

AGTIV[®]

EFFICACY REPORT

SOYBEAN





3.4 bu/ac

224 kg/ha

SOYBEANS

AVERAGE YIELD INCREASE

93 sites over 8 years
Canada and Europe

7.5%

Soybean split field with AGTIV® SOYBEAN vs competitor inoculant.
Plant growth and health is enhanced on the right,
and row closure occurs sooner in AGTIV® soybean fields.



AGTIV® soybean plants have a better developed root system
with more branching and more nodules.



EFFICACY REPORT

SUMMARY – MYCORRHIZAL & RHIZOBIAL INOCULANT

► PLOT & STRIP TRIALS

Research partners: ICMS, AgQuest, New Era Ag research, Stoney Ridge Ag Services and South East Research Farm (SERF).

Research sites: Manitoba and Saskatchewan

Treatments: a) AGTIV® THRIVE™ SOYBEAN*;
b) Competitor inoculant A*;
c) Competitor inoculant B*;
d) Competitor inoculant C*;
e) Competitor inoculant D*;
f) Competitor inoculant E*.

Experimental design: Total of 86 replicated plots per treatment in randomized complete block design, and one strip trial with 2 replicated strips.

*Products applied according to manufacturers recommended rate.



SOYBEAN

Table 1. Summary of Soybean yields (bu/ac)¹ per trial².

Location	Year	Seed variety	AGTIV® THRIVE™ SOYBEAN	Competitor inoculant				
				A	B	C	D	E
Morden (MB)	2015	Northstar, Anola	31.8 ^a	27.8 ^b	30.5 ^{a,b}			
Portage La Prairie (MB)	2015	Pride Seeds, PS0035	57.3	55.4	58.2			
Oakville (MB)	2016	Legend Seeds, Eclipse	79.7	77.8	77.7			
Swan River (MB)	2017	Prograin, Dario	40.7 ^a	35.0 ^{b,c}		32.5 ^c		
Portage La Prairie (MB)	2017	Northstar, Richer	58.3	54.5	54.5	54.7		
Binscarth (MB)	2017	Pioneer Ultra Early	30.1 ^a	27.7 ^b	29.0 ^{a,b}	28.5 ^b		
Redvers (SK)	2018	Prograin, Dario	31.1	28.2	25.8			
Swan River (MB)	2018	Prograin, Dario	57.7	47.2	54.3	55.5		
Portage La Prairie (MB)	2018	Secan, Barker	49.4	47.2	47.8			
Elm Creek (MB)	2019	Gray R2	37.1	36.9			35.9	
Redvers (SK)	2019	NSC Watson RR2Y	16.3	14.9		15.8		
Swan River (MB)	2019	Syngenta M2	35.7 ^a	29.9 ^b		35.7 ^a		
Swan River (MB)	2021	Syngenta M2	46.3 ^b					43.5 ^b
Redvers (SK)	2021	Watson	21.0					20.0
Redvers (SK)	2022	NSC Redvers	54.9	53.7				
Portage La Prairie (MB)	2022	NSC Redvers RR2X	64.9	63.4				

¹ Average yields followed by different letters are significantly different at $p \leq 0.05$.

² To obtain kg/ha results, multiply bushels by 60 and then by 1.12085 ($n \times 60 \times 1.12085$).

EFFICACY REPORT

2022 – MYCORRHIZAL & RHIZOBIAL INOCULANT

► PLOT TRIAL

Research partner: South East Research Farm (SERF)

Research site: Redvers, SK

Treatments: a) Untreated Check (No granular product)
b) AGTIV® THRIVE™ SOYBEAN*
c) Competitor inoculant A*

* Granular inoculant applied according to manufacturer's recommended rate

Experimental design: Complete Randomized Block Design, 6 repetitions, 12 m² plots

Variety: NSC Redvers (seeds pretreated with a commercial rhizobium)

Previous crop: Pea

Seeding details: Seeded on June 8, 2022, with a cone seeder at a rate of 80 kg/ha in a loam soil (pH: 7.6, OM: 4.2%).



SOYBEAN

Table 1. Summary of soybean yields per treatment.

Treatment	Yield (bu/ac)	Yield increase (bu/ac)
Untreated Check	52.9	-
AGTIV® THRIVE™ SOYBEAN	54.9	2.0
Competitor inoculant A	53.7	0.8

Plot operational notes and rain fall.

