



RESEARCH TRIALS

2023



QuickGrow Brands

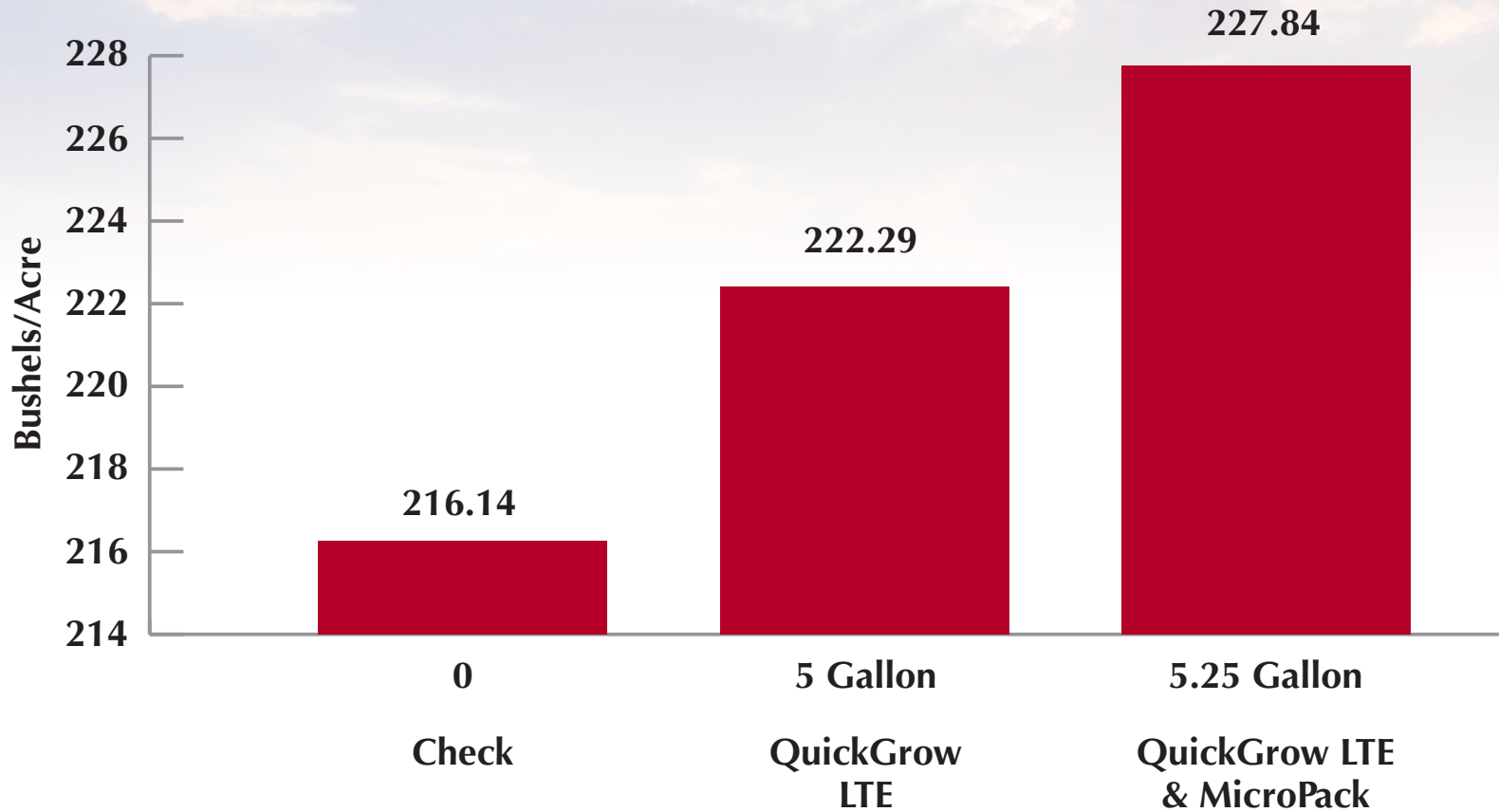
Corn



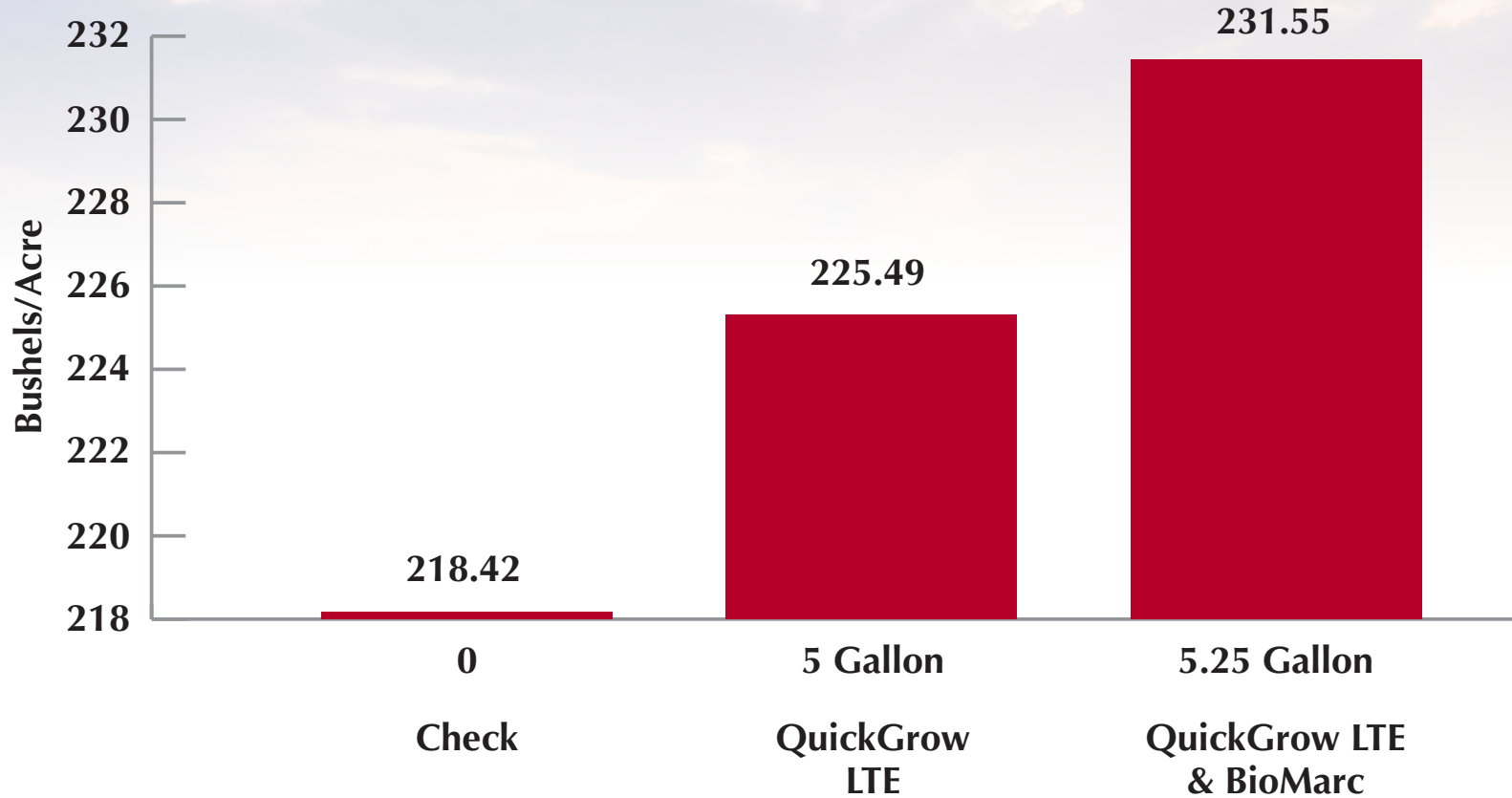
Agri-Tech Consulting - Whitewater, WI

MicroPack Replicated Trial 2017 - 2023 (7 Year)

