

### TECHNICAL BULLETIN

#### DESCRIPTION

**Z-MAN™** contains elemental zinc and manganese with ACT®, which supports vital biochemical reactions in crops, plants and citrus.

When combined, zinc and manganese activate a broad range of enzymes that are responsible for the synthesis of certain proteins and enzymes. These also aid in the formation of chlorophyll and some carbohydrates, and conversion of starches to sugars. **Z-MAN™** helps the plant to withstand cold temperatures and drought conditions and is also essential in the formation of naturally occurring plant auxins, which help with growth regulation and stem elongation.

#### BENEFITS

- Supports dark green leaf production
- Aids protein synthesis
- Boosts carbohydrate production and storage of starches within the plant
- Promotes natural plant hormone production
- Improves nitrogen metabolism within the plant
- Essential to the conversion of inorganic phosphorus into organic forms in the plant.
- Promotes root elongation
- Improves resistance to root pathogens
- Easy to use liquid formula
- Use year-round

#### APPLICATION

**SHAKE WELL OR STIR BEFORE USE.**

**Z-MAN™** is highly concentrated. Dilute with water to ensure adequate coverage. Jar test for compatibility prior to final tank mixing with other products.

**AGRICULTURE AND HORTICULTURAL:** Apply 1-4 quarts per acre every 30 days or as needed with a sprayer or fertilizer injection system or as directed by a qualified field rep.

**GREENS, TEES AND TURF:** Foliar apply 1-4 quarts per acre in 25-50 gallons of water per acre or for smaller areas apply 1-2 ounces per 1000 square feet in 5-10 gallons of water. Apply every 7-10 days or as needed with sprayer. Water normally following application.

**ROOT FEEDING OF TREES AND SHRUBS:** Dilute 1-2 quarts in 100 gallons of water, inject in root zone.

#### GUARANTEED ANALYSIS

Sulfur (S) ..... 4.0%  
Manganese (Mn) ..... 4.0%  
Zinc (Zn) ..... 4.0%

Derived from Zinc Sulfate and Manganese Sulfate.

ALSO CONTAINS NON-PLANT FOOD INGREDIENT:  
8.0% Organic Matter

#### PHYSICAL CHARACTERISTICS

Appearance: Brown liquid  
Weight: 10.8 lbs./gal.  
pH Range: 2.0-3.0  
Enzymatic activity may affect pH during storage.

#### AVAILABILITY

##### United States of America

- 2.5-gallon (9.46 L) jugs
- 30-gallon (113.56 L) drum
- 55-gallon (208.2 L) drum
- 275-gallon (1040.99 L) tote

##### Other Countries

- 10-Liter (2.64 gal) jug
- 208-Liter (54.95 gal) drum
- 1040-Liter (274.74 gal) tote

#### STORAGE AND DISPOSAL

Store at 50°-95°F / 10°-35°C. Do not store in direct sunlight. Keep product in the original container and store in cool, dry area. Triple rinse when empty for recycling. Always dispose of container in accordance with local, state and federal regulations.

#### WARNING



**KEEP OUT OF REACH OF CHILDREN. MAY BE HARMFUL IF SWALLOWED. CAUSES MILD SKIN IRRITATION. CAUSES EYE IRRITATION.**

SDS available upon request.

Information regarding the contents and levels of metals in this product is available on the internet at:  
<http://www.aapfc.org/metals.html>

#### CONDITION OF SALE

The information herein is believed to be accurate and reliable. Buyer and user assume all liability from use of this material. Follow directions carefully. Timing, method of application, weather, plant, crop or turf conditions and other factors are beyond the control of the seller.



Innovation That Grows™