- Fertilization of 5-22-0 kg/ha at seeding
- Pesticides:
 - June 9, Roundup pre burn
 - July 6, Roundup
- Harvested on October 5, 2022

Month	Precipitation (mm)
May	121.0
June	75.0
July	259.0
August	25.2
September	15.0
TOTAL	465.2



EFFICACY REPORT

2022 – MYCORRHIZAL & RHIZOBIAL INOCULANT

► PLOT TRIAL

Research partner: Integrated Crop Management Services (ICMS)

Research site: Portage la Prairie, MB

Treatments: a) Untreated Check (no granular product)
b) AGTIV® THRIVE™ SOYBEAN*
c) Competitor inoculant A*

* Granular inoculant applied according to manufacturer's recommended rate

Experimental design: Complete Randomized Block Design, 6 repetitions, 21 m² plots

Variety: NSC Redvers RR2X (seeds pretreated with a commercial rhizobium)

Previous crop: Wheat

Seeding details: Seeded on June 17, 2022, with a cone seeder at a rate of 140 kg/ha in a clay loam soil (pH: 8.2, OM: 6.7%). Emergence on June 22.



SOYBEAN

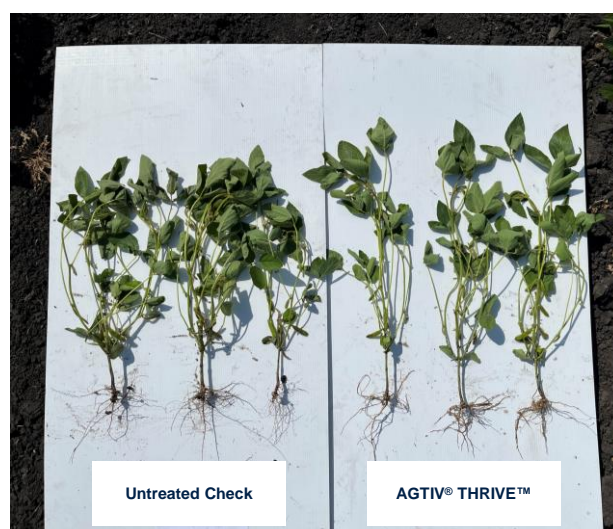
Table 1. Summary of soybean yields per treatment.

Treatment	Yield (bu/ac)	Yield increase (bu/ac)
Untreated Check	63.0	-
AGTIV® THRIVE™ SOYBEAN	64.9	1.9
Competitor inoculant A	63.4	0.4

Plot operational notes and rain fall.

- No Fertilization
- Pesticides:
 - June 24 & July 14, Roundup WeatherMAX (post emergence weed control)
- Harvested on October 11, 2022

Month	Precipitation (mm)
May	140.7
June	70.3
July	96.3
August	89.0
September	50.3
TOTAL	446.6



EFFICACY REPORT

2021 – MYCORRHIZAL & RHIZOBIAL INOCULANT

► PLOT TRIAL

Research partner: New Era Ag Technologies

Research site: Swan River, MB

Treatments: a) Untreated Check
b) AGTIV® SOYBEAN • Granular*
c) Competitor inoculant E*

* Granular inoculant applied according to manufacturer's recommended rate

Experimental design: Complete Randomized Block Design, 6 repetitions, 20 m² plots

Variety: Syngenta M2

Previous crop: Wheat

Seeding details: Seeded on May 18, 2021, with a cone seeder at a rate of 70 kg/ha.
Seeds pretreated with a commercial rhizobium.



SOYBEAN

Table 1. Summary of yields and protein content per treatment.

Treatment	Yield ¹ (bu/ac)	Yield increase (bu/ac)	Protein content (%)
Untreated Check	41.9 ^a	-	29.5
AGTIV® SOYBEAN • Granular	46.3 ^b	4.4	31.7
Competitor inoculant E	43.5 ^b	1.6	31.1

¹ Yields with same letter are not statistically different according to a Tukey HSD test (p≤0.05).

Plot operational notes and rain fall.

- Fertilization of 11-52-0 on May 28 at a rate of 86 kg/ha
- Pesticides:
 - June 15 and July 6, RT 540 to control emerged weeds
- Harvested on September 28, 2021

Month	Precipitation (mm)
May	33.0
June	65.9
July	45.5
August	77.1
September	39.0
TOTAL	260.5

EFFICACY REPORT

2021 – MYCORRHIZAL & RHIZOBIAL INOCULANT

► PLOT TRIAL

Research partner: South East Research Farm (SERF)

Research site: Redvers, SK

Treatments: a) Untreated Check
b) AGTIV® SOYBEAN • Granular*
c) Competitor inoculant E*

* Granular inoculant applied according to manufacturer's recommended rate

Experimental design: Complete Randomized Block Design, 6 repetitions, 8 m² plots

Variety: Watson

Previous crop: Wheat

Seeding details: Seeded on May 29, 2021, with a cone seeder at a rate of 75 kg/ha.
Seeds pretreated with a commercial rhizobium.