Corn **In-Furrow**



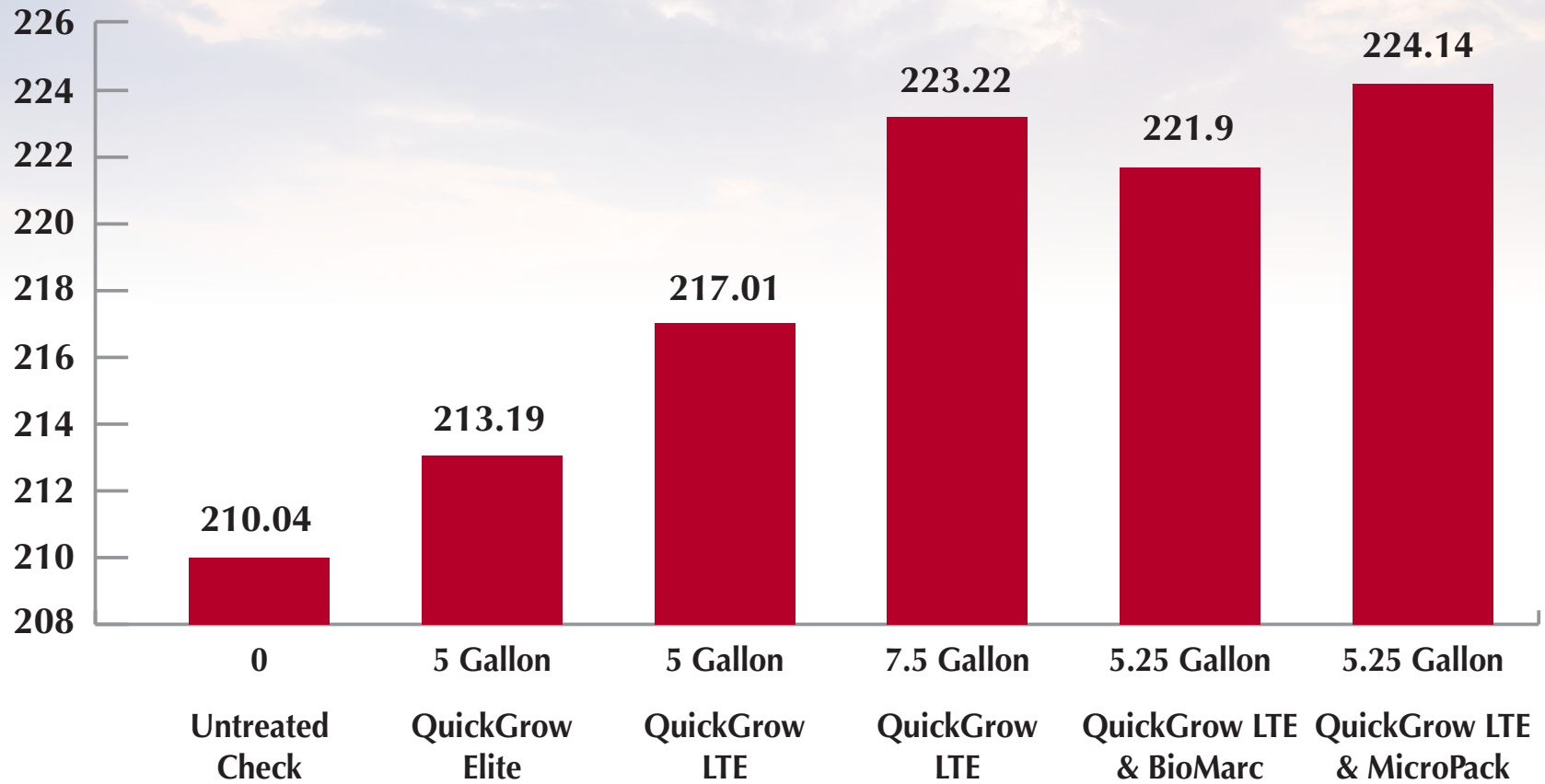
Agri-Tech Consulting - Whitewater, WI
BioMarc Replicated Trial 2018 - 2023 (6 Year)
Corn **In-Furrow**



Agri-Tech Consulting - Whitewater, WI

QuickGrow (4 Replications)

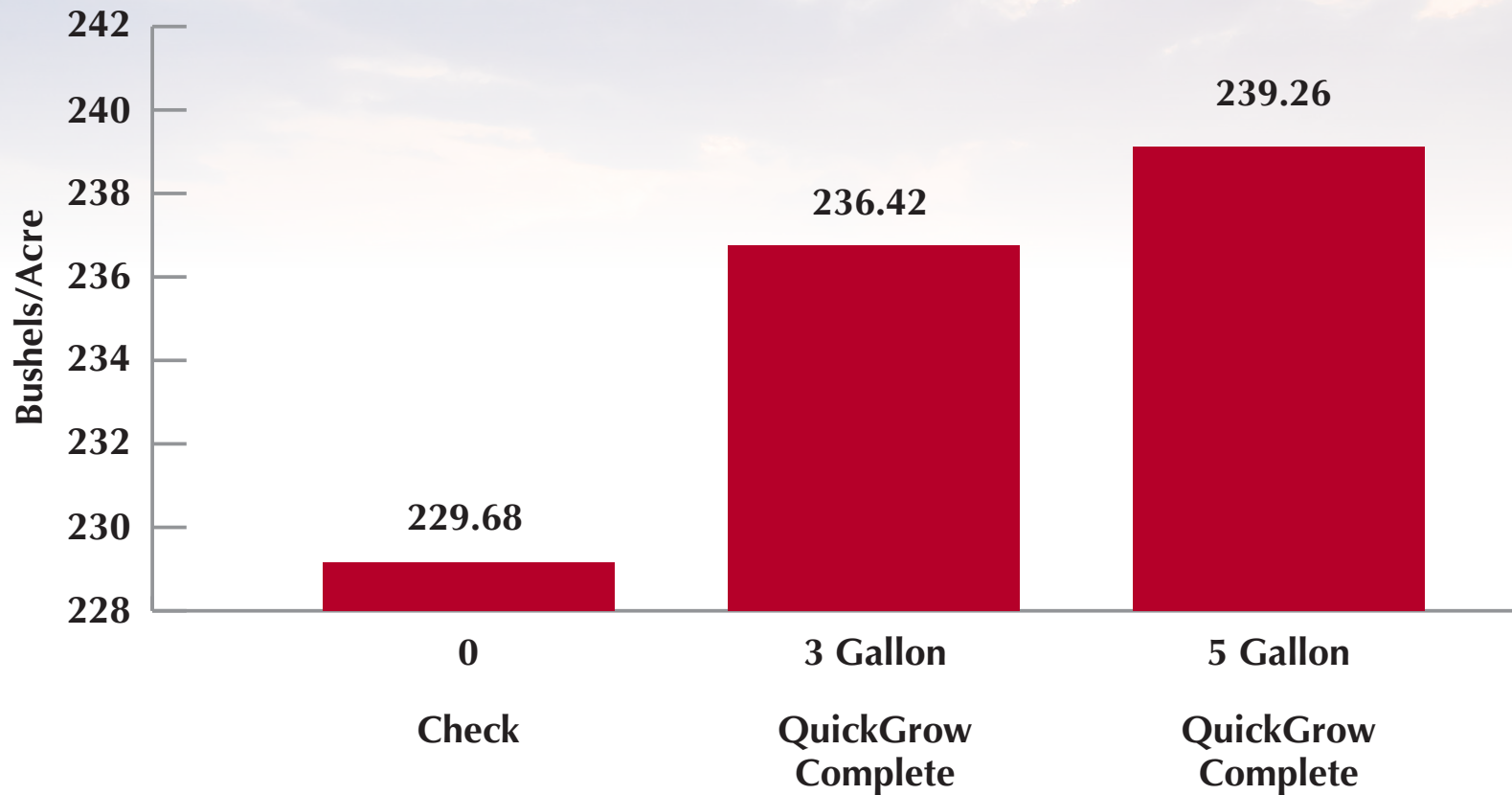
Corn **FurrowJet**



Agri-Tech Consulting - Whitewater, WI

QuickGrow Complete (4 Replications)

