MICRO-CHE™
CROP MIX

Nutrition

Timing: Soil

Nutrient Type: Micronutrient

Formulation: Liquid

Prevent Micronutrient Deficiencies – Add Micro-Che Crop Mix to Your Granular Fertilizer

Micro-Che™ Crop Mix is a high quality chelated line of micronutrients designed for impregnation on granular fertilizer.

- **Ease of handling** – Great flowability and easy to apply.
- **More feeding sites** – With every granule being coated, Micro-Che Crop Mix provides a uniform supply of micronutrients across the entire field.
- **100% plant available** – Chelation protects the nutrient from being tied up in the soil, allowing for season long availability.
- **Improves nutrient use efficiency** – The more uniform the supply of micronutrients across the field, the more accessible it is for the plant's roots to uptake these nutrients.
- **100% Soluble** – Means the nutrients can be taken up by the root. In contrast, oxide based products are not readily available to the plant.

Increased Solubility and Availability

- Mortvedt summarized the percent solubility (or lack of) of 3 different forms of zinc. Nutrients must be soluble and in soil solution to be taken up by the plant's roots.
- In addition, Mortvedt's research showed that when sulphate based micronutrients were combined with Phosphorus, after 4 hours, only 4% of the Zinc was readily available to the plant. In contrast, EDTA chelated products remain 100% plant available.

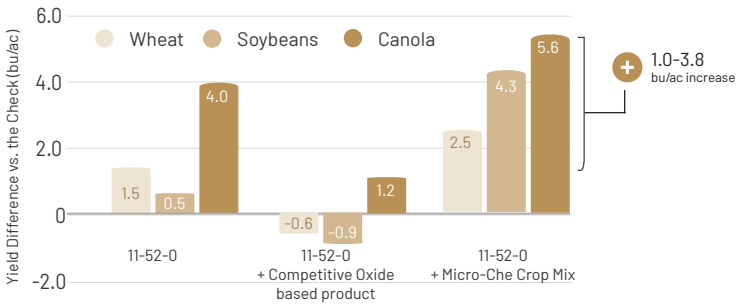
Zinc Form	% Solubility	% Availability*
Oxide	<1	<1
Sulphate	100	4
EDTA Chelates	100	100

** The percentage remaining in the original form of zinc when combined with phosphorus.*
Source: Micronutrients in Agriculture, Mortvedt et al., 1991

Proven Agronomic Performance

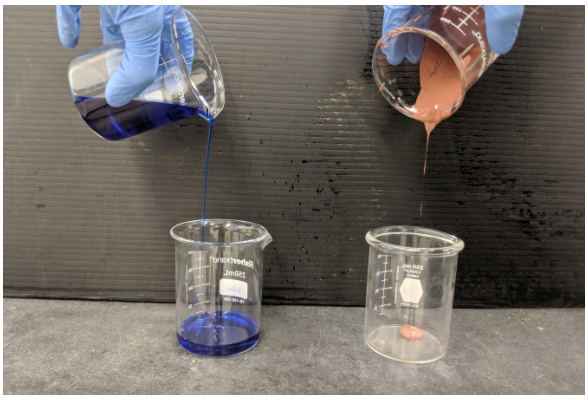
- Trials conducted in 2020 on wheat, canola and soybeans showed the value of impregnating 11-52-0 with Micro-Che Crop Mix. The incremental yield benefit ranged from a 1.0 bu/ac up to 3.8 bu/ac increase.
- In contrast, the alternative oxide based micronutrient brought no incremental benefit in terms of crop yield.

Increased Yield when Impregnating with Micro-Che Crop Mix



Replicated trials in 2020
ICMS - Portage, MB

Improved Flowability



Micro-Che Crop MIx (left) Vs. Alternative Oxide Product (right)

- A standard viscosity test clearly highlighted the ease of oxide use with Micro-Che Crop Mix when compared to an alternative product.
- Micro-Che Crop Mix was 300x more flowable at room temperature vs. the alternative product (see table below).
- To help explain the level of viscosity and flowability, we used water and corn syrup as a reference. Micro-Che Crop Mix was similar to water while the alternative oxide product flowed like corn syrup.

Product	Viscosity (cP Centipoise)	
	3 °C	20 °C
Water	1	1
Micro-Che Crop Mix	15	15
Alternative Product *	5500	4500
Corn Syrup	12000	3000

** Alternative product tested was an oxide based material.*

Micro-Che Crop Mix Contains the Key Micronutrients to Drive the Crop

5 **B** 10.81

Boron

- Improves stability and function of cell wall membranes
- Influences proper root development and nodule formation
- Essential for proper elongation of pollen tube
- Aids in sugar and carbohydrate production, and is essential for seed development

29 **Cu** 63.55

Copper

- Critical for lignification of cell walls
- Critical role in pollination of crops such as wheat and barley
- Enhances nitrogen utilization and protein formation
- Regulates electron transport, which is essential for photosynthesis and respiration

30 **Zn** 65.39

Zinc

- Critical for auxin (plant hormone) production which helps regulate root and plant growth and protect against IAA oxidation
- Primary role in seedling vigor and early season root development, especially under stressed environmental conditions
- Essential role in ATP and protein synthesis
- Critical for pollen viability, seed formation and yield

Product Recommendations

- Impregnate Micro-Che Crop Mix on your granular fertilizer blend.
- Avoid application to urea or blends that have a high percentage of urea in them.
- To view the Micro-Che Crop Mix SDS and Product Label and to read more information, please visit www.atpag.com

Product	Analysis	Rate	Timing	Form
Micro-Che Crop Mix	5-0-0-6.0Zn-2.0B-1.0Cu	3.0 L/mt	Impregnate	Liquid
Micro-Che Crop Mix	5-0-0-6.0Zn-2.0B-1.0Cu	0.7-1.4 L/ac	Soil	Liquid

ATP
RESTORE THE BALANCE

At ATP, we believe a proactive, science-based approach to restore the balance between plant and soil health is the single most effective way to deliver the genetic potential of the crop. We challenge the status quo by utilizing agtech to monitor and drive productivity.

info@atpag.com | 1.877.538.5511 | www.atpag.com