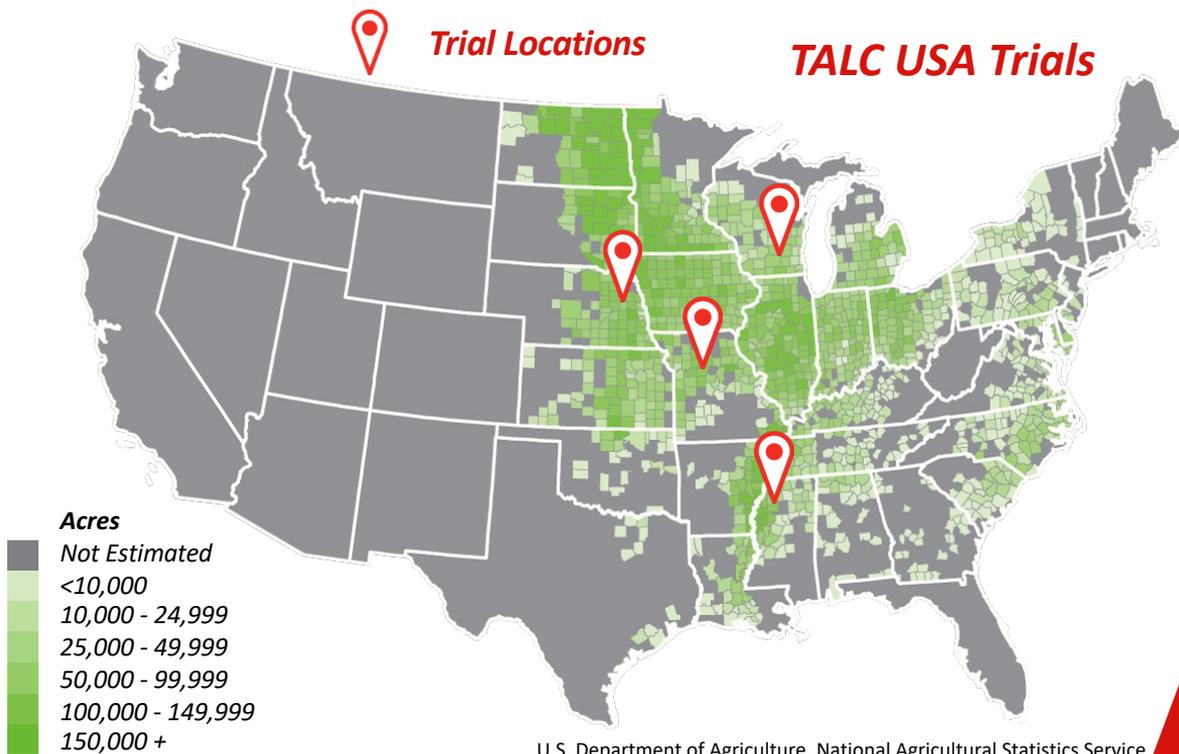
Location	Yield Increase
SGS America, Aurora, SD	4.7 bu/ac
Mid-South Ag Research, Proctor, AR	6.2 bu/ac
Delta Crop and Research, Holly Ridge, MS	10.4 bu/ac
Buckeye Ag Testing, Urbana, OH	1.1 bu/ac
North Central Research Station, St. Johns, MI	4.4 bu/ac
Elite Research, Aurora, NE	1.6 bu/ac
BRANDT Research Farm, Pleasant Plains, IL	1.8 bu/ac
University of Illinois, Champaign, IL	2.2 bu/ac
TSM, Catlin, IL	5.4 bu/ac
KS	3.7 bu/ac
MN	-3.8 bu/ac
MO	4.7 bu/ac
ND	1.9 bu/ac
WI	0.3 bu/ac
Averaged Results	
Yield Increase	3.4 bu/ac
Grower ROI @!4/bu	\$45.14/ac

# TALC USA Soybeans Trial Locations and Yield Results

## MicroSURGE + Inceptive

### 2016-2021

Location	Yield Increase
Mississippi	3.3 bu/ac
Missouri	3.5 bu/ac
Nebraska	3.6 bu/ac
Wisconsin	3.1 bu/ac
Averaged Results	
Yield Increase	3.4 bi/ac
Grower ROI @\$14/bu	\$40.44/ac



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# Talc 80/20 + Encompass



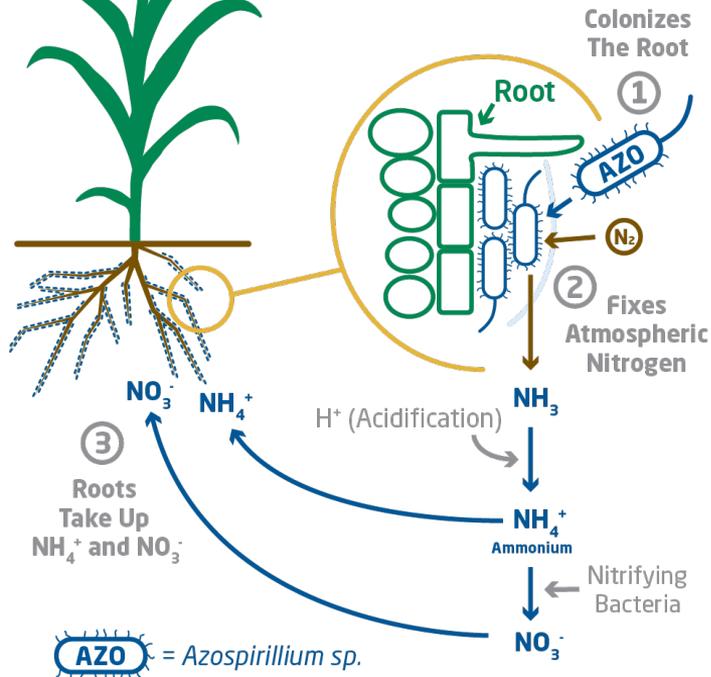
**Talc 80/20  
w/graphite**



**Encompass  
Contains  
Azospirillum &  
Pseudomonas**

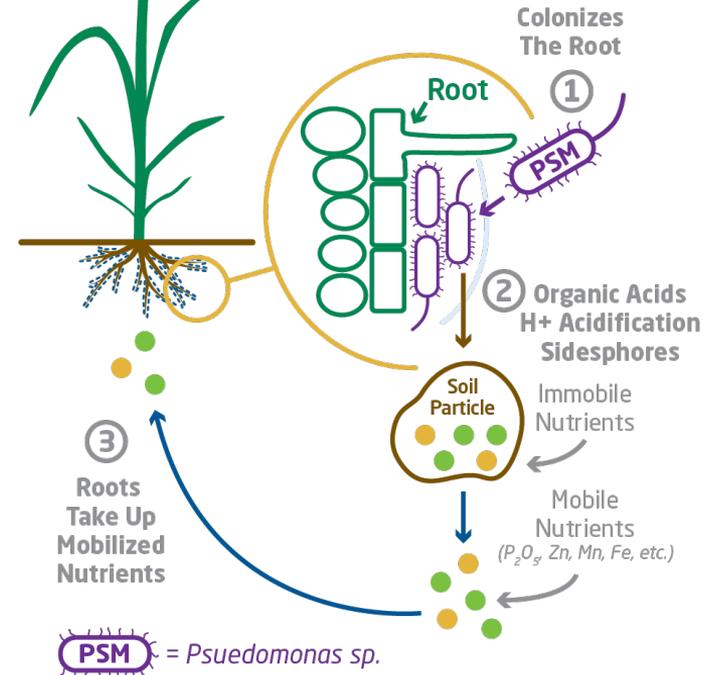
### *Azospirillum* sp. (2 species)