SOYBEAN

Table 1. Summary of yields and protein content per treatment.

Treatment	Yield (bu/ac)	Yield increase (bu/ac)	Protein content (%)
Untreated Check	19.1	-	36.9
AGTIV® SOYBEAN • Granular	21.0	1.9	36.4
Competitor inoculant E	20.0	0.9	36.9

Plot operational notes and rain fall.

- Fertilization of MAP 11-48-0 at seeding at a rate of 65 kg/ha
- Pesticides:
 - June 24, Glyphosate to control emerged weeds
- Harvested on September 17, 2021

Month	Precipitation (mm)
May	52.9
June	70.5
July	19.9
August	55.4
TOTAL	198.7

EFFICACY REPORT

2019 – MYCORRHIZAL & RHIZOBIAL INOCULANT

► PLOT TRIAL

Research partner: AgQuest

Research site: Elm Creek (MB), Canada

Treatments: a) ALPINE G22™ Liquid*;
b) ALPINE G22™ and AGTIV® COMBO • Liquid for SOYBEAN*;
d) ALPINE G22™ and Competitor inoculant A*;
e) ALPINE G22™ and Competitor inoculant D*.

Experimental design: 6 replicated plots per treatment in randomized complete block design

Soybean variety: Gray R2 with *Bradyrhizobium* pre-inoculated on the seed

Previous crop: Barley

Seeding details: Seeded May 28, 2019, with a 21 cm row spacing.

*Products applied according to manufacturers' recommended rate



SOYBEAN

Table 1. Summary of Soybean yields per treatment.

Treatment	Yield (bu/ac)	Yield (kg/ha)
ALPINE G22™ Liquid	34.6	2327
ALPINE G22™ and AGTIV® COMBO • Liquid for SOYBEAN	37.1	2495
ALPINE G22™ and Competitor inoculant A	36.9	2482
ALPINE G22™ and Competitor inoculant D	35.9	2414

Plot operational notes and rain fall.

- Three Roundup WeatherMax applications on June 14, July 9, and 24, 2019
- Insecticide (CORAGEN) August 14, 2019
- Combined on October 26, 2019.

Month	Precipitation (mm)
May	42.2
June	59.5
July	91.7
August	40.9
September	196.7
TOTAL	431

EFFICACY REPORT

2019 – MYCORRHIZAL & RHIZOBIAL INOCULANT

► PLOT TRIAL

Research partner: New Era Ag Research

Research site: Swan River (MB), Canada

Treatments: a) Untreated
b) AGTIV® SOYBEAN • Granular*;
c) Competitor inoculant A applied*;
d) Competitor inoculant C applied*.

Experimental design: 6 replicated plots per treatment in randomized complete block design

Soybean variety: Syngenta M2 with *Bradyrhizobium* pre-inoculated on the seed

Previous crop: Canola stubble

Seeding details: Seeded May 24, 2019, with a 22.4 cm row spacing and a rate of 190 000 seeds/acre.

*Products applied according to manufacturers' recommended rate



SOYBEAN

Table 1. Summary of yields and protein content of Soybean per treatment

Treatment	Yield ¹ (bu/ac)	Yield ¹ (kg/ha)	Protein content ¹ (%)
Untreated	26.5 ^a	1782 ^a	32.87 ^a
AGTIV® SOYBEAN • Granular	35.7 ^b	2401 ^b	37.59 ^c
Competitor inoculant A	29.9 ^a	2011 ^a	35.27 ^b
Competitor inoculant C	35.7 ^b	2401 ^b	37.87 ^c

¹ Yields and protein contents followed by different letters are significantly different (Tukey's test HSD at p≤0.05).

Plot operational notes and rain fall.

- Fertilization:
 - 0-20-10-0 fertilizer applied at season start
- Herbicides applied June 12 and 25, and July 12 (Glyphosate).
Insecticide (POUNCE) applied August 12, 2019
- Combined October 7, 2019.

