

Synergro®



Biological



Synergro® - Microbial Technology for Sustainable Ag

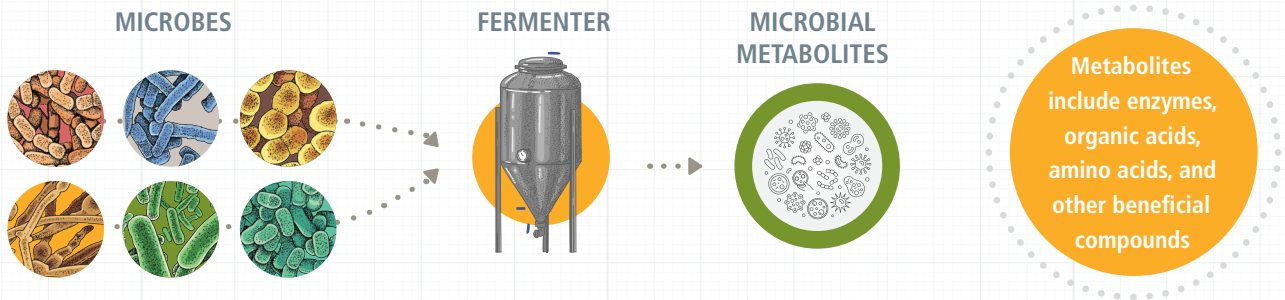
Synergro is a consortium of microbes uniquely co-fermented to produce a rich array of metabolites to improve the signaling capabilities of plants and liberate soil nutrients.

Synergro activates the root rhizosphere, delivering powerful metabolites to the area where the plant roots meet the soil.

- Increases rooting and vegetative plant growth
- Reduces impacts of abiotic and biotic stress
- Improves nutrient use efficiency
- Improves crop performance - drives yield and enhances quality
- Synergro Organic is OMRI Listed® for use in organic crop production



Our proprietary fermentation process converts microbes into beneficial metabolites.



Key Metabolites in Synergro

Through extensive research and analysis, we identified over 1,700 different metabolites produced by the Synergro consortium. We have consolidated these components into key groups that mimic the compounds a plant naturally produces and utilizes to optimize photosynthesis, plant health and yield.

Component	Function	Component	Function
Organic acids	<ul style="list-style-type: none"> • Make phosphorus more soluble and improve mobility of nutrients such as manganese, copper, zinc, iron, calcium and magnesium • Improve glomalin production, associated with a healthy rhizosphere 	Phenolic acids	<ul style="list-style-type: none"> • Attract beneficial bacteria associated with a healthy root rhizosphere • Mediate plant stress responses • Support lignin accumulation and salinity tolerance
Amino acids	<ul style="list-style-type: none"> • Improve complexing of key nutrients making them more available for uptake and utilization by the plant • Improve antioxidant defenses of plants and alleviate salt stress • Improve flowering, seed set and development 	Flavonoids	<ul style="list-style-type: none"> • Facilitate colonization by N-fixing bacteria • Influence pollen tube development • Regulate plant stress responses
Polyamines	<ul style="list-style-type: none"> • Reduce the impact of drought stress • Priming effects that provide stress-resistance 	Phosphatase enzyme	<ul style="list-style-type: none"> • Releases phosphorus from organic matter making it plant available • Helps regulate osmotic processes in the plant • Improves root development

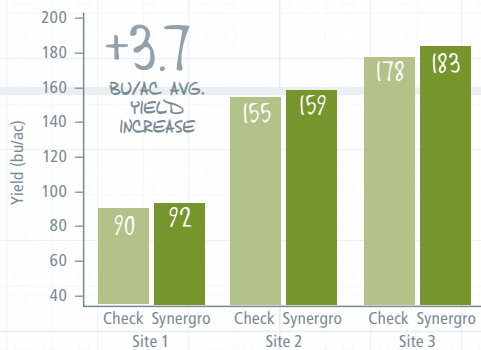
Proven Agronomic Performance

Agronomic trials demonstrate that Synergro can be applied 3 different ways (seed, soil or foliar) to show an advantageous and consistent agronomic response.

SEED:

- Winter wheat seed treated with Synergro showed an average yield increase of 3.7 bu/ac for trials conducted in the Pacific Northwest.

SEED-APPLIED: WINTER WHEAT

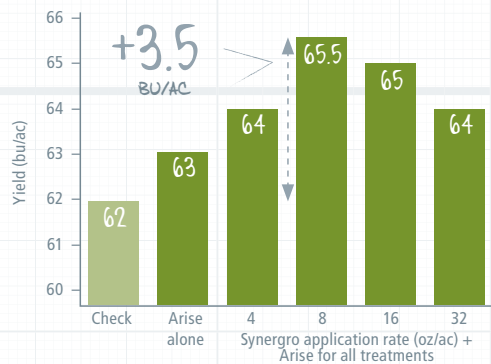


- Synergro was seed-applied at 1.5 fl oz/100 lbs to wheat
- Trials were conducted at 3 PNW locations by a third party research company

SOIL:

- Replicated trials from 2019 showed a strong rate response curve for both canola (below) and wheat crops when combined with a starter fertilizer at the recommended soil rate of 8 oz/ac.

STARTER FERTILIZER: CANOLA

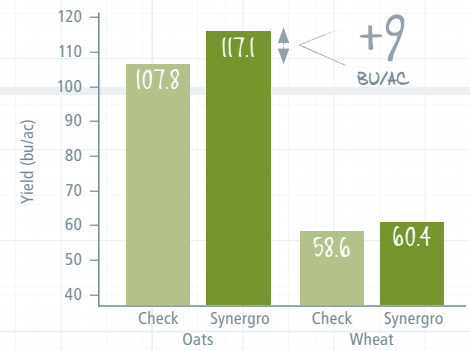


- Small plot replicated trial conducted in 2019.
- Arise (starter liquid Phosphorus) was applied at 3 gal/ac in-furrow
- Synergro was combined with Arise

FOLIAR:

- Grower-replicated strip trials in 2019 on oats and wheat showed a consistent improvement in yield with Synergro (4 oz/ac) at herbicide timing.

HERBICIDE: OATS & WHEAT



- Synergro applied at 4 Oz/ac in a tank mix with Laser P (applied at 32 oz/ac)
- Synergro and Laser P applied with the existing herbicide application

- A 2018 grower demonstration trial on lentils clearly showed from the yield map a significant increase in production for the Synergro-treated side of the field (left).
- Synergro was applied in-furrow at 8 oz/ac on 40 acres of land. The total field was 96 acres.



WHEAT SEED TREATED WITH SYNERGRO HAD A HIGHER AMOUNT OF SOIL ATTACHED TO THE ROOTS, DUE TO THE INCREASED PRODUCTION OF GLOMALIN (ROOT SNOT). THIS ULTIMATELY CONTRIBUTED TO IMPROVED ROOT DEVELOPMENT, NUTRIENT UPTAKE AND OVERALL PLANT HEALTH.

Product Recommendations

- For a seed treatment, use Synergro in combination with a nutrient dressing and a crop protection product.
- For soil applications, use Synergro in combination with a starter fertilizer.
- For foliar applications, use Synergro in combination with a nutrient(s).
- Synergro is compatible with most fertilizers and commonly used pesticides. Conduct a jar test to determine product compatibility. Contact your ATP representative with any compatibility questions.

Rate	Timing
1.5 fl oz/100 lbs	Seed
8 oz/ac	Soil
4 oz/ac	Foliar

- To view the Synergro SDS and Product Labels please visit www.atpnutritionag.com.

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