#### N Fixation from Atmosphere



### *Pseudomonas* sp. (3 species)

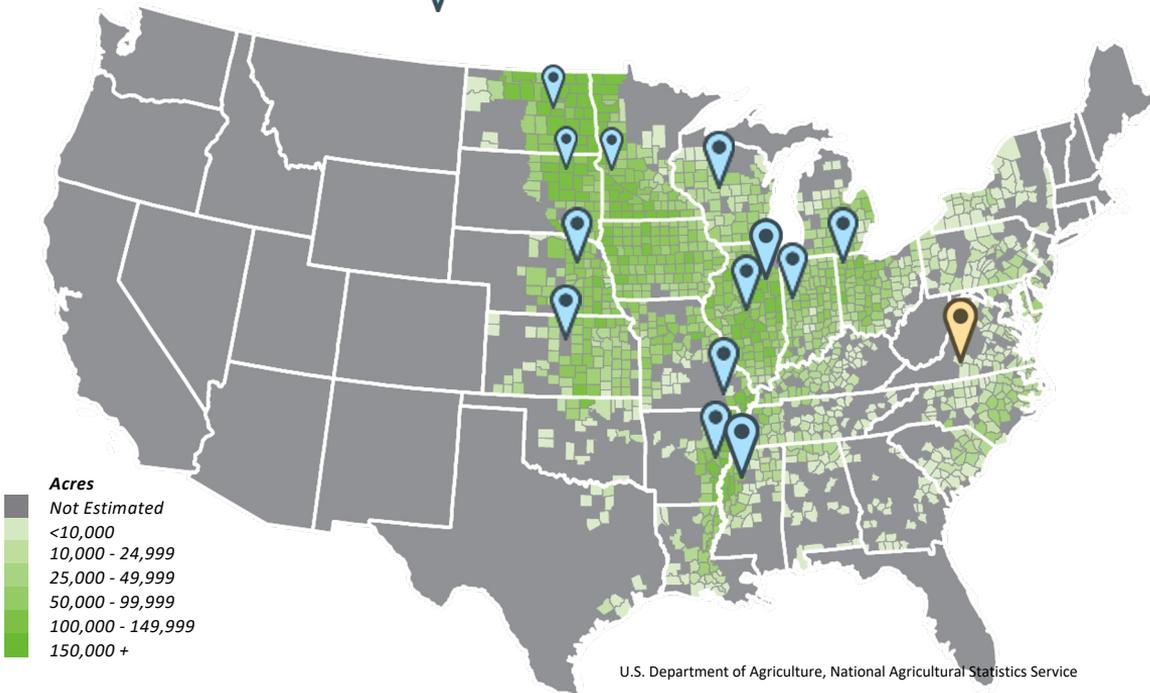
#### Nutrient Mobilization



# Talc 80/20 + Encompass

## 2022 Soybean Trial Locations and Yield Results

 **Trial Locations**



Location	Yield Increase
SGS America, Aurora, SD	0.7 bu/ac
Mid-South Ag Research, Proctor, AR	3.5 bu/ac
Delta Crop and Research, Holly Ridge, MS	9.0 bu/ac
Buckeye Ag Testing, Urbana, OH	-1.0 bu/ac
North Central Research Station, St. Johns, MI	2.4 bu/ac
Elite Research, Aurora, NE	4.0 bu/ac
BRANDT Research Farm, Pleasant Plains, IL	1.2 bu/ac
U of Illinois	2.4 bu/ac
Indiana	4.3 bu/ac
Kansas	1.0 bu/ac
Minnesota	-1.7 BU/AC
North Dakota	2.1 bu/ac
Wisconsin	2.0 bu/ac
<b>Virginia (Encompass + Inceptive)</b>	<b>8.3 bu/ac</b>
Averaged Results	
Yield Increase Encompass	2.5 bu/ac
Grower ROI @\$14/bu	\$26/ac

# Talc 80/20 + MicroSURGE



**Talc 80/20  
w/graphite**



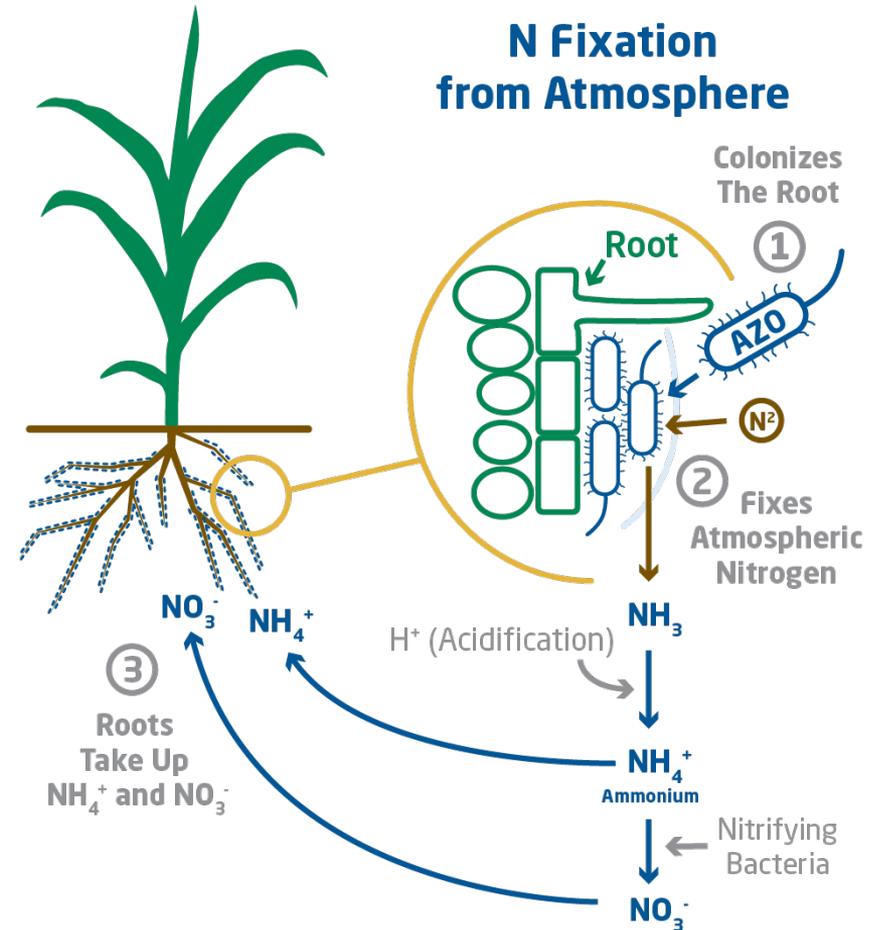
**MicroSurge**  
*Contains 2 strains of  
Azospirillum*

# MicroSurge

**Inoculant:** *Azospirillum sp.*

*Azospirillum sp.* colonizes root surfaces and establishes symbiotic association with the plant.