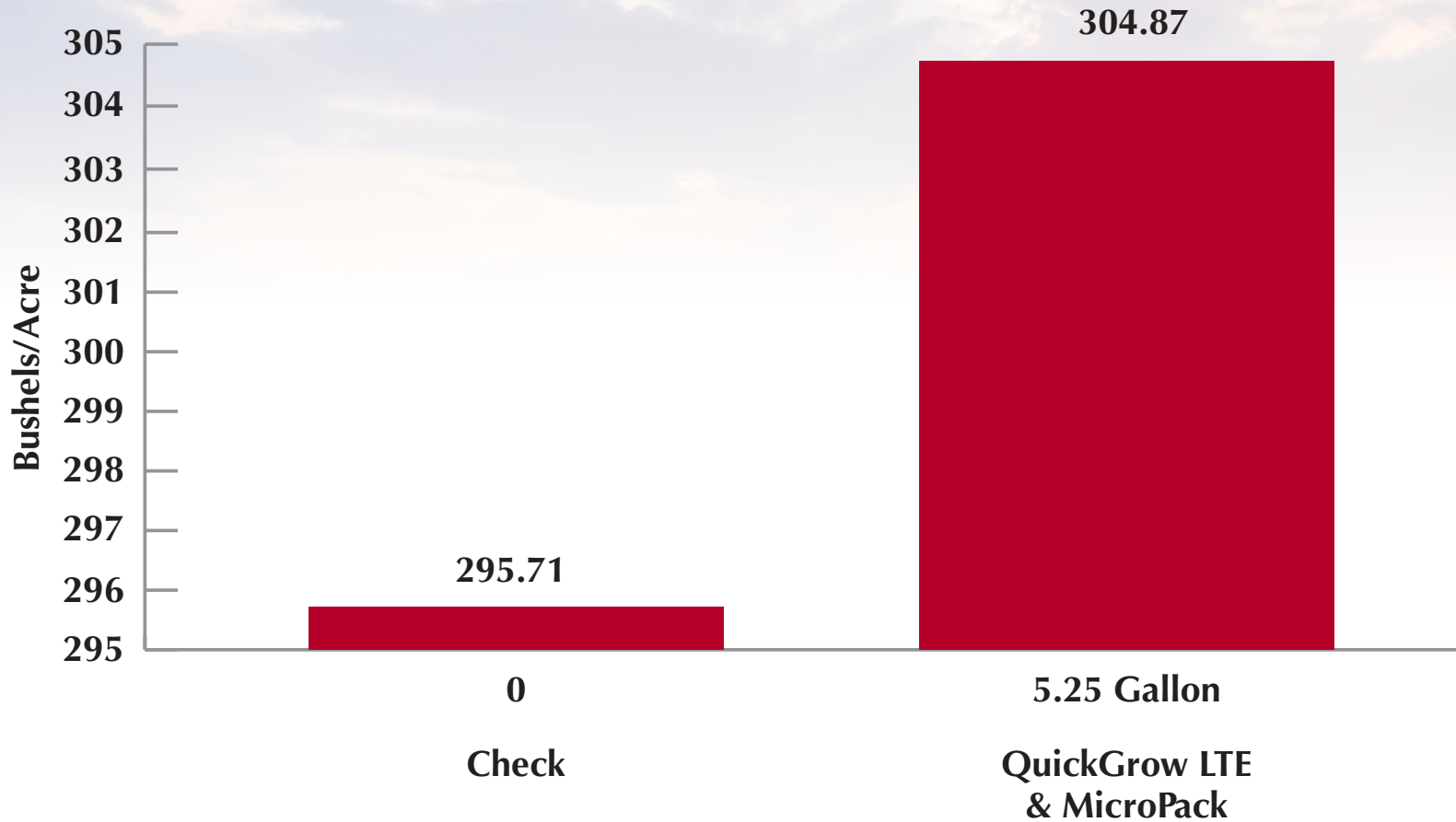
Corn **In-Furrow**



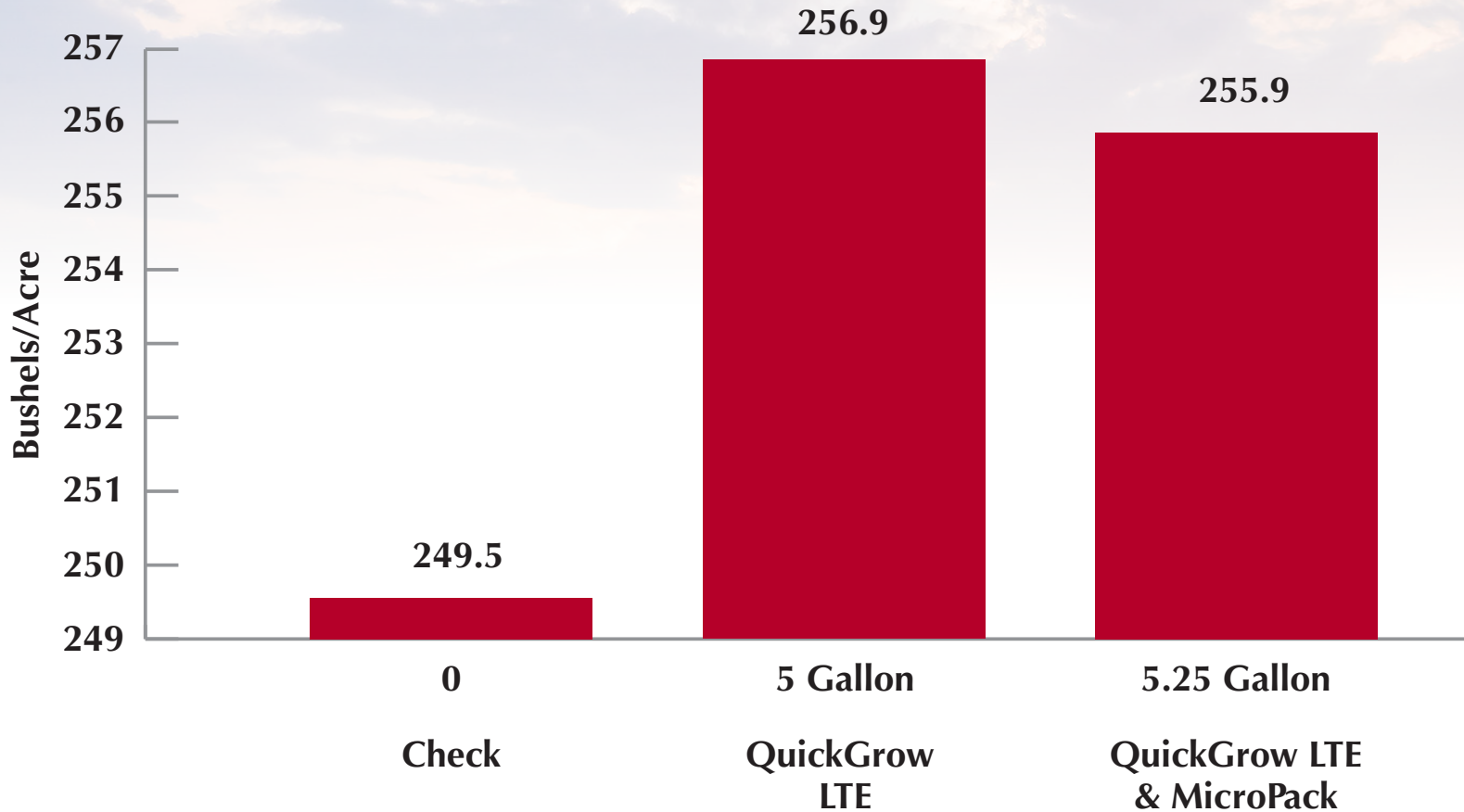
Dewitt County - Clinton, IL

QuickGrow (On-Farm Side-by-Side)

