MX-3 HUMICAL
BLACK
biostimulant seed treatment / in-furrow

MONTRA

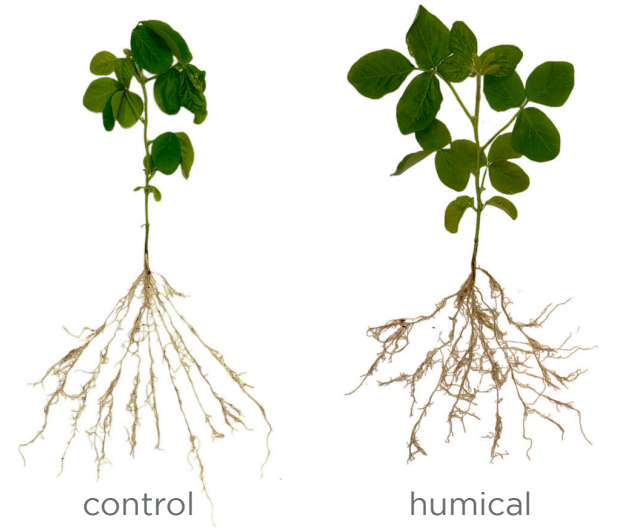
Key Information

- **Crops:** canola, soybean, corn, wheat, potato
- **Ingredients:** humic acid, calcium, hydrogen
- **Foliar rate:** 1 L/ac
- **Timing:** seed treatment or in-furrow application
- **Product size:** 2 x 10 L case / 1,000 L tote
- **Water volume:**
  ground:

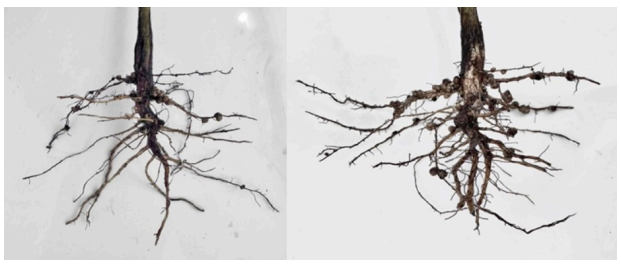
MX-3 Black - Features and Benefits

Overcome cold stress, kickstart seed germination in cold soils
Promotes vigorous growth, improve root and shoot development
Improves nutrient uptake, reduces soil compaction

soybean



control humical



control humical

Earlier Emergence, Stronger Roots, Healthier Soil, Bigger Yields.

MX-3 Humical is a premium humic acid product designed to improve early emergence, root development, and nutrient availability. Humic acid is a natural substance found in soil that plays a key role in boosting crop performance by enhancing soil structure and fertility. Through Montra Ag's proprietary extraction process, humic acid is combined with calcium and hydrogen to improve moisture retention, making water more available to plants—especially during dry conditions. MX-3 Humical also supports the growth of beneficial soil microbes, creating a healthier, more active root zone. By increasing nutrient uptake, encouraging deeper root growth, and improving overall soil health, MX-3 Humical helps crops grow stronger, more resilient, and more productive from the ground up.

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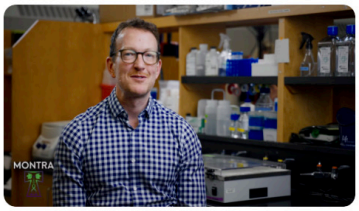
Reasearch Summary:

Over the past 2 years Montra Ag has partnered with Dr. Mark Belmonte from Belmonte Labs at the University of Manitoba researching the mode of action and efficacy of our MX-3 Fulvical & Humical biostimulants. We have included some hightlights of our research findings as we move from the greenhouse to commercial field application in 2025.