*Azospirillum sp.* fixes nitrogen from the atmosphere into ammoniacal nitrogen that plants can utilize



# Talc USA Corn Trial Results



# Talc USA Corn Trial Locations and Yield Results with MicroSURGE + Inceptive: 2013-2022

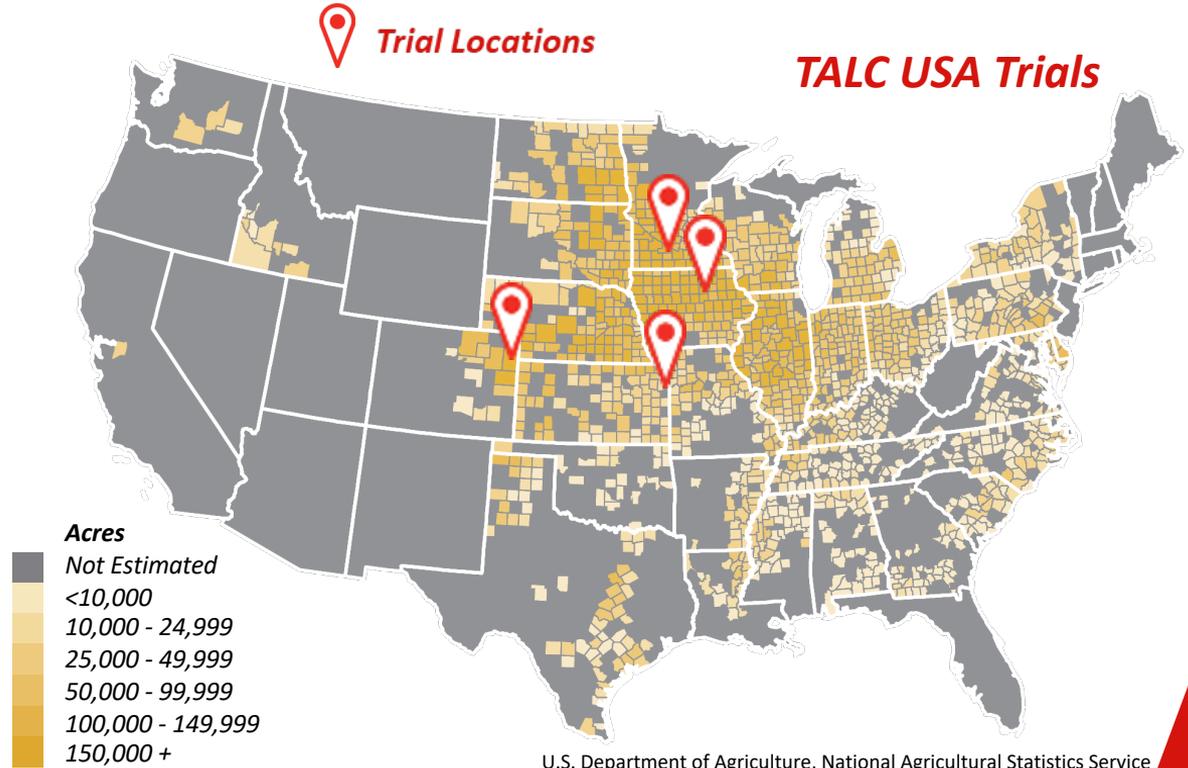
Location	Yield Increase
Agri-Tech Whitewater Wi 2022	4.81 bu/ac
KayJay AG Wilkin County Mn 2022	3.7# bu/ac
Agri-Tech Whitewater Wi 2022	12.8 bu/ac
Cedar County Ne 2022	10.9bu/ac
Norman County Mn 2022	8.0 bu/ac
Illinois	7.4 bu/ac
Iowa	5 bu/ac
Michigan	17.7 bu/ac
Minnesota	5.9 bu/ac
Mississippi	6 bu/ac
Missouri	6.1 bu/ac
Nebraska	6.8 bu/ac
Tennessee	5.5 bu/ac
Wisconsin	8.9 bu/ac
Averaged Results	
Yield Increase	7.8 bu/ac
Grower ROI @\$6/bu	\$42.74



 2022 Trials

# Talc USA Corn Trial Locations and Yield Results with Dry MicroSURGE Corn 2013-2021

Location	Yield Increase
Colorado	10 bu/ac
Iowa	6.1 bu/ac
Minnesota	4.5 bu/ac
Missouri	7.1 bu/ac
Averaged Results	
Yield Increase	8.1 bu/ac
Grower ROI @\$6/bu	\$46.50



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# Talc USA Corn Trial

## MicroSURGE + Inceptive vs Competitor

### 2022

Treatment	Yield
Control 100% Fertilizer	252.1 bu/ac
Control 80% Fertilizer	229.2 bu/ac
Dry MicroSURGE Inceptive 80% Fertilizer	242 bu/ac
Dry Competitor 80% Fertilizer	241 bu/ac

## Results

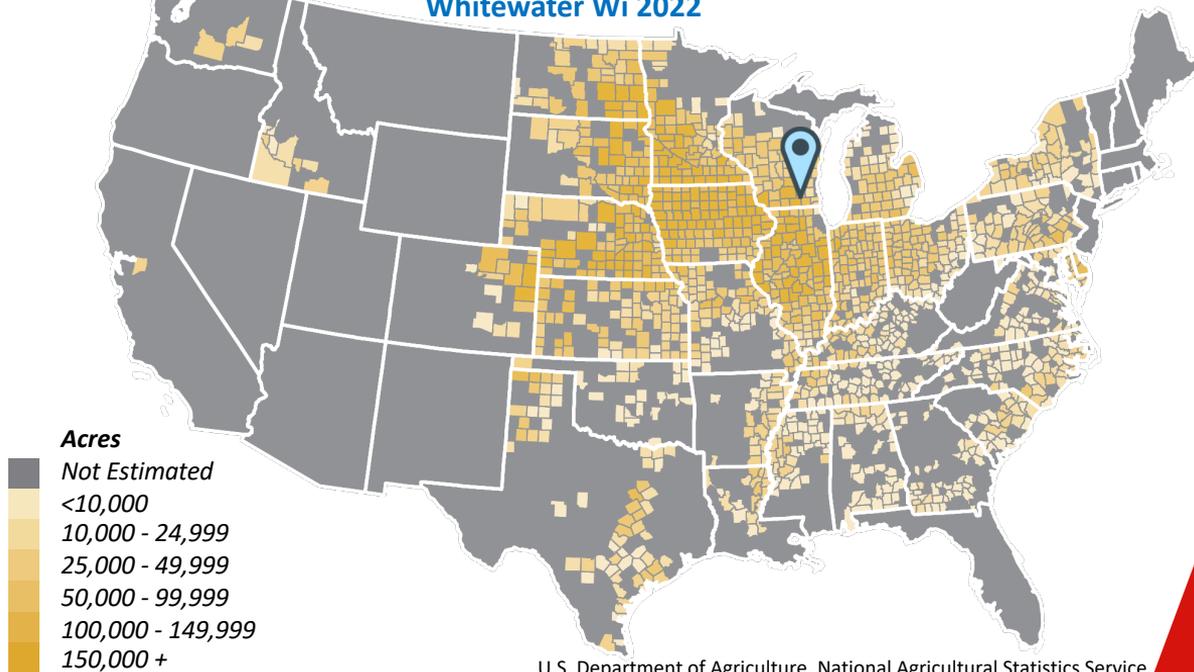
MicroSURGE + Inceptive  
13 bu more than 80%  
Control and 1 bu more than  
Competitor