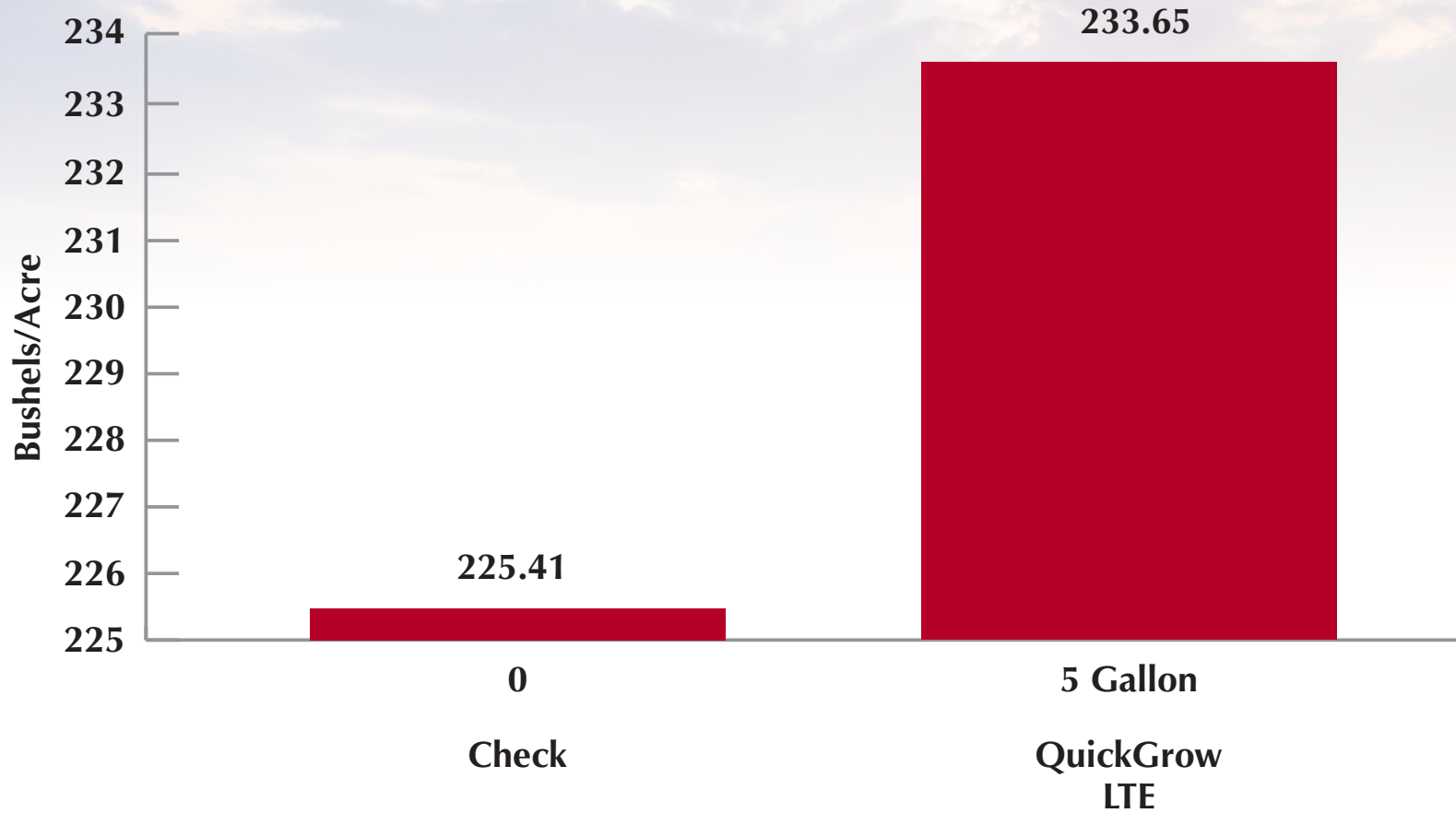
Corn **FurrowJet**



McLean County - LeRoy, IL QuickGrow (On-Farm Side-by-Side) Corn **FurrowJet**



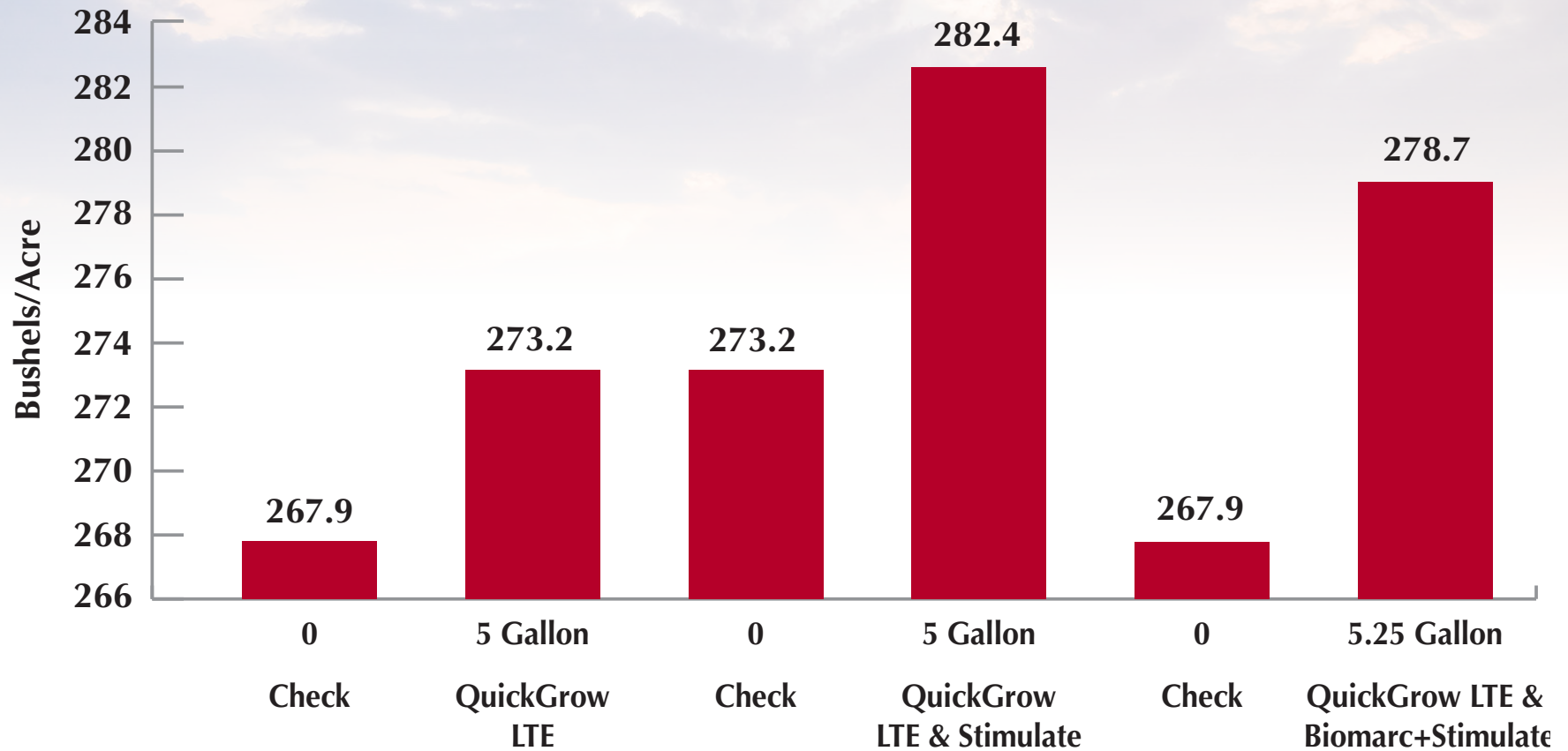
Wyoming, IL QuickGrow (6 Replications) Corn **FurrowJet**



Ehler Brothers Seed Plot Trial - Thomasboro, IL

QuickGrow (Research Farm Side-by-Side)

Corn **FurrowJet**





2023 PTI Results

Marco QuickGrow LTE FurrowJet® Study

Objective: To evaluate the yield and net return of Marco Fertilizer's QuickGrow LTE 6-20-4-25Zn-2.7S liquid starter fertilizer at rates of 4, 6 and 8 Gal/A. applied in an at-plant 3-way FurrowJet® system. QuickGrow LTE is a 70% polyphosphate and 30% orthophosphate formulation of nitrogen, phosphorus, potassium, sulfur, and 9% Zn.

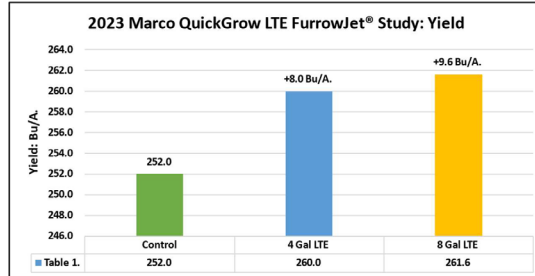
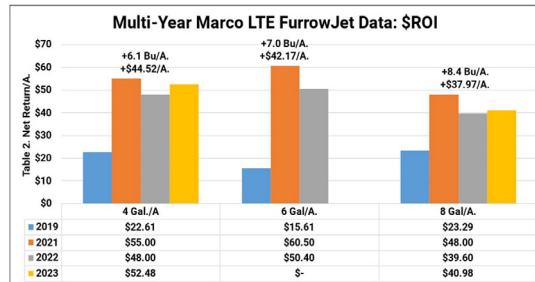


Figure 1. FurrowJet® Placement



Results: Table 1. illustrates all rates of Marco QuickGrow LTE resulted in positive yield gains. However, 8 Gal/A. rates achieved both agronomic optimum rate, with yield gains of +9.6 Bu/A. and net returns of +\$40.98/A. The 4 Gal/A. rate proved yield gains of +8.0 Bu/A., with corresponding return on investment of +\$52.48/A.

Table 2. summarizes multi-year data, indicating 4 Gal/A. being economic optimum rate over the 2019 to 2023 time period. All applications are implemented with a \$30/A. reallocation.

Planting Date: 4/27 Hybrid: GH 15J91 Population: 36K Row Width: 30" Rotation: CAB Corn Price: \$5.31 LTE \$5.00/Gal \$30 Fert. Reallocation