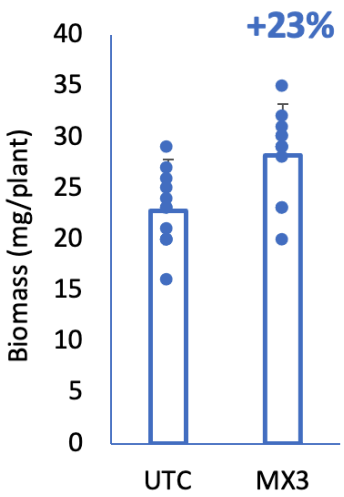
Montra MX-3 - Research with Dr. Mark Belmonte, U of M / Belmonte Lab

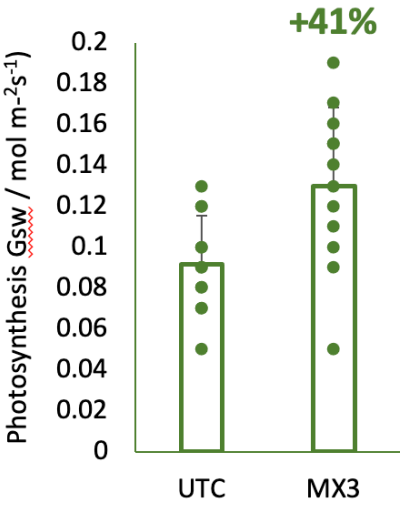
Please visit us at: **https://bit.ly/mx3crop** to view our research summary.

MX-3 Humical is a high-performance biostimulant formulated with humic acid to support early-stage plant development, improve nutrient efficiency, and strengthen physiological responses to stress. MX-3 Humical functions as a natural chelating agent, binding and co-transporting essential micro-nutrients into plant tissues to enhance uptake and utilization. It also stabilizes ammonium in the soil, increasing nitrogen availability and reducing loss through volatilization.

Through stimulation of plant growth–promoting hormones, MX-3 Humical enhances root initiation, increases chlorophyll and sugar concentrations in leaves, and boosts overall photosynthetic activity. MX-3 Humical has been shown to improve germination rates across a range of crops, particularly under suboptimal conditions such as cold stress. By increasing seedling vigor, biomass accumulation, and early nutrient availability, MX-3 Humical lays the foundation for more uniform emergence, improved early stand establishment, and greater yield potential.

- MX-3 Humical Black applied in-furrow at 1L/ac
- Canola grown at 8°C for 14 days - Location: University of Manitoba





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BLACK
biostimulant seed treatment / in-furrow

