



## Tree Nuts

### Naturally Balanced Nutrition in Every Granule

Experience higher yields and balanced fertility in tree nuts by providing the right nutrients at the right rate, right time, and right place for maximum return. Intrepid Trio is natural langbeinite, a unique mineral with three essential nutrients comprised of 21.5-22% potassium ( $K_2O$ ), 10.5-10.8% magnesium (Mg) and 21-22% sulfur (S) as sulfates, depending on grade.

Intrepid Trio, also known as Sulfate of Potash Magnesia, allows growers to apply an extremely low chloride potassium (less than 1.0-3.0% Cl depending on grade) and neutral pH fertilizer with the benefit of sulfur and magnesium in the same ratio in each granule. Intrepid Trio is also OMRI Listed and approved for organic farming.

#### When should Intrepid Trio® be applied?

Apply Intrepid Trio in late fall on Almonds once harvest is complete and leaf drop has begun in November. Minimize the fixing of potassium by considering banding nutrients versus broadcast applications over large soil areas.

#### Nutrient removal by tree nuts

	Yield ton/ac	N lb/ac	P <sub>2</sub> O <sub>5</sub> lb/ac	K <sub>2</sub> O lb/ac
Almonds	1	130	37	182
Pistachios	1	56	14	60

(Source: Univ. of California)



Available in premium, granular and standard grades, Intrepid Trio blends well with other fertilizer materials for an even distribution of nutrients.



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### How does potassium (K<sub>2</sub>O) affect tree nuts?

Potassium plays an important role in the health of tree nut crops through enhancing photosynthesis, transporting sugars, and activating enzymes that aid in a number of chemical reactions. The majority of the potassium (70-80%) removed from almond orchards is within the hull with the remainder in the shell and kernel. K deficiencies appear on the leaves where the edges and tips will burn and turn upward. The overall growth and renewal of the tree year over year will decrease resulting in yield losses long term. The critical leaf value for almonds established by the University of California is 1.4%.

Utilizing Intrepid Trio as a K source in almond orchards offers a key advantage due to its low chloride content of less than 1.0-3.0% depending on grade. Excess salinity above 1.5 dS/m in almonds can cause a 19% decrease in yield for every 1.0 dS/m increase. The tree is forced to work harder for water when excess salts are in the root system which in turn will reduce growth and vigor even leading to tissue toxicity.

### What effect does magnesium (Mg) have on tree nuts?

Magnesium plays an important role in photosynthesis as the center of the chlorophyll molecule and acts in enzyme reactions forming proteins, and aiding the tree in the manufacture of energy.

Deficiencies of magnesium will be most prevalent on sandy, acidic soils or where excessive potassium and calcium in the soil is outcompeting magnesium. For example, excessive applications of potash and gypsum without an accompanying Mg source can induce soil Mg deficiencies. The deficiency first appears in early to mid-summer on older leaves as V shaped chlorotic pattern.

Intrepid Trio is the perfect product to supply tree nuts with needed magnesium while still supplying immediately available low-chloride potassium and immediately available sulfur in the sulfate form.

### How does the sulfur (S) in Trio benefit tree nuts?

Sulfur is an essential part of vitamins, hormones, and proteins within a plant. Sulfur and nitrogen uptake work hand in hand and high N fertilizer rates without sulfur will create an S deficiency.

Intrepid Trio provides sulfur in the sulfate form which is immediately available to the tree and pH neutral causing no acidifying effect to the soil.

### When will Intrepid Trio® be available to the tree nuts?

Intrepid Trio readily dissolves in the soil slowly, reducing the risk of leaching and providing long-lasting nutrients that are immediately available to the plant.



- K<sub>2</sub>O 22%
- Mg 11%
- S 22%

Intrepid Trio provides three essential minerals readily available as your crop needs them.



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