# Synergro M<sup>2</sup> °

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# **Biological**

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#### Synergro M<sup>2 ®</sup> - Microbial Technology for Sustainable Ag

Synergro M<sup>2</sup> 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  $M^2$  activates the root rhizosphere, delivering powerful metabolites to the area where the plant roots meet the soil.

- Increases rooting and vegetative plant growth
- Registered by CFIA

fertilizers

- Reduces impacts of abiotic and biotic stress
- Safe and stable when premixed with
- Improves crop performance drives yield and
- enhances quality Our proprietary fermentation process converts microbes into beneficial metabolites.



#### Key Metabolites in Synergro M<sup>2</sup>

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> <li>Make phosphorus more soluble and improve mobility of nutrients such as manganese, copper, zinc, iron, calcium and magnesium</li> <li>Improve glomalin production, associated with a healthy rhizosphere</li> </ul>	Phenolic acids	<ul> <li>Attract beneficial bacteria associated with a healthy root rhizosphere</li> <li>Mediate plant stress responses</li> <li>Support lignin accumulation and salinity tolerance</li> </ul>
Amino acids	<ul> <li>Improve complexing of key nutrients making them more available for uptake and utilization by the plant</li> <li>Improve antioxidant defenses of plants and allouiste cell stress.</li> </ul>	Flavonoids	<ul> <li>Facilitate colonization by N-fixing bacteria</li> <li>Influence pollen tube development</li> <li>Regulate plant stress responses</li> </ul>
Polyamines	<ul> <li>Improve flowering, seed set and development</li> <li>Reduce the impact of drought stress</li> <li>Priming effects that provide stress-resistance</li> </ul>	Phosphatase enzyme	<ul> <li>Releases phosphorus from organic matter making it plant available</li> <li>Helps regulate osmotic processes in the plant</li> <li>Improves root development</li> </ul>

## Proven Agronomic Performance

Agronomic trials demonstrate that Synergro M<sup>2</sup> can be applied 3 different ways (seed, soil or foliar) to show an advantageous and consistent agronomic response.

#### SEED:

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#### SOIL:

#### FOLIAR:

- Winter wheat seed treated with Synergro M<sup>2</sup> showed an average yield increase of 3.7 bu/ac for trials conducted in the Pacific Northwest.
- 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 250 mL/ac.
- Grower-replicated strip trials in Manitoba in 2019 on oats and wheat showed a consistent improvement in yield with Synergro M<sup>2</sup> (125





Arise (starter liquid Phosphorus) was applied at 3 gal/ac in furro Synergro M<sup>2</sup>was combined with Arise

mL/ac) at herbicide timing.



-Synergro M<sup>2</sup> applied at 125 ml/ac in a tank mix with NRG P (applied at 1 L/ac) ro M<sup>2</sup> and NRG P applied with the existing herbicide application

- A 2018 grower demonstration trial in Southern Saskatchewan on lentils clearly showed from the yield map a significant increase in production for the Synergro M<sup>2</sup>-treated side of the field (left).
- Synergro M<sup>2</sup> was applied in-furrow at 250 ml/ac on 40 acres of land. The total field was 96 acres.





WHEAT SEED TREATED WITH SYNERGRO M2 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 M<sup>2</sup> in combination with a nutrient dressing and a crop protection product.
- For soil applications, use Synergro M<sup>2</sup> in combination with a starter fertilizer. .
- For foliar applications, use Synergro M<sup>2</sup> in combination with a nutrient(s). .
- Synergro M<sup>2</sup> 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 mL/Kg	Seed
250 mL/ac	Soil
125 mL/ac	Foliar

To view the Synergro M<sup>2</sup> SDS and Product Labels please visit www.atpnutrition.ca.

At ATP, we believe a proactive, science-based and balanced nutrient plan is the single most effective way to deliver the genetic potential of the crop. We challenge the status quo to drive productivity. At ATP Nutrition, we believe in Powering Growth with Science®.



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ATP NUTRITION