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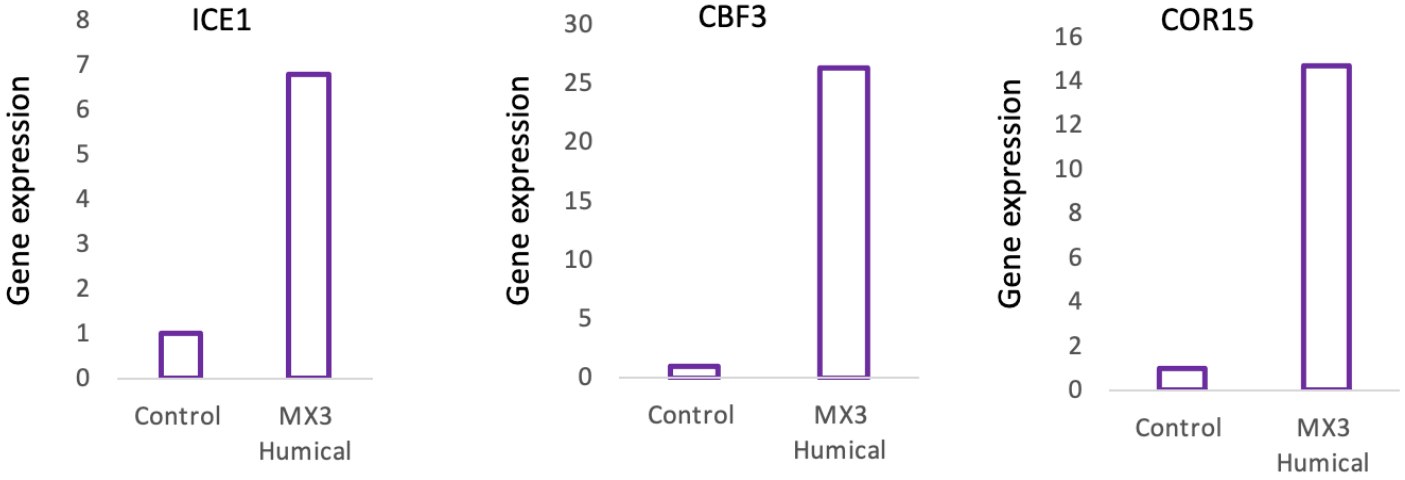
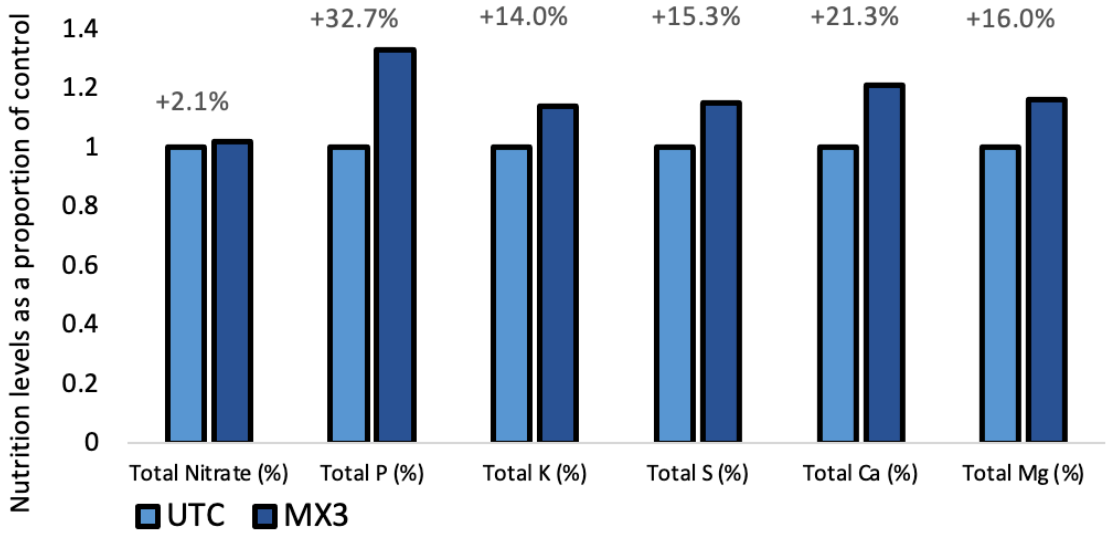
MX-3 Humical gives the seedling the building blocks (added nutrition) it needs to get out of the ground faster by supporting root growth and increased biomass. The increase in cold response gene expression provides genetic evidence into the role of MX-3 Humical in the cold stress response. Increases in ICE1, CBF34, and COR15 allows the seedling to mitigate cold stress while supporting growth and development.





Proven benefits:

1.) Improves germination under cold stress conditions
2.) Increases seedling biomass
3.) Increases photosynthesis
4.) Increases nutrient availability to the plant

MX-3 HUMICAL
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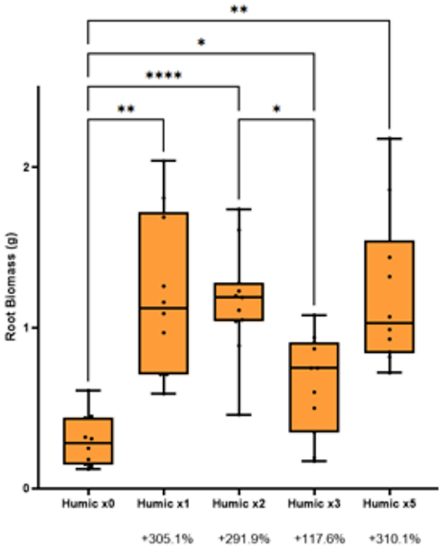
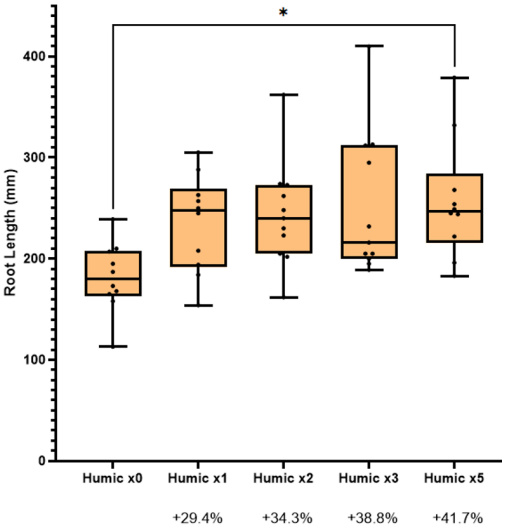
Effect of MX-3 Humical Foliar Spray on Root Biomass/Length in Canola Under Greenhouse Conditions