More yield and about  
\$20/Acre less cost than  
Competitor



**Trial Location**  
Agri-Tech Consulting  
Whitewater WI 2022

**TALC USA Trials**

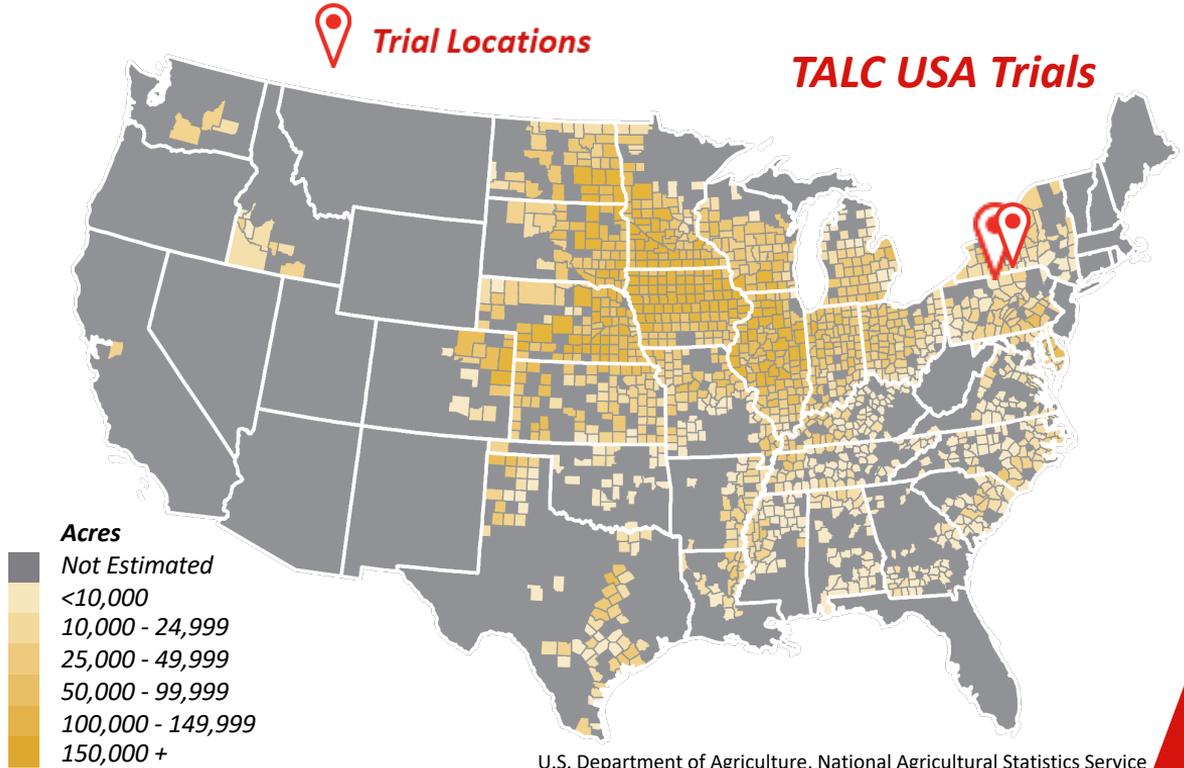


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# Talc USA Corn Trial Locations and Yield Results with Liquid Encompass In-Furrow 2022

Location	Yield Increase
Wayne County New York #1	21.4
Wayne County New York #2	21.5
Averaged Results	
Yield Increase	21.45
Grower ROI @\$6/bu	\$113.20



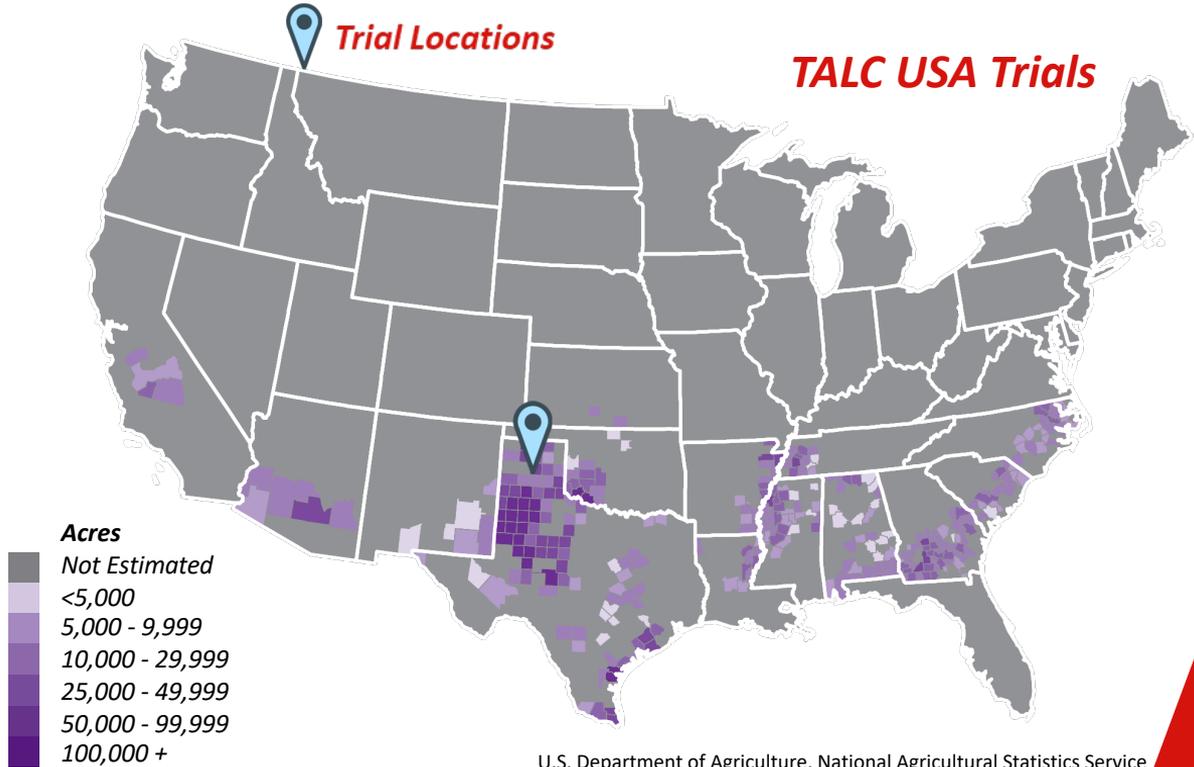
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# Talc USA Cotton Trial Results