Month	Precipitation (mm)
May	25.7
June	26.1
July	59.4
August	51.8
September	48.8
TOTAL	211.8



EFFICACY REPORT

2019 – MYCORRHIZAL & RHIZOBIAL INOCULANT

► PLOT TRIAL

Research partner: South East Research Farm (SERF)

Research site: Redvers (SK), Canada

Treatments: a) Untreated
b) AGTIV® SOYBEAN • Granular*;
c) Competitor inoculant A*;
d) Competitor inoculant C*.

Experimental design: 6 replicated plots per treatment in randomized complete block design

Soybean variety: NSC Watson RR2Y with *Bradyrhizobium* pre-inoculated on the seed

Previous crop: Canola

Seeding details: Seeded May 27, 2019, at a rate of 210 000 seeds/acre.

*Products applied according to manufacturers' recommended rate



SOYBEAN

Table 1. Summary of Soybean yields per treatment

Treatment	Yield (bu/ac)	Yield (kg/ha)
Untreated	13.4	901
AGTIV® SOYBEAN • Granular	16.3	1096
Competitor inoculant A	14.9	1002
Competitor inoculant C	15.8	1063

Plot operational notes and rain fall.

- Herbicides applied June 18 (Glyphosate) and July 1 (Viper and UAN)
- Combined October 6, 2019.

Month	Precipitation (mm)
May	18
June	79
July	54
August	88
September	99
TOTAL	338

EFFICACY REPORT

2018 – MYCORRHIZAL & RHIZOBIAL INOCULANT

► PLOT TRIAL

Research partner: South East Research Farm (SERF)

Research site: Redvers (SK), Canada

Treatments: a) AGTIV® SOYBEAN • Granular*;
b) COMBO AGTIV® • Liquid for SOYBEAN*;
c) Competitor inoculant A*;
d) Competitor inoculant B*.

Experimental design: 8 replicated plots per treatment in randomized complete block design

Soybean variety: Dario

Previous crop: Canola stubble

Seeding details: Seeded May 28, 2018, at 210 000 seeds/ac with 15 cm row spacing.

*Products applied according to manufacturers' recommended rate.



SOYBEAN

Table 1. Summary of Soybean yields and protein content per treatment.

Treatment	Yield (bu/ac)	Yield (kg/ha)	Protein (%)
AGTIV® SOYBEAN • Granular	31.1	2092	32.5
COMBO AGTIV® • Liquid for SOYBEAN	28.2	1896	29.0
Competitor inoculant A	25.8	1735	28.5
Competitor inoculant B	29.7	1997	30.8

Plot operational notes and rain fall.

- No tillage
- Fertilization: 58 lb/ac of P
- Glyphosate applied twice during growth.
- Combined on September 27, 2018.

Month	Precipitation (mm)
May	13.8
June	44.3
July	19.5
August	17.4
September	27.6
TOTAL	122.6

EFFICACY REPORT

2018 – MYCORRHIZAL & RHIZOBIAL INOCULANT

► PLOT TRIAL

Research partner: Integrated Crop Management Services (ICMS)

Research site: Portage La Prairie (MB), Canada

Treatments: a) AGTIV® SOYBEAN • Granular*;
b) COMBO AGTIV® • Liquid for SOYBEAN*;
c) Competitor inoculant A*;
d) Competitor inoculant B*.

Experimental design: 8 replicated plots per treatment in randomized complete block design

Soybean variety: Barker

Previous crop: Fallow

Seeding details: Seeded June 6, 2018, with 24 m² per plot.

*Granular products applied according to manufacturers' recommended rate.



SOYBEAN

Table 1. **Summary of Soybean yields per treatment.**

Treatment	Yield (bu/ac)	Yield (kg/ha)
AGTIV® SOYBEAN • Granular	49.4	3322
COMBO AGTIV® • Liquid for SOYBEAN	47.4	3188
Competitor inoculant A	47.2	3174
Competitor inoculant B	47.8	3215

Plot operational notes and rain fall.

- No fertilization
- Pesticides:
 - Round up on July 5
 - Thiram on July 10, 17 and 27
- Combined on October 19, 2018.

Month	Precipitation (mm)
June	65.1
July	41.1
August	31.8
September	115.3
TOTAL	253.3

EFFICACY REPORT

2018 – MYCORRHIZAL & RHIZOBIAL INOCULANT

► PLOT TRIAL

Research partner: New Era Ag Research

Research site: Swan River (MB), Canada

Treatments: a) AGTIV® SOYBEAN • Granular applied at 5.1 lb/ac*;
b) Competitor inoculant A applied at 5 lb/ac*;
c) Competitor inoculant B applied at 4.45 lb/ac*;
d) Competitor inoculant C applied at 7.14 lb/ac*.