- Grown in greenhouse conditions
- Sample size: n=12
- Grown for 21 days
  - Sprayed on day 14
- **Root Biomass**
  - 310.1% increase of x5 humic acid compared to x0
- **Root Length**
  - 41.7% increase of x5 humic acid compared to x0





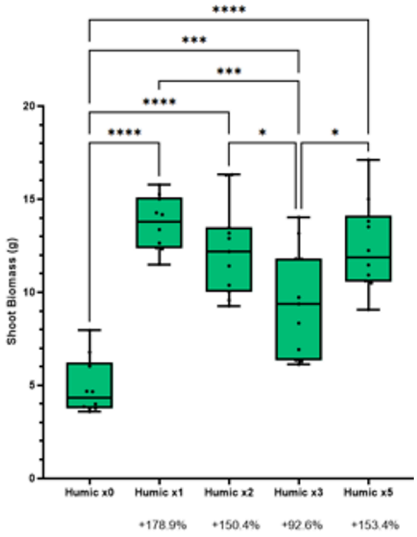
Percents on graph indicate an increase or decrease compared to control

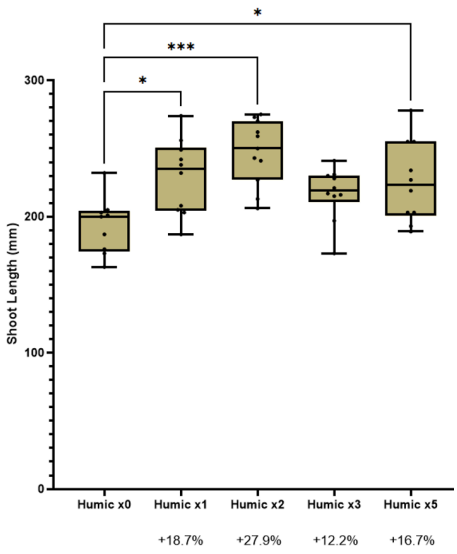
Root biomass variation analyzed using Brown–Forsythe one-way ANOVA with *post-hoc* Dunnett T3. Root length variation analyzed using Kruskal-Wallis one-way ANOVA with *post-hoc* Dunn

P ≤ 0.05 *
P ≤ 0.01 **
P ≤ 0.001 ***
P ≤ 0.0001 ****

Effect of MX-3 Humical Foliar Spray on Shoot Biomass/Length in Canola Under Greenhouse Conditions

- Grown in greenhouse conditions
- Sample size: n=12
- Grown for 21 days
  - Sprayed on day 14
- **Shoot Biomass**
  - 178.9% increase of x1 humic acid compared to x0
- **Shoot Length**
  - 27.9% increase of x2 humic acid compared to x0





Percents on graph indicate an increase or decrease compared to control

Shoot biomass and length variation analyzed using one-way ANOVA with *post-hoc* Tukey.