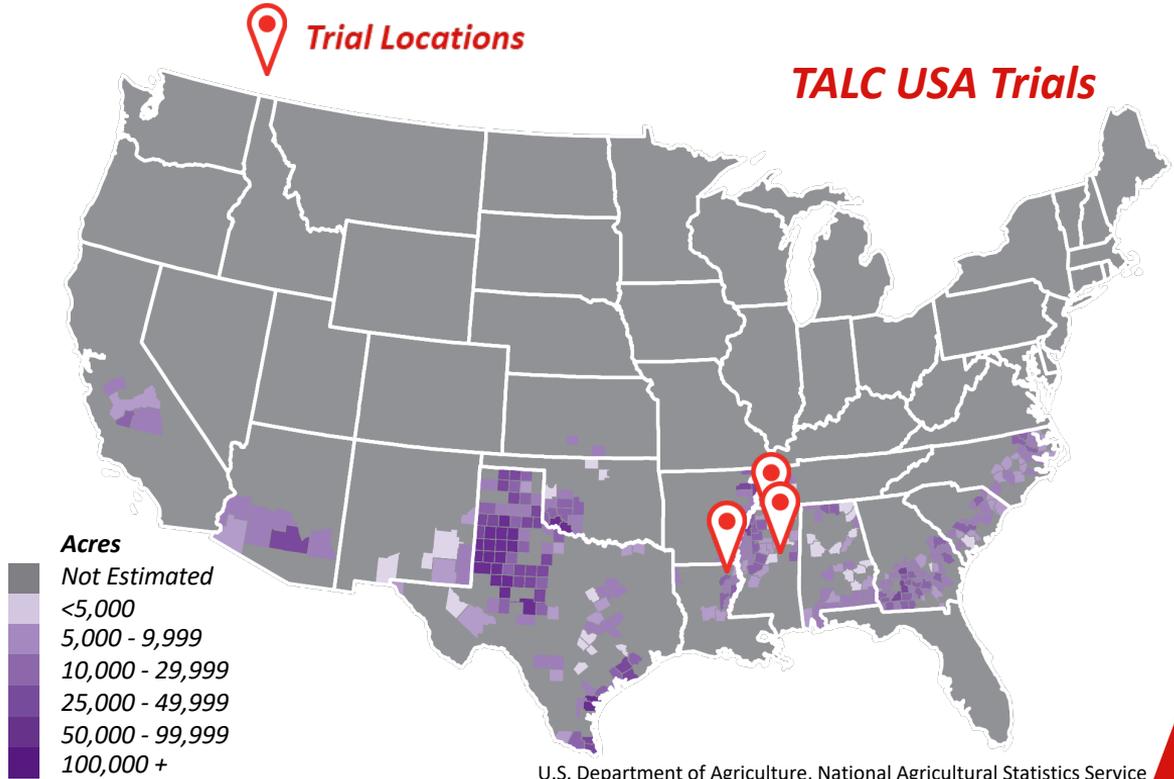
# 2022 Cotton Trial Locations and Yield Results using Inceptive to control Nematodes

Location	Yield Increase
Cotton Center Texas Susceptible variety	304 # lint/ac
Cotton Center Texas Resistant variety	-55# lint/ac
<b>*Susceptible variety with Inceptive out yielded the resistant variety</b>	
Averaged Results	
Yield Increase	125# lint/ac
Grower ROI @ \$.80/#	\$97.36/ac



# Talc USA Cotton Trial Locations and Yield Results using MicroSURGE + Inceptive

Location	Yield Increase
Richland Parish, Mississippi 2020	-5# lint/ac
Yazoo County, Mississippi 2020	144# lint/ac
Hinds County, Mississippi 2020	48# lint/ac
Averaged Results	
Yield Increase	62# lint/ac
Grower ROI @ \$.80/#	\$46.41/ac

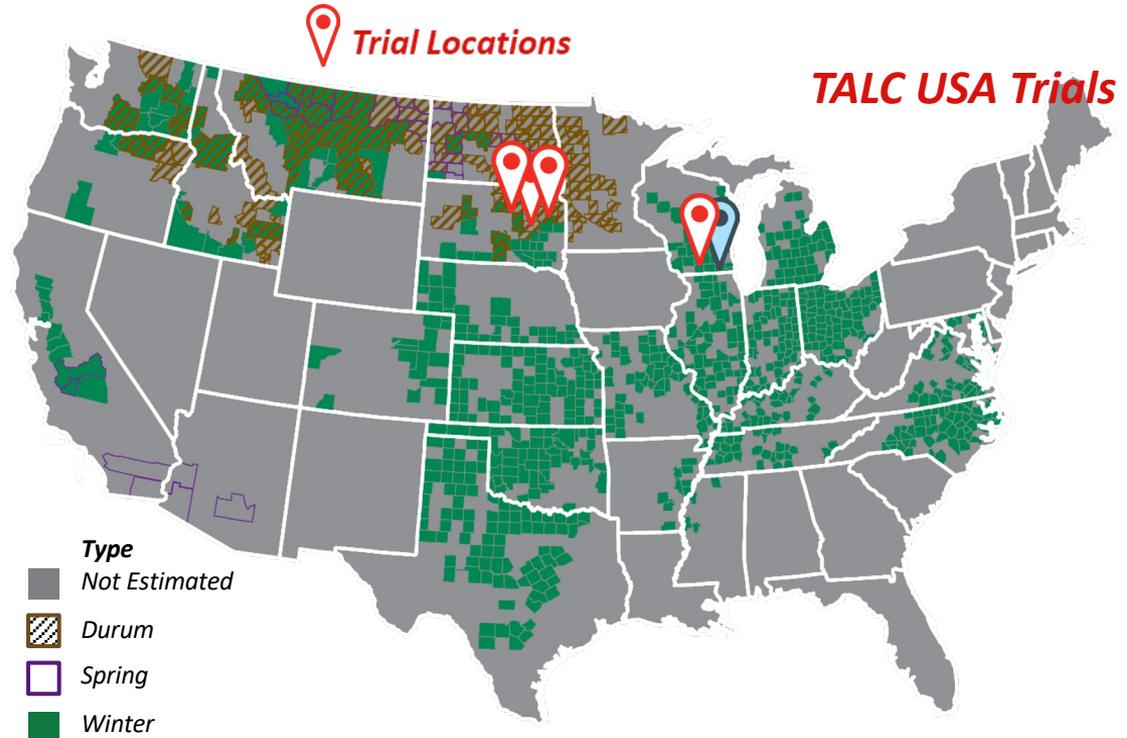


# Talc USA Wheat Trial Results



# Wheat Trial Locations and Yield Results Using Dry Small Grain MicroSURGE

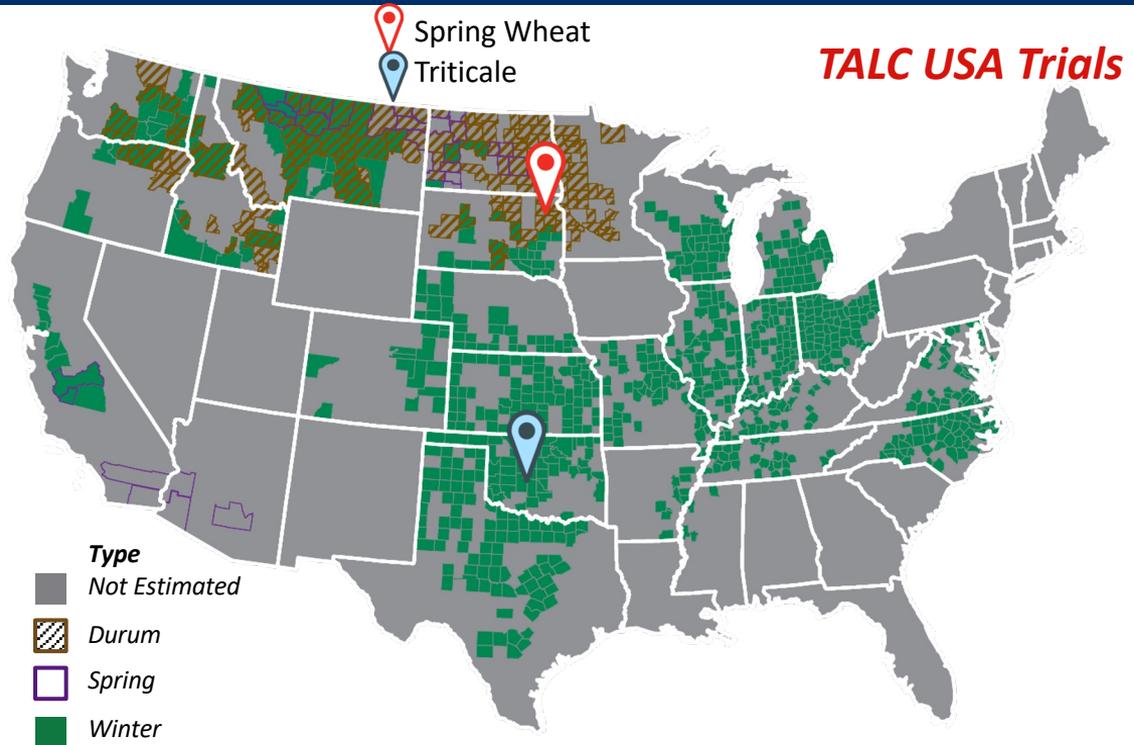
Location	Yield Increase
Agri-Tech #1 Whitewater Wi 2022	4.7 bu/ac
Agri-Tech #2 Whitewater Wi 2022	3.2bu/ac
Agri-Tech #1 Whitewater Wi 2021	2.8 bu/ac
Agri-Tech #2 Whitewater Wi 2021	2.9 bu/ac
Agri-Tech #3 Whitewater Wi 2021	4.0 bu/ac
Faulkton S Dakota 2018	2.2 bu/ac
Hoven S Dakota 2018	8.0 bu/ac
Bristol S Dakota #1 2018	5.0 bu/ac
Bristol S Dakota #2 2018	6.9 bu/ac
Faulkton S Dakota #2 2108	3.5 bu/ac
Faulkton S Dakota #3 2108	1.8 bu/ac
Averaged Results	
Yield Increase	4.1 bu/ac
Grower ROI @\$8.50/bu	\$30.90/ac