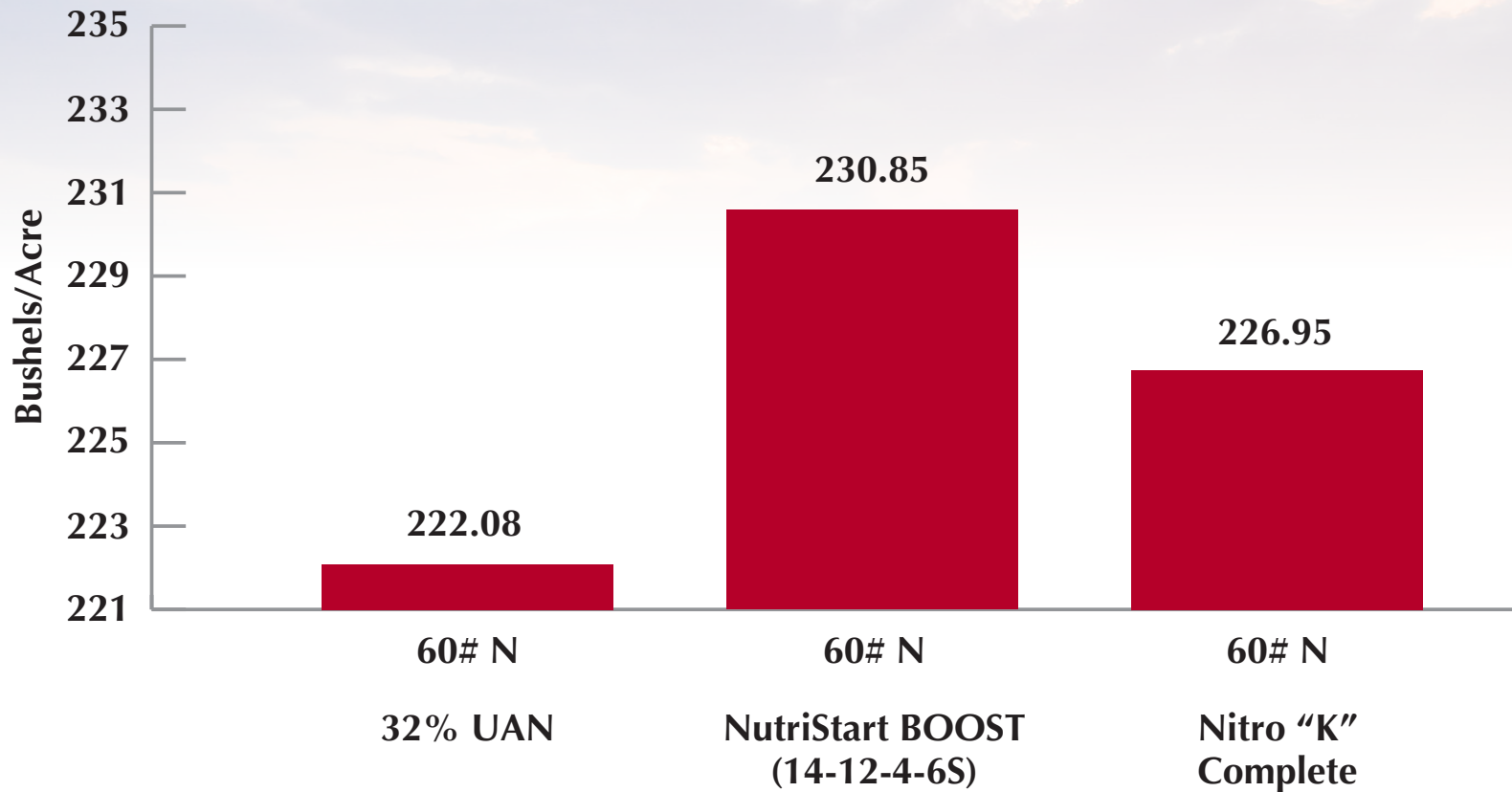


Planter Banded Options

Corn



Agri-Tech Consulting - Whitewater, WI
32%/NutriStart BOOST/Nitro "K" Complete
Corn 2 X 2 (4 Replications)

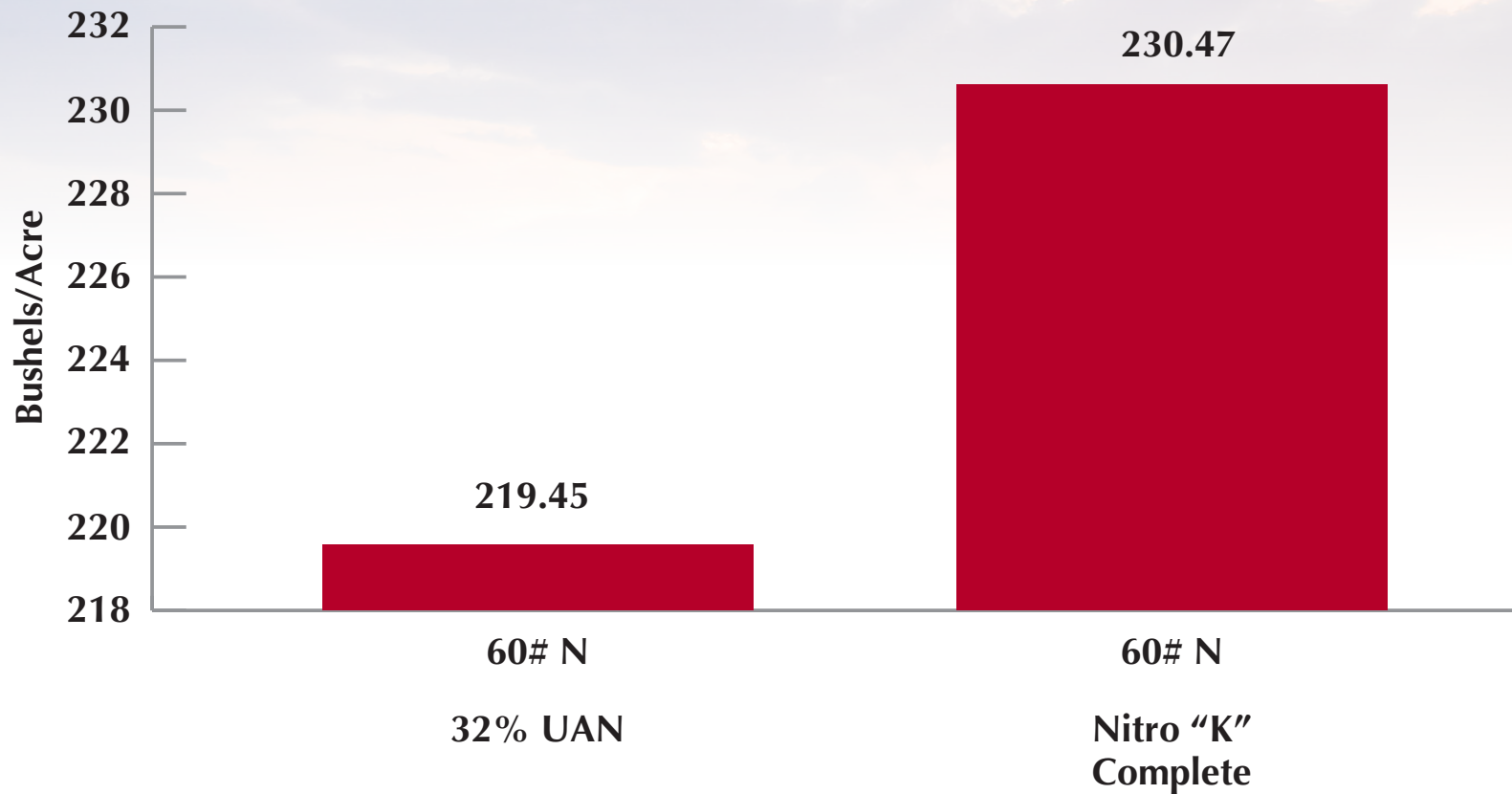


Sidedress

Corn



Agri-Tech Consulting - Whitewater, WI
32%/Nitro "K" Complete (4 Replications)
Corn **Side-Dress**



Precision Planting High Management

Corn Study



Marco Fertilizer High Management Corn Study: Irrigated

Objective: To evaluate the yield and economic impact of a corn liquid starter fertilizer and foliar nutritional program from Marco Fertilizer in a high management irrigated environment. This trial consisted of the following:

Treatments and Placement:


#1. Control:	200# DAP, 200# 0-0-60, Less R3 Fungicide, Less 40# N
#2 At-Plant Fertility:	
FurrowJet® 3-Way: (Figure 1.)	3 Gal/A. QuickGrow Complete 3 Gal/A. Water
#3 Foliar Applications:	
	V4: 1 oz/A. Poseidon 1 pt/A. Energizer 1# Foliar Complete 0.5pt/A. Iron Plus
	V10: 1 oz/A. Poseidon 1pt/A. Energizer 2# Foliar Complete
	VT: 1pt/A. Energizer 1# Foliar Complete

Figure 1. FurrowJet® Placement



Marco Fertilizer High Yield Study: Irrigated Continued

All controls were planted at 36K seeding rates, while Marco treatments were evaluated at 36K, 38, and 40K seeding rates using both DeKalb 62-69 and Wyffels 7945. Control received -40# N, only one (VT) foliar fungicide pass, and 200# each of 18-46-0 and 0-0-60.

Irrigation on all treatments received 6" water throughout the growing season. High yield treatments received 13.7oz/A. of Miravis® Neo at VT and 13.7oz/A. of TrivaPro® at R3 growth stage, +40 additional N units and water conditioner.

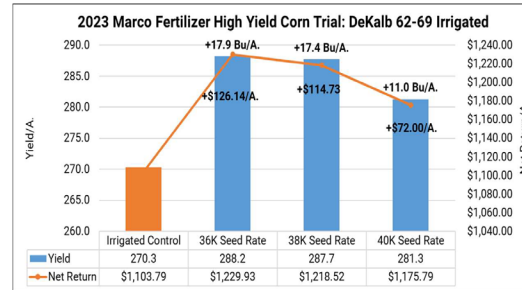
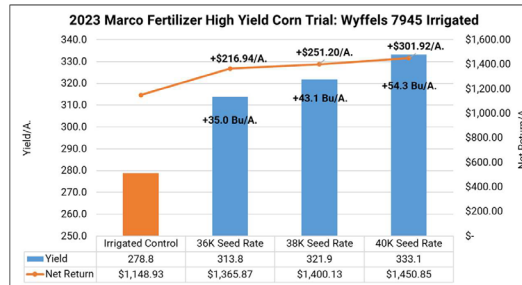
Results: Wyffels 7945 offered an impressive high corn yield of 333.1 Bu/A. at the highest seeding rate of 40K. As seeding rate was decreased to 38K or 36K, yield fell by **-11.2 Bu/A.** to **-19.3 Bu/A.** However, all seeding rates offered exceptional yield advantage over the control with yield gain ranging from +35.0 to +54.3 Bu/A.

These stout yield gains led to some of the highest economic returns the PTI Farm has received from past high yield trials. Economic returns averaged +\$216.94/A. to +\$301.92/A.