P ≤ 0.05 *
P ≤ 0.01 **
P ≤ 0.001 ***
P ≤ 0.0001 ****

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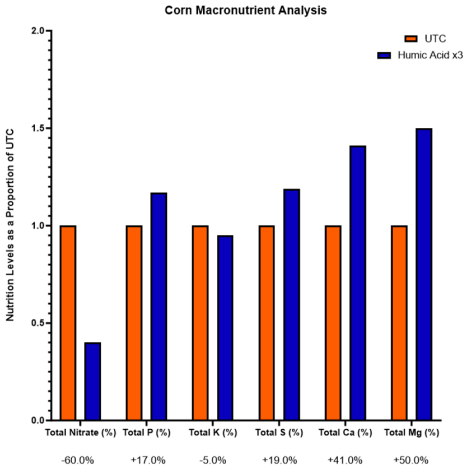
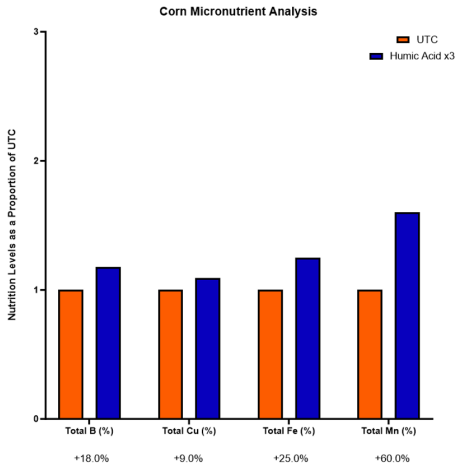
MX-3Humical (Black) Representatives

UTC | x1 Humical | x2 Humical | x3 Humical | x5 Humical

What Are the Effects of MX-3 Humical Seed Treatment on Corn Nutritional Content Under Greenhouse Conditions?

- Grown in greenhouse conditions for 19 days
- n=1
- **Macronutrient:**
  - 50.0% increase of Total Mg (%) compared to UTC
- **Micronutrient:**
  - 60.0% increase of Total Mn (%) compared to UTC

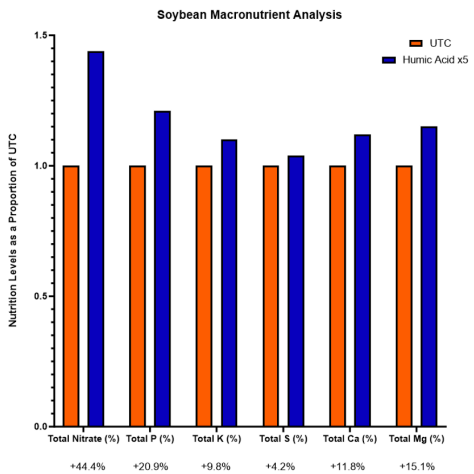


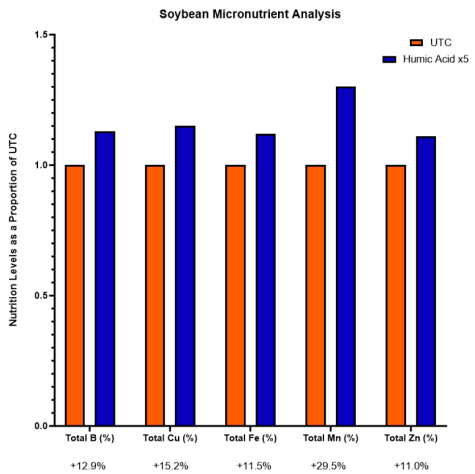


Percents on graph indicate an increase or decrease compared to control

What Are the Effects of MX-3 Humical Seed Treatment on Soybean Nutritional Content Under Greenhouse Conditions

- Grown in greenhouse conditions for 19 days
- n=1
- **Macronutrient:**
  - 44.4% increase of Total Nitrate (%) compared to UTC
- **Micronutrient:**
  - 29.5% increase of Total Mn (%) compared to UTC





Percents on graph indicate an increase or decrease compared to control

MX-3 FULVICAL GOLD

foliar biostimulant

MONTRA

Key Information

- **Crops:** canola, soybean, corn, wheat, potato
- **Ingredients:** fulvic acid, calcium, hydrogen
- **Foliar rate:** 1 L/ac
- **Timing:** herbicide timing, post-emergent
- **Product size:** 2 x 10 L case / 1,000 L tote
- **Water volume:**
  ground:

MX-3 Fulvical Gold - Features and Benefits

Improves crop performance and yield
Improves nutrient uptake and nutrient use efficiency
Improves tolerance to drought, salinity, and heat stress
Improves herbicide efficiency

corn

control fulvical

soybean

control fulvical

Unlock your crops potential & yield

MX-3 Fulvical is a powerful plant biostimulant made from fulvic acid, calcium, and hydrogen, developed through Montra Ag's proprietary extraction process. This unique blend helps crops absorb nutrients more effectively, leading to stronger roots, healthier growth, and better performance in the field. Fulvic acid works like a natural carrier, moving nutrients into the plant more efficiently. Paired with calcium, which supports plant strength and structure, and hydrogen, which helps balance plant energy, MX-3 Fulvical gives crops the tools they need to thrive. This biostimulant also helps plants handle environmental stress like drought, heat, or poor soil conditions. With consistent use, farmers can expect improved soil health, stronger, more resilient crops, and better yields across the growing season.