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# Wheat Trial Locations and Protein Increase Using Dry Small Grain MicroSURGE

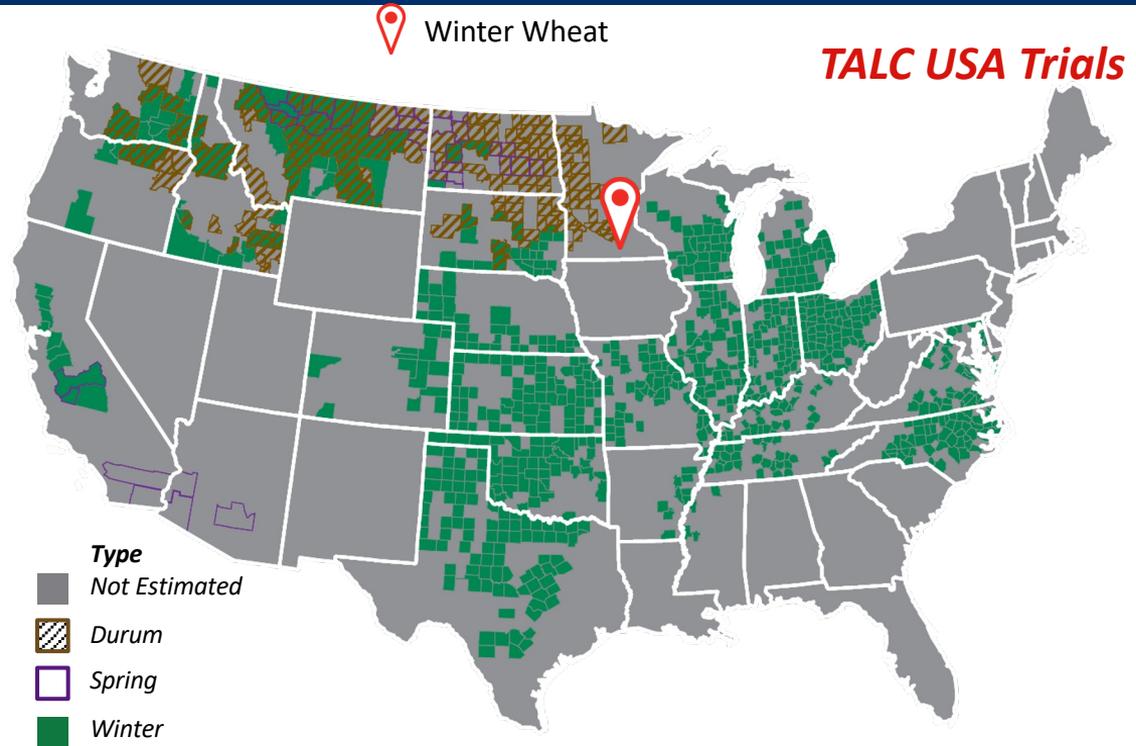
Location	Protein Increase
Faulkton S Dakota 2018	1%
Hoven S Dakota 2018	1.2%
Bristol S Dakota #1 2018	1%
Bristol S Dakota #2 2018	1.2%
Faulkton S Dakota #2 2108	1.2%
Faulkton S Dakota #3 2108	.7%
So Central Ok #1 2017	1.5%
So Central Ok #2 2017	3.2%
So Central Ok #3 2017	.4%
So Central Ok #4 2017	-.9%
So Central Ok #5 2017	1.0%
So Central Ok #6 2017	1.8%
<b>Averaged Results</b>	
Avg Protein Increase	1%



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# Wheat Trial Locations and Falling Numbers Using Dry Small Grain MicroSURGE

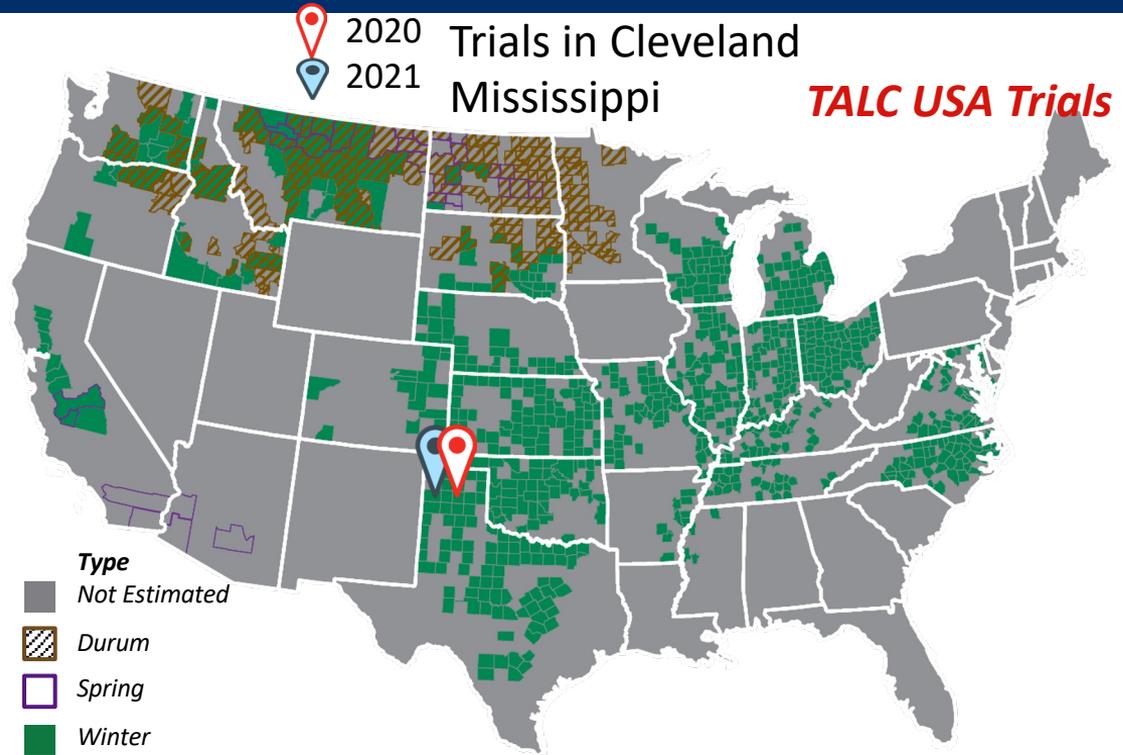
Location	Falling Numbers
Agri-Tech Consulting Whitewater, WI 2022	Control 345 MicroSurge 355
Agri-Tech Consulting Whitewater, WI 2022	Control 326 MicroSurge 342
Averaged Results	
Falling Numbers Increase	13



