



Cotton

Naturally Balanced Nutrition in Every Granule

Experience higher yields and balanced fertility in cotton 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?

Intrepid Trio should be split applied with half prior to planting and half at time of first square as part of a side dress application.

Nutrient removal by cotton plant

Yield (1,500lb/ac)	N lb/ac	P ₂ O ₅ lb/ac	K ₂ O lb/ac	Mg lb/ac	S lb/ac
Seed and Lint	100	44	63	11	8
Stalks and Leaves	140	28	147	21	28
Total Plant Uptake	240	72	210	32	36

(Source: International Plant Nutrition Institute)



INTREPID
1001 17th Street, Suite 1050 | Denver, CO 80202
www.intrepidpotash.com





Cotton Response to Magnesium

	With Mg	No Mg
2007	1040 lb/ac	975 lb/ac
2006	1085 lb/ac	958 lb/ac

(Source: International Plant Nutrition Institute (IPNI))

When and how does the cotton plant use potassium (K₂O)?

The majority of potassium uptake takes place from the first bloom to the end of the flowering period. During the flowering period, uptake rates range from 2.2 to 3.5 lb K₂O / acre / day. Potassium is then rapidly translocated from the leaves and stems to the bur of the boll during boll fill. The potassium in Intrepid Trio is immediately available to the cotton plant for flowering and boll development.

When available to plants on a plant-needed basis, potassium also:

- Increases water use efficiency of the cotton plant
- Activates enzymes within the plant and serves as a regulator nutrient
- Helps the plant to resist crop diseases and pests

How can magnesium (Mg) help the cotton plant?

Magnesium is an essential component of the chlorophyll molecule which is integral in the photosynthesis process that allows the plant to convert sunlight to energy. Magnesium also supports plant growth and function through enzyme activation and acting as a phosphorous carrier, aiding in the plant's ability to take up phosphorous.

Magnesium deficiency on sandy, acidic soils can be caused by the application of heavy potassium fertilizer rates without magnesium. The deficiency causes older cotton leaves to turn a purplish color between the veins. Soils with high acidity and high annual rainfall respond best to a readily available magnesium fertilizer like Intrepid Trio.

Why is sulfur (S) also included in the Intrepid Trio® mixture?

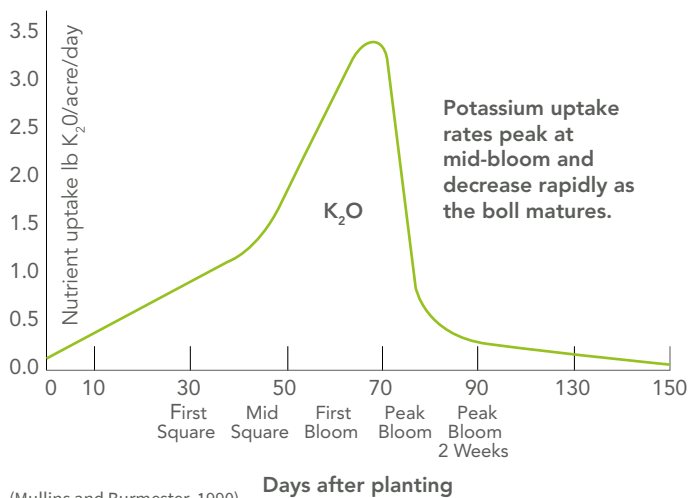
Sulfur aids the cotton plant by enhancing plant height and number of vegetative branches, while a sulfur deficiency leads to a stunted cotton plant. The sulfur in sulfate form as found in Intrepid Trio is the only form of sulfur readily available to plants. Sulfate-sulfur does not have to go through the oxidation process like elemental sulfur — thus pH is not decreased by the resulting release of hydrogen into the soil.

When will Intrepid Trio® be available to the cotton plant?

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.



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



(Mullins and Burmester, 1990)



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