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MX-3 FULVICAL
GOLD
foliar biostimulant

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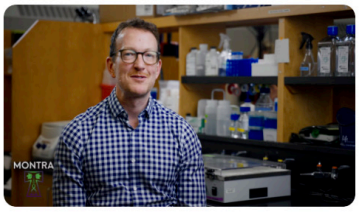


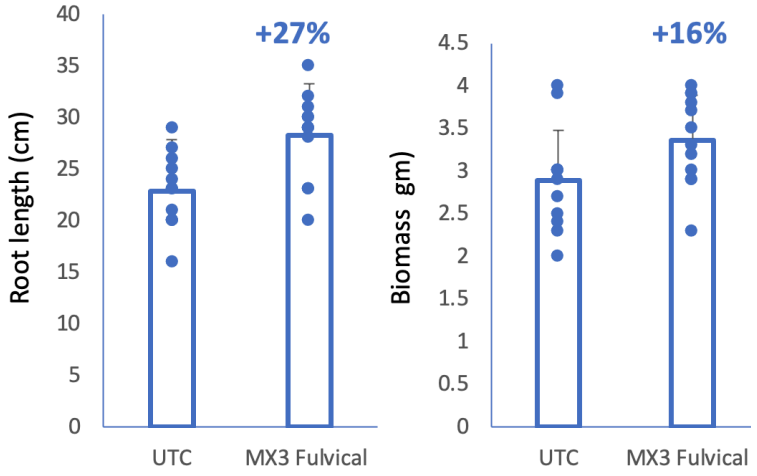
Montra MX-3 - Research with Dr. Mark Belmonte, U of M / Belmonte Lab

Please visit us at: **https://bit.ly/mx3crop** to view our research summary.

MX-3 Fulvical plays a vital role in improving soil and plant health by enhancing the natural processes that drive growth. The fulvic acid, calcium, and hydrogen in our formula increases the availability of essential nutrients like nitrogen and potassium in the soil, making them easier for plants to absorb. This powerful biostimulant also acts as a natural chelator, helping bind minerals and nutrients so they're more accessible to crops. MX-3 Fulvical supports important metabolic processes related to carbon and nitrogen, fueling plant development. Additionally, it improves water retention in both the root zone and surrounding soil, helping crops stay healthier and more resilient in dry conditions. These combined effects make MX-3 Fulvical a key tool for improving nutrient efficiency, crop performance, and long-term soil health.

- MX-3 Fulvical Gold applied at 1L/ac as a foliar treatment at herbicide timing.
- Increases soybean root development and biomass
- Location: University of Manitoba

control fulvical



MX-3 FULVICAL GOLD

foliar biostimulant

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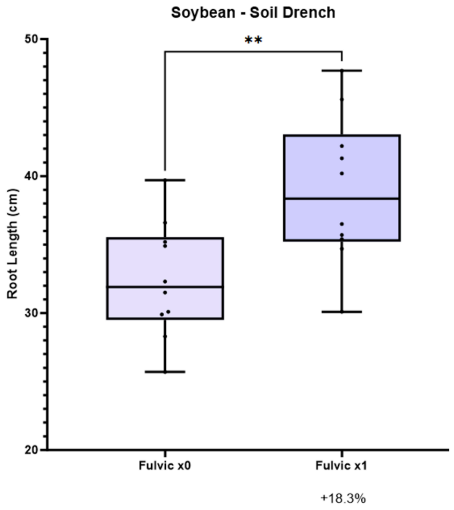
What Are the Effects of MX-3 Fulvical Soil Drench on Soybean Root Length Under Greenhouse Conditions?