DeKalb 62-69 tallied its high yield of 288.2 Bu/A. at the lowest seeding rate of 36K. This high yield posted net returns of +\$191.74/A.

38K seeding rates were **-0.5 Bu/A.** lower with corresponding net losses of **-\$11.41/A.**

40K seeding rates still offered +11.0 Bu/A. overall yield gains, but **-6.9 Bu/A.** lower with losses of **-\$54.14/A.** compared to the optimum seeding rate of 36K.



Planting Date: April 27th Wyffels 7945RIB, DeKalb 62-69RIB Population: 36K Row Width: 30" Rotation: CAB Corn Price: \$5.31
 FurrowJet® Program: \$29.25 Foliar Program: \$48.06/A. DAP/Potash: \$870/\$770 (\$174/A.) N Price: \$0.88/# (\$35.20/A.)
 Fungicide+Water Conditioner: \$30.40/A. Seed Cost: \$350/Bag



Marco Fertilizer High Management Corn Study: Dryland

Objective: To evaluate the yield and economic impact of a corn liquid starter fertilizer and foliar nutritional program from Marco Fertilizer in a high management non-irrigated environment. This trial consisted of the following:

Treatments and Placement:


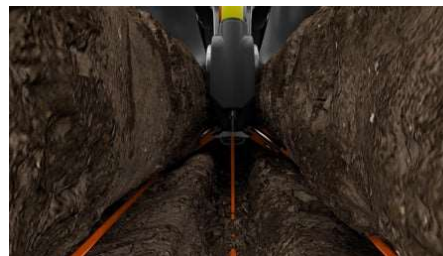
#1. Control:	200# DAP, 200# 0-0-60, Less R3 Fungicide, Less 40# N
#2 At-Plant Fertility:	
FurrowJet® 3-Way: (Figure 1.)	3 Gal/A. QuickGrow Complete 3 Gal/A. Water
#3 Foliar Applications:	
	V4: 1 oz/A. Poseidon 1 pt/A. Energizer 1# Foliar Complete 0.5pt/A. Iron Plus
	V10: 1 oz/A. Poseidon 1pt/A. Energizer 2# Foliar Complete
	VT: 1pt/A. Energizer 1# Foliar Complete

Figure 1. FurrowJet® Placement





2023 PTI Results

Marco Fertilizer High Yield Study: Dryland Continued

All controls were planted at 36K seeding rates, while Marco treatments were evaluated at 36K, 38, and 40K seeding rates using both DeKalb 64-22 and Pioneer 1108Q. Control received -40# N (180# total N) and only one (VT) foliar fungicide pass, and 200# each of 18-46-0 and 0-0-60.

High yield treatments received 13.7oz/A. of Miravis® Neo at VT and 13.7oz/A. of TrivaPro® at R3 growth stage, +40 additional N units and water conditioner.

Results: Wyffels 7945 performed incredibly with a high corn yield of 297.7 Bu/A. at the 38K seeding rate. All seeding rates were just exceptional, with yield gains of +30.5, +35.3, and +29.2 Bu/A. over the low management control.

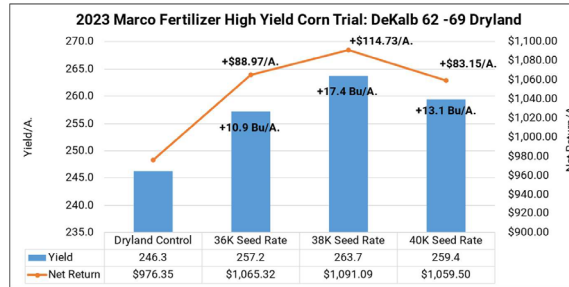
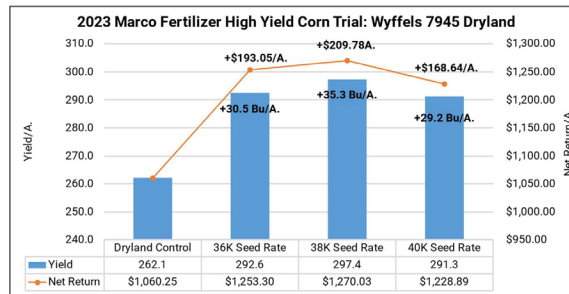
Economic returns tallied impressive gains of +\$168.64/A. to +\$209.78/A., with 38K pops achieving economic optimum seed rate.

DeKalb 62-69 tallied its agronomic and economic optimum at 38K seeding rates with a yield of 263.7 Bu/A. and returns of +\$114.73/A.

36K seeding rates were **-6.5 Bu/A.** lower with net losses of **-\$25.76/A.**

40K seeding rates still offered +13.1 Bu/A. overall yield gains, but **-4.3 Bu/A.** lower with losses of **-\$31.58/A.** compared to the optimum seeding rate.

Dryland yield decreased **-25.6 Bu/A.** in Wyffels in 7945 and **-25.2** in DeKalb 62-69.



Planting Date: April 27th DKC Wyffels 7945, DeKalb 62-69 Population: 36K Row Width: 30" Rotation: CAB Corn Price: \$5.31 FurrowJet® Program: \$29.25
 Foliar Program: \$48.06/A. DAP/Potash: \$870/\$770 (\$174/A.) N Price: \$0.88/# (\$35.20/A.) Fungicide+Water Conditioner: \$30.40/A. Seed Cost:\$350/Bag



QuickGrow Brands

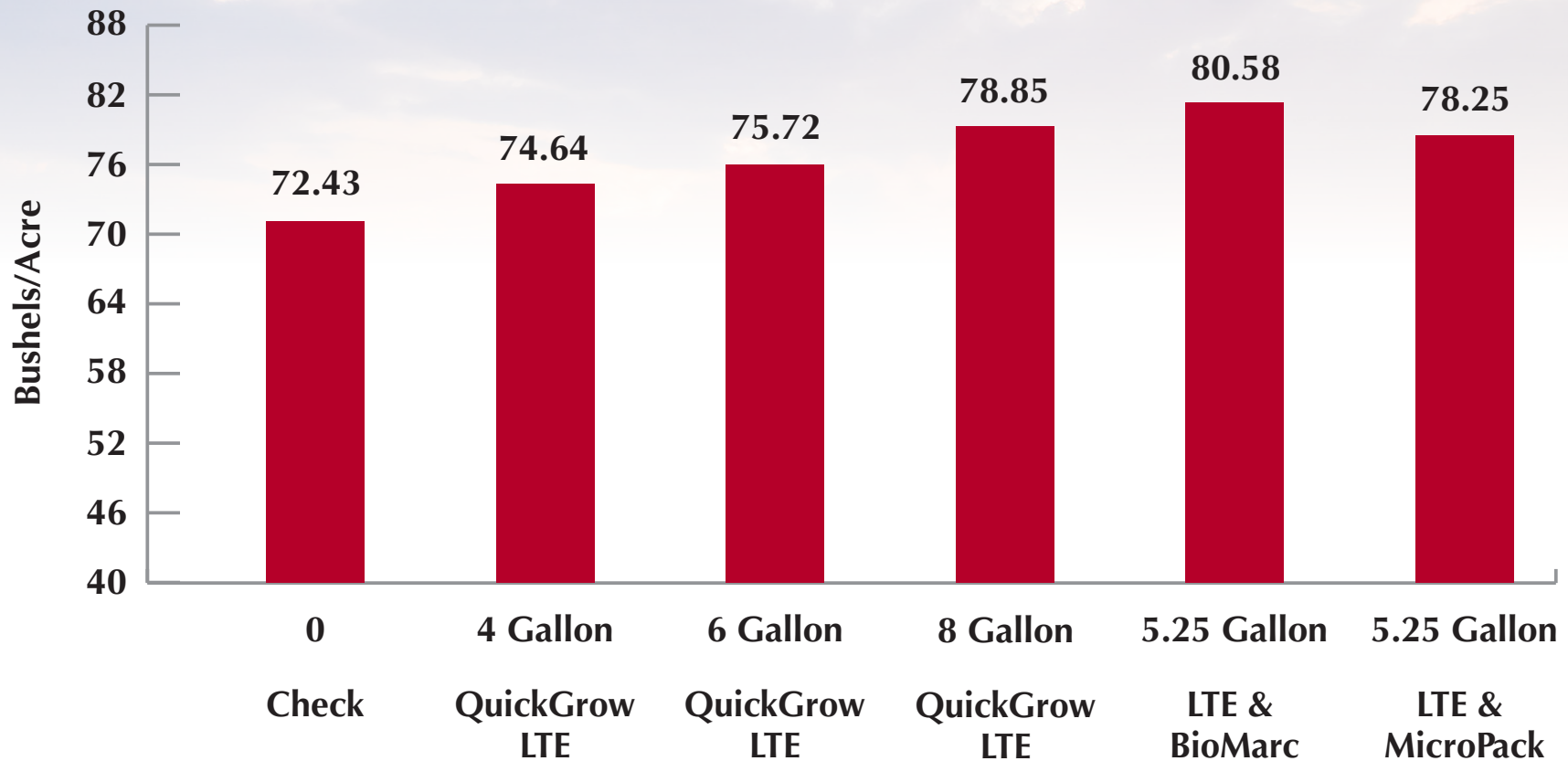
Soybeans



Agri-Tech Consulting - Whitewater, WI

QuickGrow LTE (4 Replications)