Experimental design: 8 replicated plots per treatment in randomized complete block design

Soybean variety: Dario

Previous crop: Canola stubble

Seeding details: Seeded May 21, 2018, at 200 000 seeds/ac with 25 cm row spacing.

*Granular products applied according to manufacturers' recommended rate.



SOYBEAN

Table 1. Summary of Soybean yields and protein content per treatment.

Treatment	Yield (bu/ac)	Yield (kg/ha)	Protein (%)
AGTIV® SOYBEAN • Granular	57.7	3880	34.2
Competitor inoculant A	47.2	3174	31.5
Competitor inoculant B	54.3	3651	33.1
Competitor inoculant C	55.5	3732	33.6

Plot operational notes and rain fall.

- No tillage
- Fertilization:
 - 30 lb/ac of P
 - 40 lb/ac of K
- Pesticides:
 - Glyphosate on June 6, 25 and July 5
 - Proline on July 10
 - Round up + Heat on September 12
- Combined on October 6, 2018.

Month	Precipitation (mm)
May	38.4
June	127.6
July	59.3
August	35.4
September	51.1
TOTAL	311.8

EFFICACY REPORT

2017 – MYCORRHIZAL & RHIZOBIAL INOCULANT

► STRIP TRIAL

Research partner: Stoney Ridge Ag Services

Research site: Binscarth (MB), Canada

Treatments: a) AGTIV® SOYBEAN • Granular applied at 5.0 lb/ac;
b) Competitor inoculant A applied at 5.0 lb/ac;
c) Competitor inoculant B applied at 5.0 lb/ac;
d) Competitor inoculant C applied at 5.0 lb/ac.

Experimental design: 2 replicated strips of 1.36 acres per treatment

Soybean variety: Pioneer Experimental Ultra-Early variety, treated with Optimize St.

Previous crop: Canola

Seeding details: Seeded May 20, at 180 000 seeds/ac at 15 in row spacing using DB60.



SOYBEAN

Table 1. Summary of Soybean yields per treatment.

Treatment	Yield (bu/ac) ¹	Yield (kg/ha) ¹
AGTIV® SOYBEAN • Granular	30.11 ^a	2025 ^a
Competitor inoculant A	27.71 ^b	1864 ^b
Competitor inoculant B	28.99 ^{a,b}	1950 ^{a,b}
Competitor inoculant C	28.46 ^b	1914 ^b

¹ Average yields followed by different letters are significantly different (P < 0.05, 1-way ANOVA + Tukey-Kramer Significance Test)

Plot operational notes and rain fall.

- A blend of 5-23-23-13 applied at 231 lb/ac fall broadcast and incorporated
- Preplant application of Roundup Weathermax + Express SG
- Incrop application of Roundup Transorb HC + Xtendimax and second incrop application of Roundup Weathermax + Pursuit.
- Combined on September 18, 2017, and weighed using J&M Speed Tender.

EFFICACY REPORT

2017 – MYCORRHIZAL & RHIZOBIAL INOCULANT

► STRIP TRIAL

Research partner: Down to Earth + PAMI

Research site: Saskatoon (SK), Canada

Treatments: a) AGTIV® SOYBEAN • Granular applied at 5.0 lb/ac + Taurus Advanced Acre (TAA) + fungicide application;
b) AGTIV® SOYBEAN • Granular applied at 5.0 lb/ac + Taurus Advanced Acre (TAA) & no fungicide application;
c) AGTIV® BRADY • Granular for SOYBEAN applied at 4.0 lb/ac + designed fertility.

Experimental design: 2 replicated strips for a total of 540 ft² per treatment

Soybean variety: Syngenta, M2 variety, treated with 1.82 ml/kg Optimize St.

Previous crop: Canola / wheat / oats split

Seeding details: Seeded May 20, at 180 000 seeds/ac at 10in row spacing using Seed Master plot Drill by Down to Earth.



SOYBEAN

Table 1. Summary of Soybean yields per treatment.

Treatment	Yield (bu/ac)	Yield (kg/ha)
AGTIV® SOYBEAN • Granular + TAA + Fungicide	39.1	2630
AGTIV® SOYBEAN • Granular + TAA & No Fungicide	41.1	2764
AGTIV® BRADY • Granular for SOYBEAN + designed fertility	34.9	2347

Plot operational notes and rain fall.