*30 cm ruler

UTC Fulvic x1

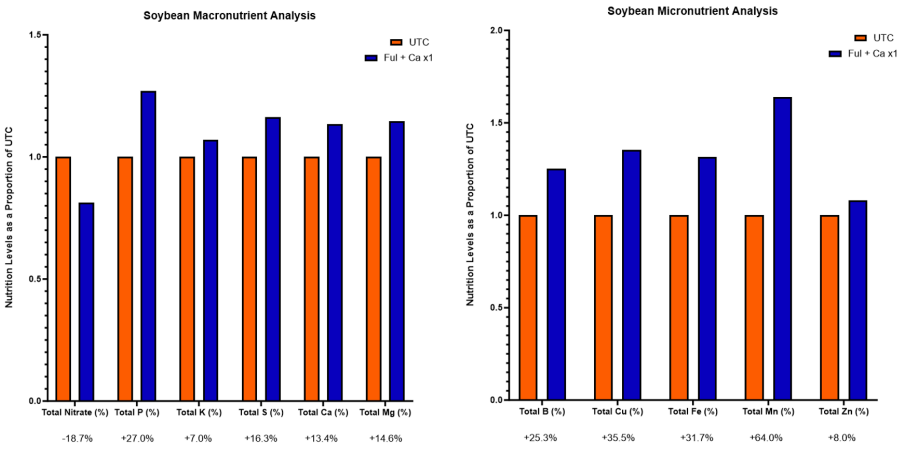
MX-3 Fulvical Soil Drench on Soybean Root Length Under Greenhouse Conditions

- Grown in greenhouse conditions for 45 days
- n=10
- **Root Length Soybean:**
  - 18.3% increase of fulvic x1 compared to UTC



Effects of MX-3 Fulvical on Soybean Nutritional Content Under Greenhouse Conditions

- Grown in greenhouse conditions for 19 days
- n=1
- **Macronutrient:**
  - 27.0% increase of Total P (%) compared to UTC
- **Micronutrient:**
  - 64.0% increase of Total Mn (%) compared to UTC



MX-3 FULVICAL
GOLD
foliar biostimulant

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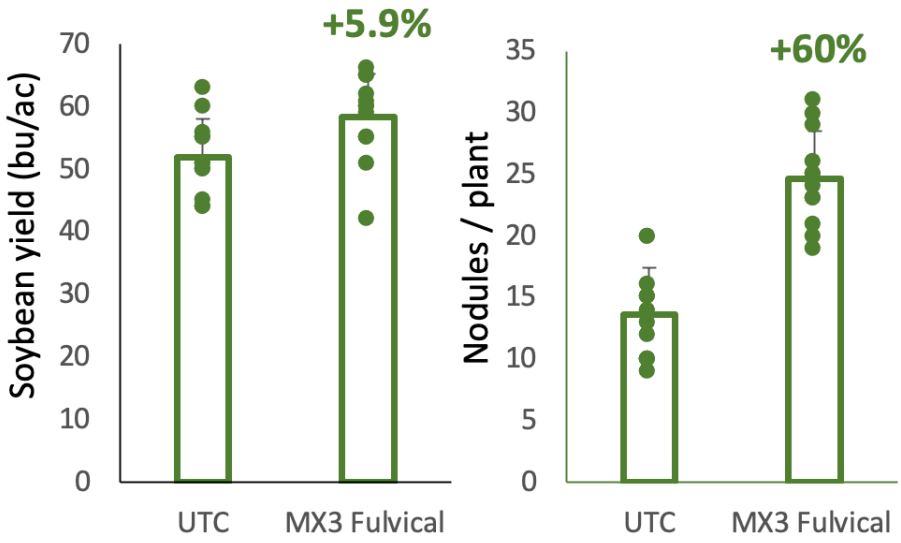
- MX-3 Fulvical Gold applied at 1L/ac as a foliar treatment at herbicide timing.
- Increased soybean yield
- Increased the number nodules per plant
- Location: Carman, Manitoba



- MX-3 Fulvical Gold applied at 1L/ac as a foliar treatment at herbicide timing.
- Increases corn nutrition levels
- Location: University of Manitoba