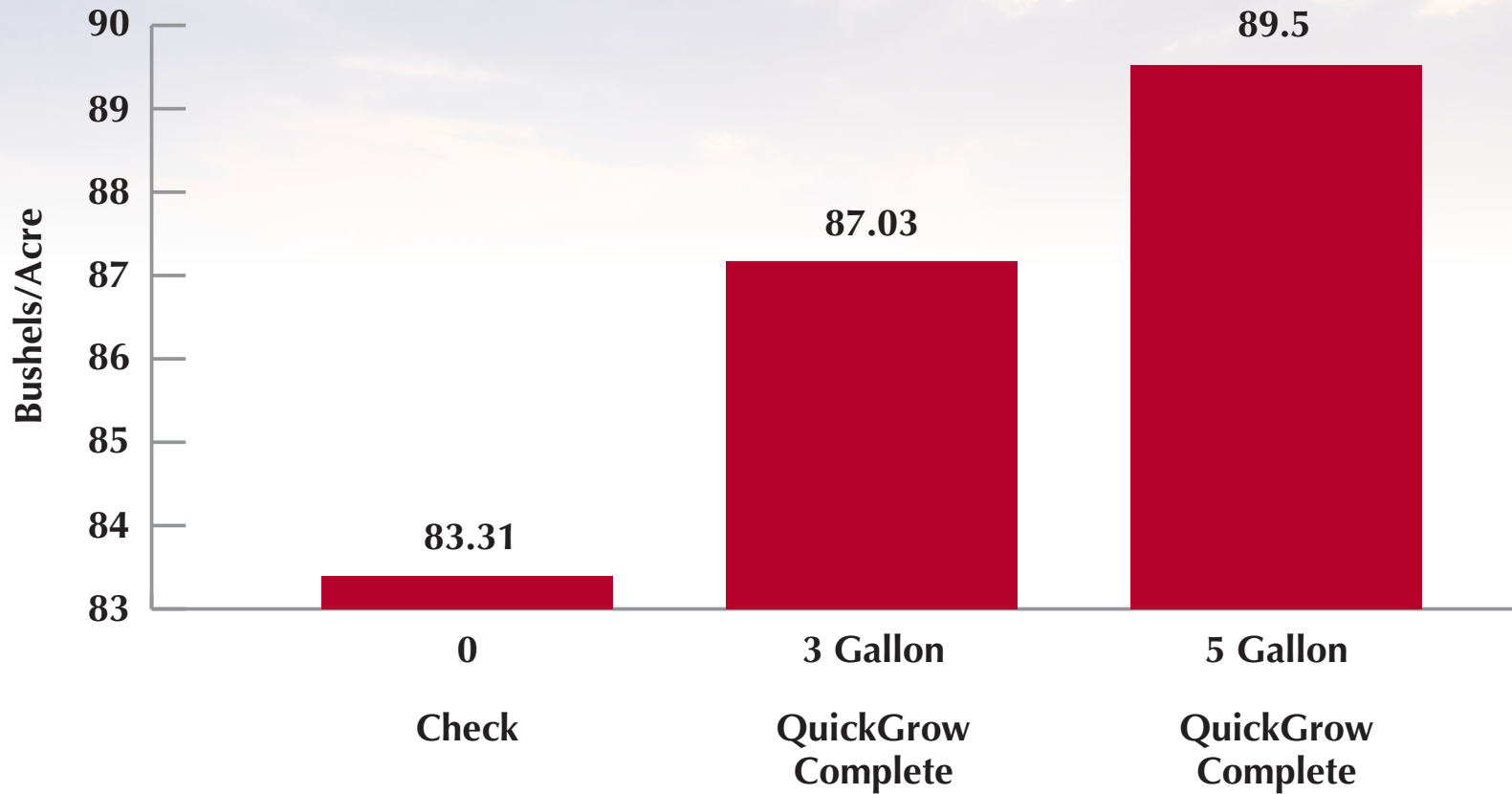
Soybean **Furrow-Jet Wings**



Agri-Tech Consulting - Whitewater, WI

QuickGrow Complete (4 Replications)