- Fertility
 - Seed placed 2-15-0 -0 actual lbs/ac
 - Side band 17-20-15-15 actual lbs/ac
 - Viper+UAN applied at 400 ml/ac + 81 ml/ac at 2-3 trifoliolate,
 - Roundup was applied at 0.67 L/ac at 3-4 trifoliolate
 - Combined on September 18 with a Wintersteiger and weighed & moisture averaged by PAMI
 - Total rainfall: 100.4 mm
- Designed Fertility Program:** a calculated fertility program based on soil tests and targeted yield. Target yield for Soybean was 40 bushels/ac
 - The Taurus Advanced Acre™:** Using the Designed Fertility Program with the addition of key Taurus solutions.
 - The Taurus Advanced Acre™ with no Fungicide:** Using the Designed Fertility Program with the addition of key Taurus solutions without the addition of fungicide.

EFFICACY REPORT

2017 – MYCORRHIZAL & RHIZOBIAL INOCULANT

► PLOT TRIAL

Research partner: ICMS

Research site: Portage la Prairie (MB), Canada

Treatments: a) AGTIV® SOYBEAN • Granular applied at 5 lb/ac*;
b) AGTIV® BRADY • Granular for SOYBEAN applied at 4 lb/ac*;
c) Competitor inoculant A applied at 5.0 lb/ac*;
d) Competitor inoculant B applied at 4.5 lb/ac*;
e) Competitor inoculant C applied at 7 lb/ac*;
f) Competitor inoculant D applied at 0.063 g/1000 seeds*.

Experimental design: 6 replicated plots per treatment in randomized complete block design

Soybean variety: Northstar Seeds, Richer

Previous crop: Canola

Seeding details: Seeded June 1 at 165 000 plants/ac with 15 cm row spacing using a cone planter.

*Granular products applied according to manufacturers recommended rate.



SOYBEAN

Table 1. Summary of Soybean yields per treatment.

Treatment	Yield (bu/ac)	Yield (kg/ha)
AGTIV® SOYBEAN • Granular	58.3	3921
AGTIV® BRADY • Granular for SOYBEAN	54.6	3672
Competitor inoculant A	54.5	3665
Competitor inoculant B	54.5	3665
Competitor inoculant C	54.7	3679
Competitor inoculant D	54.9	3692

Plot operational notes and rain fall.

- 288 lb/ac of 0-80-40-20 N-P-K-S blend was applied and incorporated just before seeding
- Conventional tillage before spring
- Roundup TR 540 was applied at 0.7 L/ac on June 26 and July 14. Cygon to control aphids was applied on August 8.
- Combined on October 12, 2017, with Winterstieger plot combine.

Month	Precipitation (mm)
May	26.8
June	69.9
July	29.4
August	8.8
September	83.8
TOTAL	218.7

EFFICACY REPORT

2017 – MYCORRHIZAL & RHIZOBIAL INOCULANT

► PLOT TRIAL

Research partner: New Era research

Research site: Swan River (MB), Canada

Treatments: a) AGTIV® SOYBEAN • Granular applied at 5.1 lb/ac*;
b) Competitor inoculant A applied at 5.0 lb/ac*;
c) Competitor inoculant A applied at 10.0 lb/ac*;
d) Competitor inoculant C applied at 7.1 lb/ac*;
e) Competitor inoculant C applied at 14.3 lb/ac.

Experimental design: 8 replicated plots per treatment in randomized complete block design

Soybean variety: Prograin, Dario, treated with 2 ml/kg CBMV and 1.82 ml/kg Optimize

Previous crop: Canola

Seeding details: Seeded May 23, at 200 000 seeds/ac at 10 in row spacing using seedhawk air drill.

*Granular products applied according to manufacturers recommended rate.



SOYBEAN

Table 1. Summary of Soybean yields per treatment.

Treatment	Yield (bu/ac) ¹	Yield (kg/ha) ¹
AGTIV® SOYBEAN • Granular	40.7 ^a	2737 ^a
Competitor inoculant A low rate	35.0 ^{b,c}	2354 ^{b,c}
Competitor inoculant A high rate	36.5 ^b	2455 ^b
Competitor inoculant C low rate	32.5 ^c	2186 ^c
Competitor inoculant C high rate	35.3 ^{b,c}	2374 ^{b,c}

¹ Average yields followed by different letters are significantly different (P < 0.05, Student-Newman-Keuls)

Plot operational notes and rain fall.

