



## Oil Palm

### Naturally Balanced Nutrition in Every Granule

Experience higher yields and balanced fertility in oil palm crops 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<sub>2</sub>O), 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 1.5-3.0% 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.

#### Nutrient uptake for oil palm based on a 30 t fresh fruit bunches/ha crop

	K <sub>2</sub> O	Mg	S
kg/ha	301-360	43 - 73	68 -84
kg/plant*	2.1 - 2.5	0.3 - 0.5	0.5 -0.6

\*Based on 143 oil palm/ha  
(Source: Goh and Hardter)



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





### Why use Intrepid Trio® for oil palm?

Oil palm plants require a high level of nutrients, particularly nitrogen, potassium, magnesium, boron and sulfur. Only a balanced nutrition fertilization plan that includes all the required nutrients can sustain productivity over the long term.

To maximize oil palm production, it is important to ensure access to potassium, magnesium and sulfur by the oil palm plant. Intrepid Trio is used worldwide for oil palm production and it has proved to increase yield in relationship to total biomass production and to total extracted oil.

The proportion of Intrepid Trio magnesium to potassium (Mg:K) of 0.6 to 0.7 has shown the best response in oil palm production. Ensure optimal productivity with Intrepid Trio.

### Why not use simple fertilizers on oil palm crops?

The use of simple fertilizers has shown disadvantages in oil palm production due to temporary excess of one of the nutrients. An excess of an individual nutrient can cause "antagonistic effects" between nutrients, thus negatively affecting yield. Because Intrepid Trio is a soluble complex fertilizer with all three essential nutrients in one granule, it is ideal for oil palm production.

### What is the recommended application rate for Intrepid Trio®?

The recommended application rate for Intrepid Trio for oil palm depends on three primary factors: oil palm management; age of each plant; and soil fertility conditions. The application rate can vary widely, typically ranging from 200 to 4,000 grams Intrepid Trio per plant, and should be based on recommendations derived from analysis of an accurate soil test.

Additional specific recommendations include the following management responses:

- Apply 1.0 to 1.5 kg per plant to replace the nutrients removed during each growing season.
- If deficient symptoms are observed in an oil palm plant, apply an additional 3.0 to 4.0 kg per plant.

(Recommendations based on Rankine/Fairhurst article, *Better Crops International*, 1999)



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

### Is Intrepid Trio® considered to be environmentally friendly?

Because all three nutrients are in forms that are readily available for plant uptake, Intrepid Trio reduces the risk of leaching, and is thus more environmentally friendly than alternative fertilizers. The balanced fertility of Intrepid Trio allows the nutrients to be applied at the right rate without over applying nutrients in excess beyond what the plant can take up. These characteristics make Intrepid Trio not only an environmentally friendly fertilization option, but the right fertilizer source for oil palm production.

### When will Intrepid Trio® be available to the oil palm 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.



Intrepid  
707 17th St., Suite 4200, Denver, Colorado 80202  
[www.intrepidpotash.com](http://www.intrepidpotash.com)