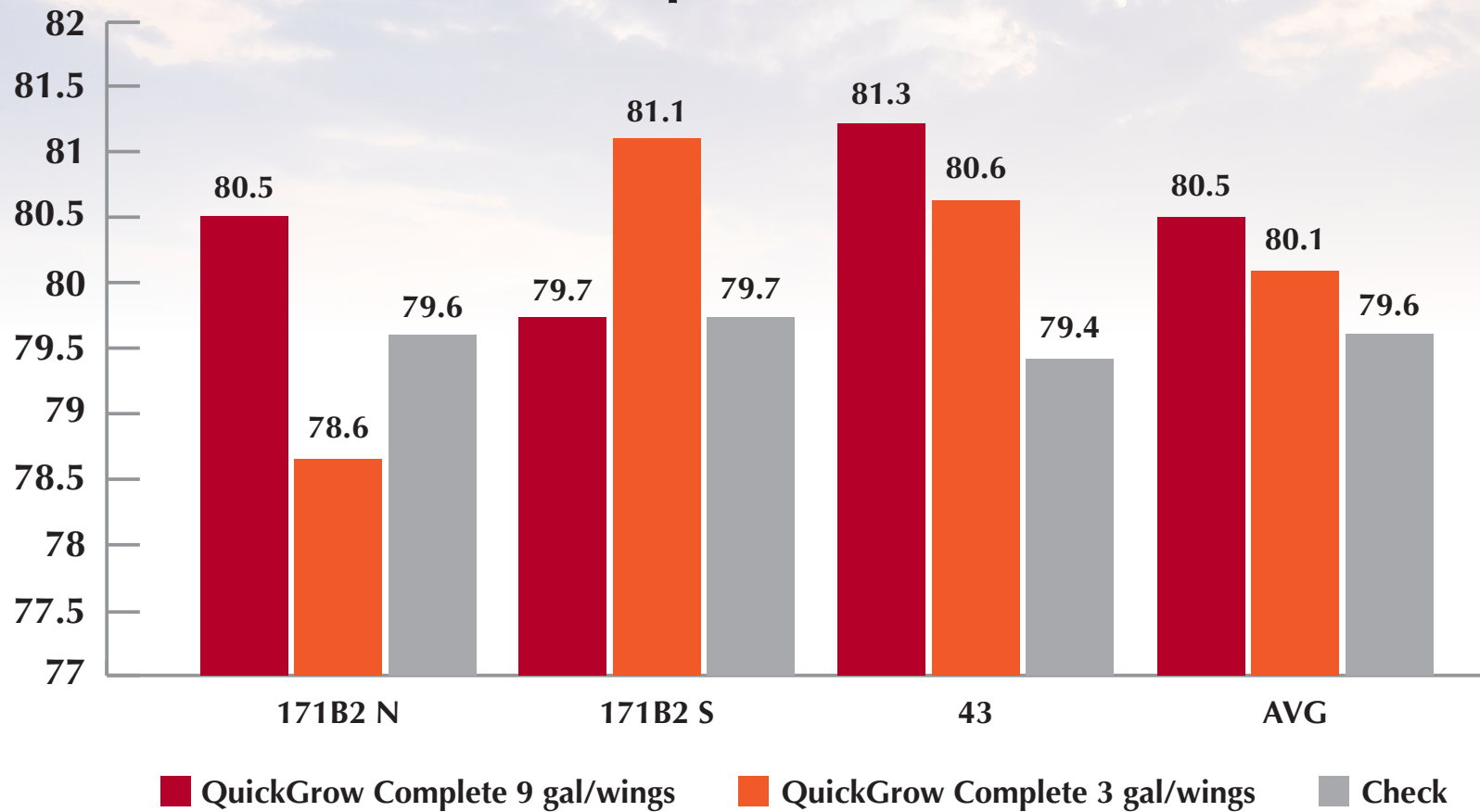
Soybean **Furrow-Jet Center**



Crop-Tech Consulting - Heyworth, IL

Soybean **FurrowJet**

Replicated Trials



Nutristart Boost

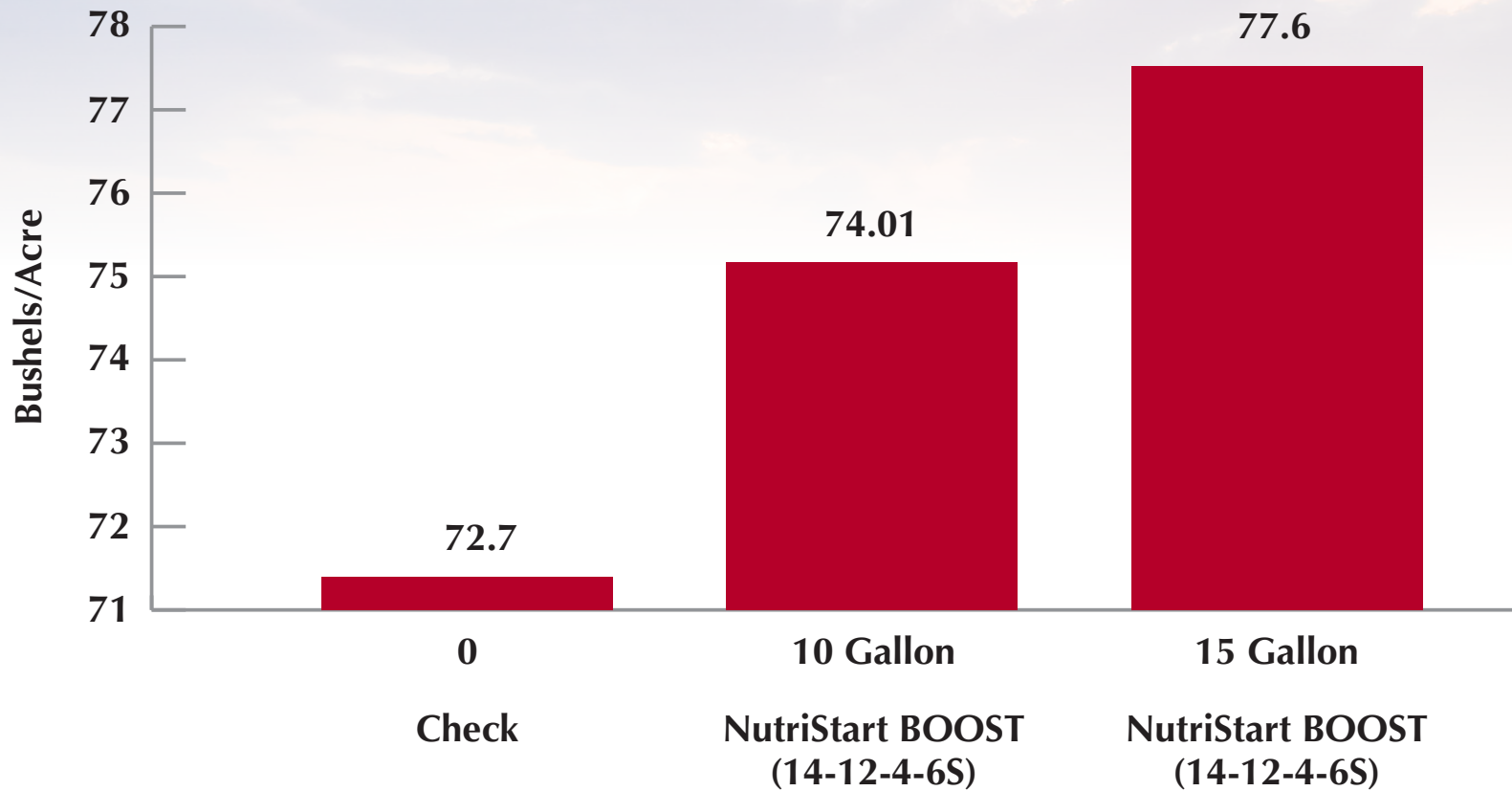
Soybeans



Agri-Tech Consulting - Whitewater, WI

NutriStart Boost (4 Replications)

Soybean **Conceal**





2023 PTI Results

Marco Fertilizer NutriStart BOOST 14-12-4-6S Study

Objective: This trial evaluates the yield and net return of Conceal® system dual band treatments of NutriStart BOOST 14-12-12-4-6S at 10, 15, and 20 Gal/A. rates. This liquid fertilizer is a 70% polyphosphate and 30% orthophosphate formula designed for non-in furrow applications in soybeans. NutriStart products are manufactured with Marco 10-34-0, Potassium - soluble potash (K2O), Sulfur - Ammonium Thiosulfate and Zinc - 9% EDTA.



Conceal® is an ideal placement for this product as its far enough away from the seed furrow to prevent seed injury, yet close enough to enable access to seedling nutrition (Figure 1).

Results: Table 1. illustrates that all rates of 14-12-4-6S proved positive yield gains from +4.6 to +5.5 Bu/A., however 10 Gal/A. provided the economic optimum rate resulting in a positive return on investment of +\$48.23/A.

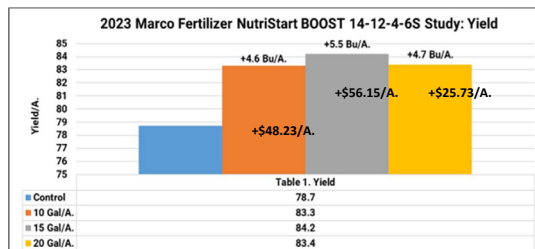


Table 2. reveals long-term multi-year economics during 2018-2023. Over this 6-year period, economic optimum has occurred at the 15 Gal/A. rate of NutriStart BOOST with an average return on investment of +\$46.88/A. 10Gal/A. has also provided gains of +\$43.70/A.

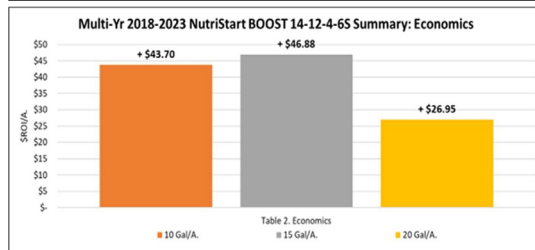


Figure 1. Conceal® Dual Placement



Planting Date: April 24th Variety: AG 35FX3 Population: 120K Row Width: 30" Rotation: BAC SB Price: \$13.09
 BOOST 14-12-4-6: \$4.10/Gal Fert Reallocation: \$30



Precision Planting High Management

Soybean Study



Marco Fertilizer High Management Soybean Study

Objective: To evaluate the yield and economic impact of a soybean liquid starter fertilizer and foliar nutritional program from Marco Fertilizer in a high management irrigated environment. This trial consisted of the following:

Treatments and Placement:


#1. Control:	Dryland, 100# 18-46-0, 100# 0-0-60
#2 At-Plant Fertility:	
Conceal® Dual Band (Figure 1.)	10 Gal/A. NutriStart BOOST 14-12-14-6S
FurrowJet® Wings: (Figure 2.)	3 Gal/A. NutriStart Complete, 3 Gal/A. Water Carrier
#3 Foliar Applications:	
	V3: 1# Foliar Complete 8-12-40, 1oz Poseidon, 1Pt Energizer, 0.5 Pt Iron Plus
	R2: 2# Foliar Complete 8-12-40, 2oz Poseidon, 1Pt Energizer
	R4: 2# Foliar Complete 8-12-40, 1 Pt Energizer

Figure 1. Conceal® Placement



Figure 2. FurrowJet® Placement





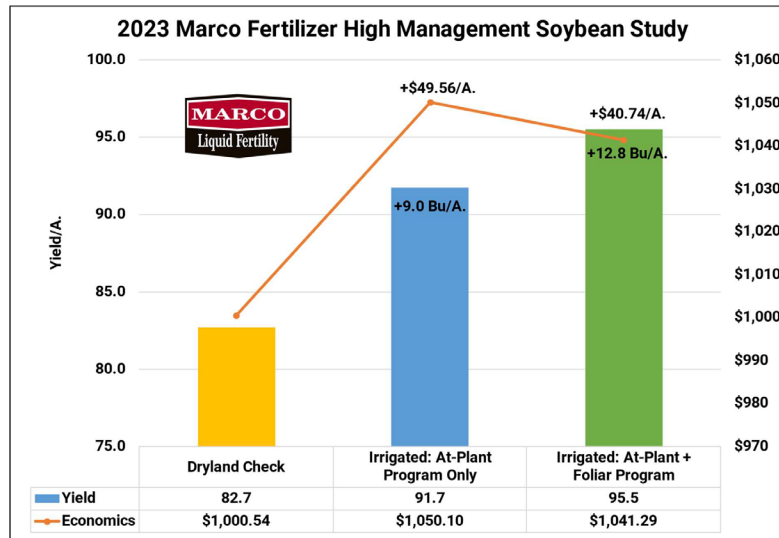
2023 PTI Results

Marco Fertilizer High Management Soybean Study Continued

Irrigated treatments received 5.00" of rain throughout the growing season, and all treatments received fungicide applications of 13.7oz/A. Miravis® Top at R1 and 13.7oz/A. of Miravis®Neo at R3 growth stages. Control treatments received 100# DAP and 100# Potash for its dry fertility program.

Results: At-Plant FurrowJet® and Conceal® treatments resulted in yields of 91.7 Bu/A., +9 Bu/A. over the control. At-plant + foliar combination treatments pushed yield to 95.5 Bu/A., +12.8 Bu/A. over the control.

After all costs, at-plant nutritional treatments proved economic gains of +\$49.56/A. Adding the foliar treatments to at-plant applications tallied economic gains of +\$40.74/A.



Planting Date: April 20th Variety Asgrow 33FX3 Population: 120K Row Width: 30" Rotation: BAC SB Price: \$13.09 Irrigation: \$40/A.

FurrowJet® Wings: \$29.25/A. Conceal® Program: \$41/A. Foliar Program: \$58.56/A. 100# DAP,100# Potash: \$82/A.