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# Rice Trial Locations and Yield Results Using Dry Small Grain MicroSURGE

Location	Yield Increase
Paddy #1 2020	11 bu/ac
Paddy #2 2020	16 bu/ac
Paddy #3 2020	5 bu/ac
Paddy #4 2020	8 bu/ac
#1 2021	4.0 bu/ac
#2 2021	2.2 bu/ac
#3 2021	8.0 bu/ac
Averaged Results	
Yield Increase	8 bu/ac
Grower ROI @\$10/bu	\$76/ac



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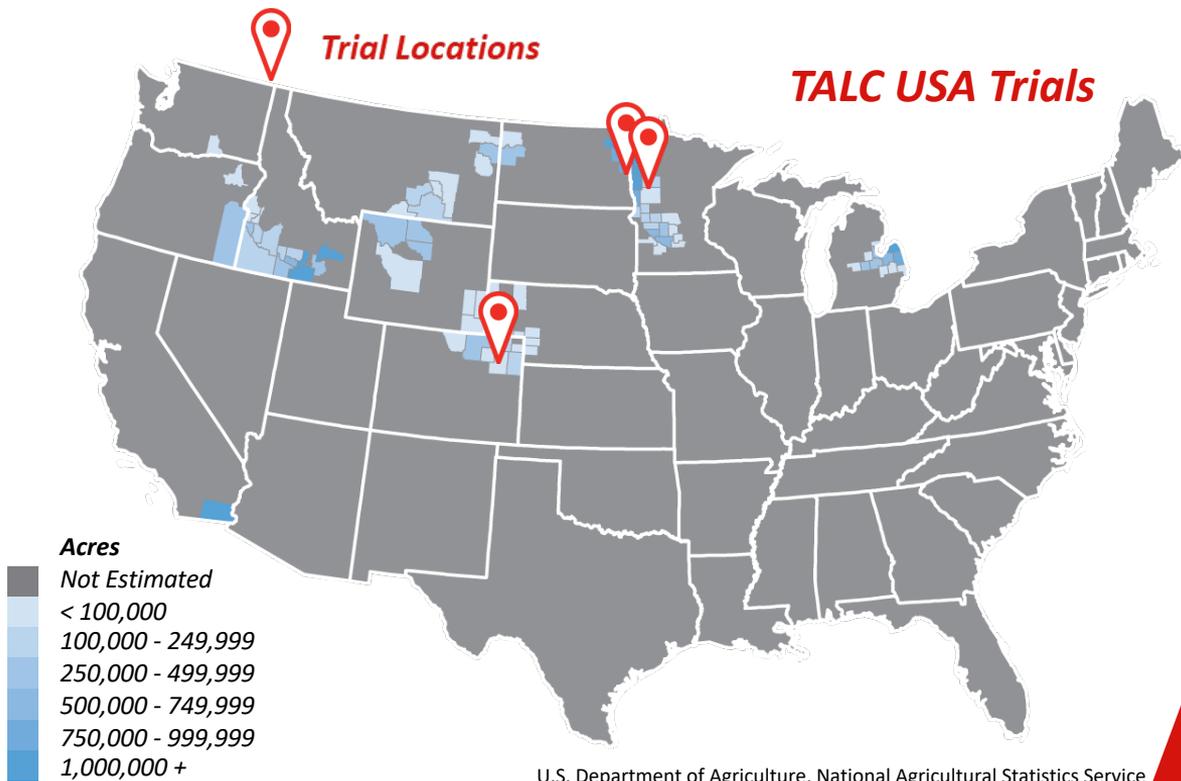
# Talc USA Sugarbeet Trial Results



# Sugar Beet Trial Locations and Yield Results

## Dry MicroSURGE Sugarbeet

Location	Yield Increase
IRF, Yuma Colorado 2013	\$177/ac
IRF, Yuma Colorado 2014	\$85/ac
IRF, Yuma Colorado 2015	\$89/ac
IRF, Yuma Colorado 2016	\$174/ac
Minnesota 2019-2022	\$56/ac
North Dakota 2019-2022	\$52/ac
Averaged Results	
\$/ac Increase w/o Co	\$54/ac
Grower ROI	\$51.5/ac

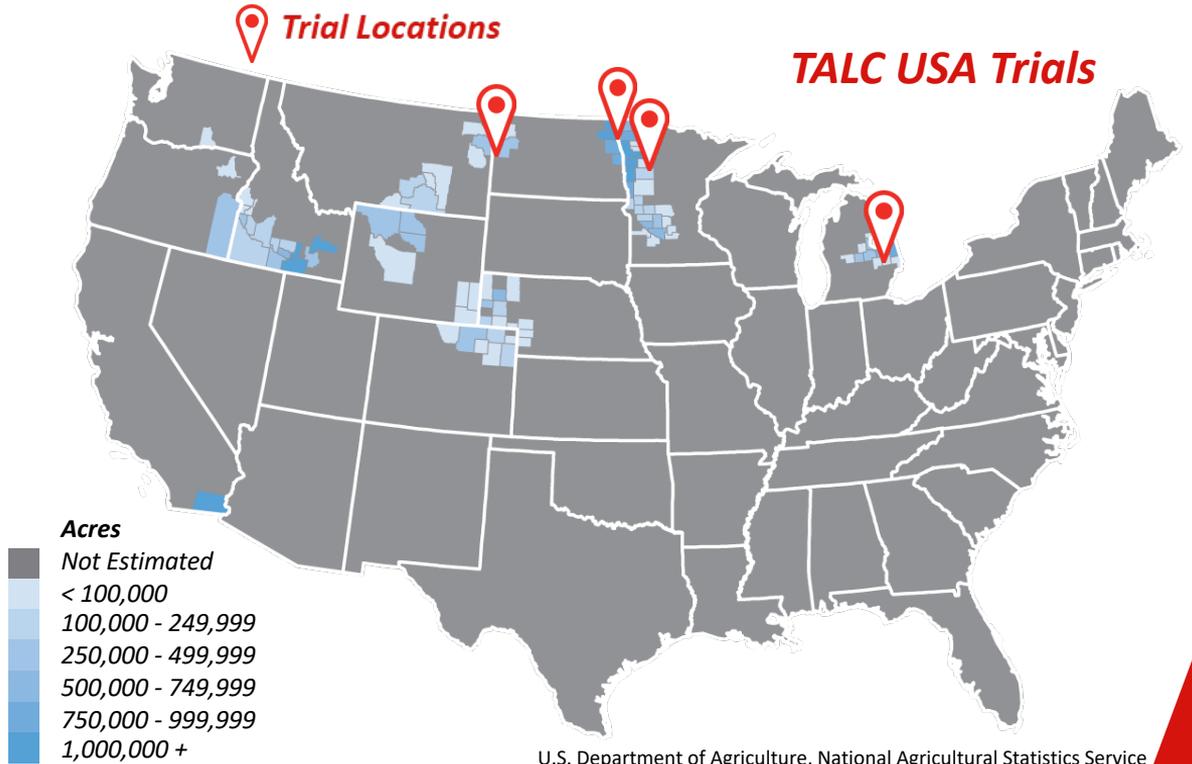


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# Sugar Beet Trial Locations and Yield Results