- A blend of 7-34-20-0 applied at 102 lb/ac spring broadcast
- Viper+UAN applied at 400 ml/ac + 81 ml/ac at 2-3 trifoliolate, Roundup was applied at 0.67 L/ac at 3-4 trifoliolate and Guardsman at 607 ml/ac at R8.
- Combined on October 10 with Hedge 140 plot combine
- Total rainfall: 197.1 mm.

EFFICACY REPORT

2017 – MYCORRHIZAL INOCULANT

► PLOT TRIAL

Research partner: Blackcreek Research

Research site: Bright (ON), Canada

Treatments: a) Untreated;
b) AGTIV® ON SEED™ mycorrhizal inoculant.

Experimental design: 8 replicated plots per treatment in randomized complete block design

Soybean variety: ELITE SEED, Katonda R2

Previous crop: Winter Wheat

Seeding details: Seeded June 9 at 168 000 plants/ac with 38 cm row spacing using a cone planter.



SOYBEAN

Table 1. Soybean yields per treatment.

Treatment	Yield (bu/ac) ¹	Yield (kg/ha) ¹
Untreated	41.4 ^a	2782 ^a
AGTIV® ON SEED™ mycorrhizal inoculant	44.0 ^b	2957 ^b

¹Average yields followed by different letters are significantly different (Tukey's test, $p \leq 0.05$)

Plot operational notes and rain fall.

- No fertilizer was applied
- Conventional tillage in spring
- Boundary Lqd applied at 2.47 l/ha, Broadstrike Rc at 87.5 g/ha, on June 10; Classic at 36 g/ha on June 29.
- Combined on October 19, 2017, with Winterstieger plot combine.

Month	Precipitation (mm)
May	120.0
June	53.5
July	81.0
August	106.0
September	32.0
TOTAL	392.5

EFFICACY REPORT

2017 – MYCORRHIZAL INOCULANT

► PLOT TRIAL

Research partner: Independent consultant

Research site: St-Simon – #1 (QC), Canada

Treatments: a) Untreated;
b) AGTIV® ON SEED™ mycorrhizal inoculant.

Experimental design: 4 replicated plots per treatment in randomized complete block design

Soybean variety: ELITE SEED, Auriga

Previous crop: Corn

Seeding details: Seeded May 25 at 182 000 plants/ac with 33 cm row spacing using a cone planter.



SOYBEAN

Table 1. Soybean yields per treatment.

Treatment	Yield (bu/ac)	Yield (kg/ha)
Untreated	46.4	3119
AGTIV® ON SEED™ mycorrhizal inoculant	48.8	3280

Plot operational notes and rain fall.

- No fertilizer was applied
- Conventional tillage before spring. Vibro before seeding.
- Dual II Magnum at 1.75 l/ha, Firstrate at 20.8 g/ha and Pursuit at 0.312 l/ha on May 25
- Combined on September 27, 2017 with Delta plot combine.

Month	Precipitation (mm)
May	81.5
June	120.4
July	57.4
August	57.6
September	45.0
TOTAL	361.9

EFFICACY REPORT

2017 – MYCORRHIZAL INOCULANT

► PLOT TRIAL

Research partner: Independent consultant

Research site: St-Simon – #2 (QC), Canada

Treatments: a) Untreated;
b) AGTIV® ON SEED™ mycorrhizal inoculant.

Experimental design: 4 replicated plots per treatment in randomized complete block design

Soybean variety: ELITE SEED, Auriga

Previous crop: Corn

Seeding details: Seeded May 25 at 182 000 plants/ac with 33 cm row spacing using a cone planter.



SOYBEAN

Table 1. Soybean yields per treatment.

Treatment	Yield (bu/ac)	Yield (kg/ha)
Untreated	44.3	2953
AGTIV® ON SEED™ mycorrhizal inoculant	45.9	3058

Plot operational notes and rain fall.

- No fertilizer was applied
- Conventional tillage before spring. Vibro before seeding.
- Dual II Magnum at 1.75 l/ha, Firststate at 20.8 g/ha and Pursuit at 0.312 l/ha on May 25
- Combined on September 27, 2017 with Delta plot combine.

Month	Precipitation (mm)
May	81.5
June	120.4
July	57.4
August	57.6
September	45.0
TOTAL	361.9

EFFICACY REPORT

2016 – MYCORRHIZAL & RHIZOBIAL INOCULANT

► PLOT TRIAL

Research partner: ICMS

Research site: Oakville (MB), Canada

Treatments: a) AGTIV® SOYBEAN • Granular applied at 5 lb/ac*;
b) Competitor inoculant A applied at 5 lb/ac*;
c) Competitor inoculant B applied at 4.5 lb/ac*;
d) Competitor inoculant C applied at 7 lb/ac*.