## Dry MicroSURGE Sugarbeet + Inceptive

Location	Yield Increase
Minnesota 2019-2022	\$77/ac
Richland Co Montana 2021	\$65/ac
North Dakota 2019-2022	\$72/ac
Michigan 2021	\$31/ac
<b>Averaged Results</b>	
\$/ac Increase	\$61/ac
Grower ROI	\$56/ac



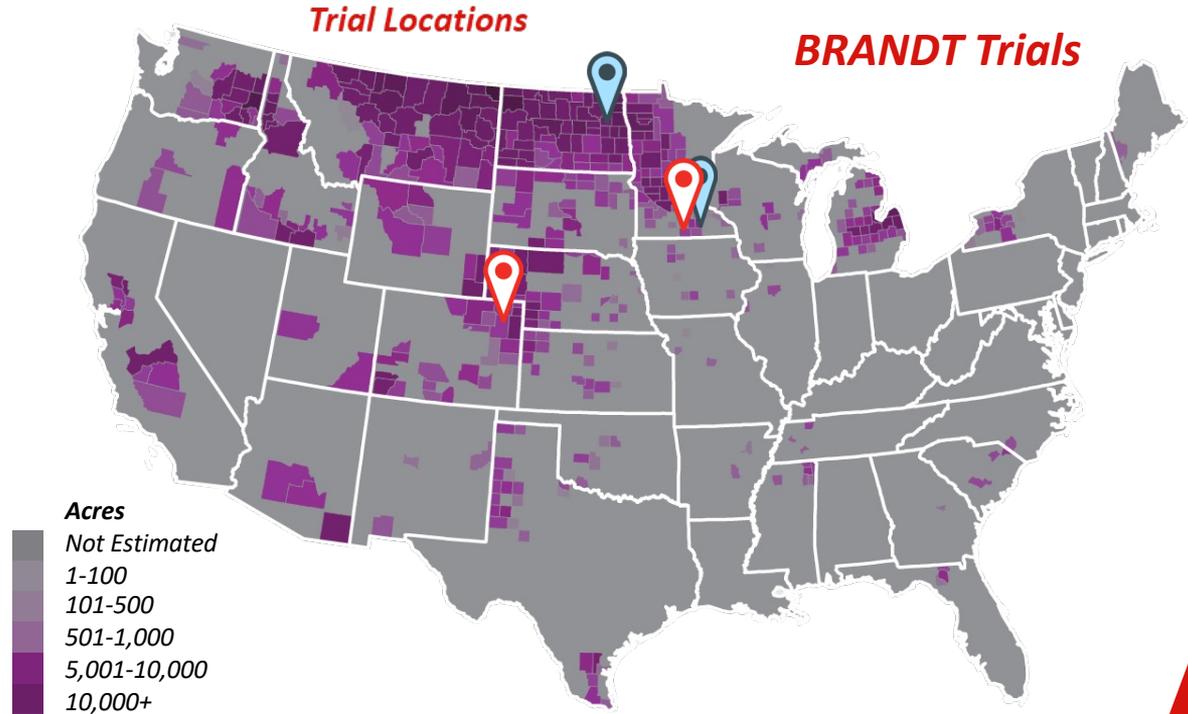
# Talc USA Field Bean Trial Results



# Dry Field Bean Trial Locations and Yield Results

## Dry Field Bean MicroSURGE

Location	Yield Increase
Agri-Tech Whitewater Wi 2021	183#/ac
Agri-Tech Whitewater Wi 2022	197#/ac
IRF, Yuma Colorado 201	241#/ac
Steele County N Dakota 2022	121/ac
Polk County Minnesota	112#/ac
Averaged Results	
Yield Increase	171#/ac
Grower ROI @ \$.40/#	\$65.73/ac



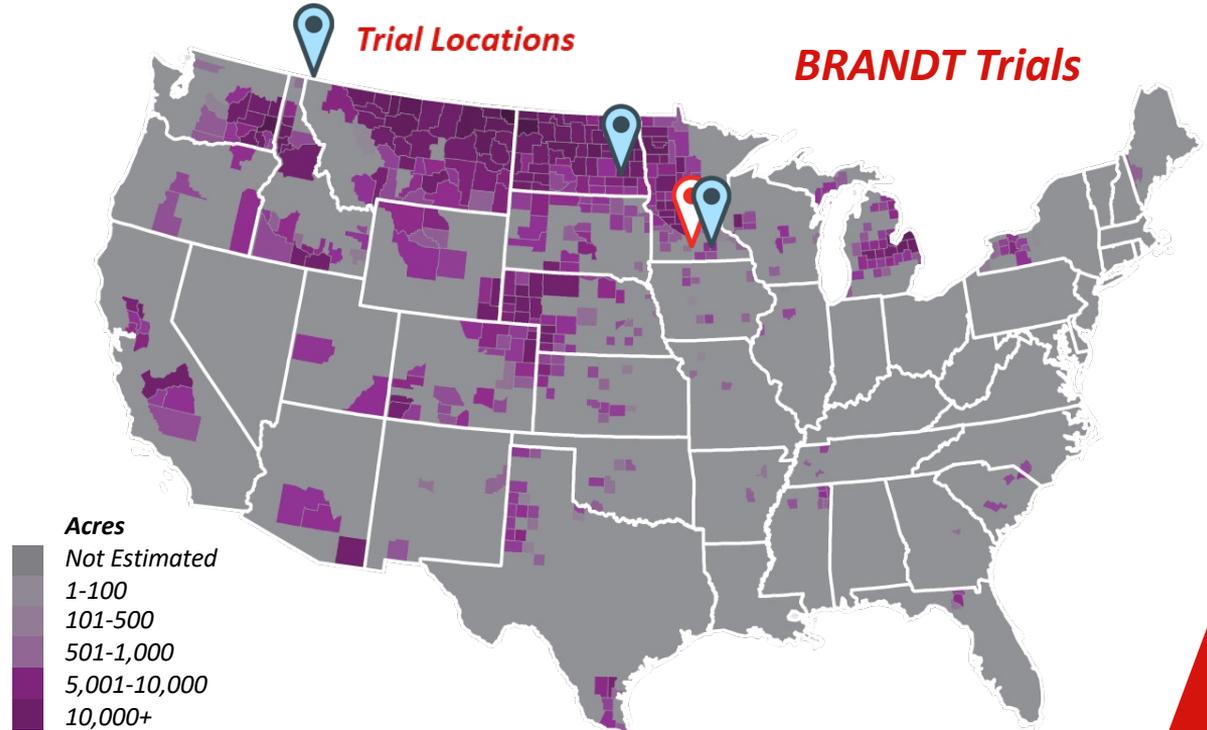
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# Dry Field Bean Trial Locations and Yield Results

## Dry Field Bean MicroSURGE + Inceptive

Location	Yield Increase
Agri-Tech Whitewater Wi 2021	341#/ac
Agri-Tech Whitewater Wi 2022	451#/ac
Ayr, North Dakota 2022	270#/ac
Averaged Results	
Yield Increase	354#/ac
Grower ROI @ \$.40/#	\$132.77/ac



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