Experimental design: 5 replicated plots per treatment in randomized complete block design

Soybean variety: Legend Seeds, Eclipse

Previous crop: Fallow

Seeding details: Seeded at 95 kg/ha with 15 cm row spacing using plot drill and double disc openers.

*Granular products applied according to manufacturers recommended rate.



SOYBEAN

Table 1. **Summary of Soybean yields per treatment.**

Treatment	Yield (bu/ac)	Yield (kg/ha)
AGTIV® SOYBEAN • Granular	79.7	5360
Competitor inoculant A	77.8	5232
Competitor inoculant B	77.7	5225
Competitor inoculant C	75.7	5091

Plot operational notes and rain fall.

- The plot area was cultivated one week before planting
- Roundup TR 540 was applied at 0.66 L/ac one month after planting to control weeds.
- Combined with Winterstieger plot combine.

Month	Precipitation (mm)
May	58.5
June	90.3
July	86
August	99.9
September	43.6
TOTAL	378.3

EFFICACY REPORT

2015 – MYCORRHIZAL & RHIZOBIAL INOCULANT

► PLOT TRIAL

Research partner: AgQuest

Research site: Morden (MB), Canada

Treatments: a) AGTIV® SOYBEAN • Granular applied at 5 lb/ac*;
b) Competitor inoculant A applied at 5 lb/ac*;
c) Competitor inoculant B applied at 4.5 lb/ac*.

Experimental design: 8 replicated plots per treatment in randomized complete block design

Soybean variety: NORTHSTAR genetics, ANOLA variety

Previous crop: Canola

*Granular products applied according to manufacturers recommended rate.



SOYBEAN

Table 1. Summary of Soybean yields per treatment.

Treatment	Yield (bu/ac) ¹	Yield (kg/ha) ¹
AGTIV® SOYBEAN • Granular	31.8 ^a	2139 ^a
Competitor inoculant A	27.8 ^b	1870 ^b
Competitor inoculant B	30.5 ^{a, b}	2051 ^{a, b}

¹Yields followed by different letters are statistically different at alpha 0.05.

Plot operational notes and rain fall.

- Soybeans were planted on June 2, 2015, at 18 cm row spacing and 100 kg/ha
- In season maintenance, Roundup TR 540 was applied at 0.61 L/ac
- Combined with Winterstieger plot combine on Sept 30, 2015.

Month	Precipitation (mm)
May	62.8
June	87.1
July	47.0
August	47.3
TOTAL	244.2

EFFICACY REPORT

2015 – MYCORRHIZAL & RHIZOBIAL INOCULANT

► PLOT TRIAL

Research partner: ICMS

Research site: Portage La Prairie (MB), Canada

Treatments: a) AGTIV® SOYBEAN • Granular applied at 5 lb/ac*;
b) Competitor inoculant A applied at 5 lb/ac*;
c) Competitor inoculant B applied at 4.5 lb/ac*.

Experimental design: 7 replicated plots per treatment in randomized complete block design

Soybean variety: PRIDE SEEDS genetics, PS 0035 NR2 variety

Previous crop: Canola

*Granular products applied according to manufacturers recommended rate.



SOYBEAN

Table 1. **Summary of Soybean yields per treatment.**

Treatment	Yield (bu/ac)	Yield (kg/ha)
AGTIV® SOYBEAN • Granular	57.3	3853
Competitor inoculant A	55.4	3725
Competitor inoculant B	58.2	3913

Plot operational notes and rain fall.

- Soybeans were planted on May 29, 2015, at 15.2 cm row spacing and 100 kg/ha
- In season maintenance, Roundup TR 540 was applied at 0.61 L/ac
- Combined with Winterstieger plot combine on Oct 6, 2015.

Month	Precipitation (mm)
May	76.2
June	52.6
July	176.7
August	64.2
September	18.4
TOTAL	388.1

EFFICACY REPORT 2023

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Making a difference, this is what we are all about at Premier Tech. One team driven by a shared passion to deliver solutions that will better the lives of people, businesses and communities. At Premier Tech, People and Technologies connect in lasting, transformative ways, giving life to products and services that help feed, protect and improve our world. We are committed to creating sustainable solutions that help bring beautiful gardens to life, increase crop yields, improve the efficiency of manufacturing facilities, treat and recycle water, and much more as we keep innovating.



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