



Get to know potassium nitrate in tomato nutrient management

## HIGHER YIELDS & BETTER QUALITY

Fertigation and foliar applications with potassium nitrate has been found to be beneficial in improving fruit size, dry matter, color, taste.

## STRONGER PLANTS & HIGHER-GRADE FRUIT

$KNO_3$  has been proven to decrease disease incidence and assist with resistance to environmental factors such as frost and drought. Fertigation and foliar applications can result in higher fruit integrity

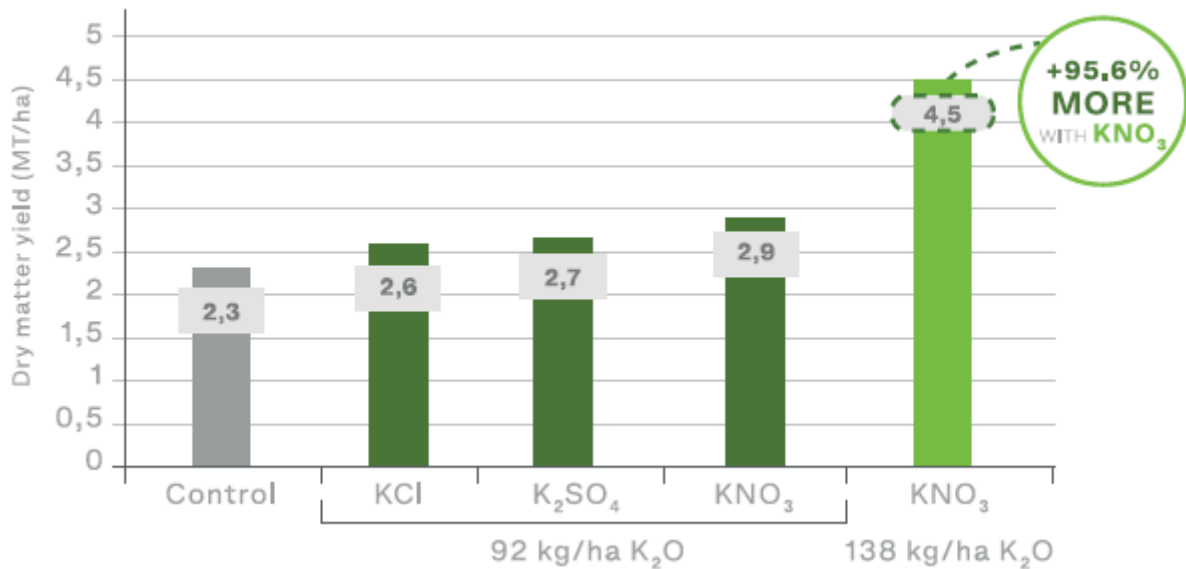
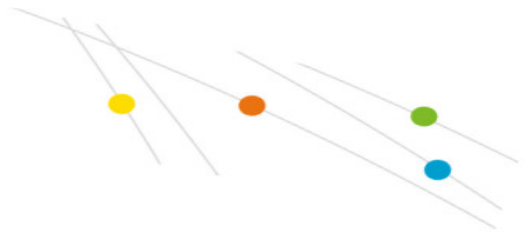
## FASTER UPTAKE

Nitrate nitrogen and potassium in  $KNO_3$  are immediately available through the roots with fertigation and available through the leaves with foliar application.

**Fertigation and foliar applications with potassium nitrate have proven to be highly efficient in fulfilling the potassium requirements for many crops**

The combination of potassium and nitrate has been found to be beneficial in improving fruit size, dry matter, color, taste and resistance to biotic and abiotic stresses, for citrus and tomato fruit. An experiment with tomatoes was carried out in order to see the effect of various K-sources ( $KNO_3$ , KCl and  $K_2SO_4$ ) on the tomato yield. Potassium nitrate was superior to other K-sources regarding yield level and mean weight.

*The effect of various K-sources on the dry matter yield of tomatoes*



Source: Achilea, O. 1999. Citrus and tomato quality is improved by optimized K nutrition. Springer Netherlands - Improved Crop Quality by Nutrient Management:19-22.

## Potassium nitrate outperformed alternative K-sources of processing tomato in terms of yield and quality

In Hungary, 92 kg ha<sup>-1</sup> of side-dressed K<sub>2</sub>O applied as potassium nitrate (NOP) was proven superior to potassium chloride (MOP) and to potassium sulfate (SOP) as based on total marketable yield (12,8% over control), mean fruit weight (3,9% over control) and dry matter content (26,1% over control).

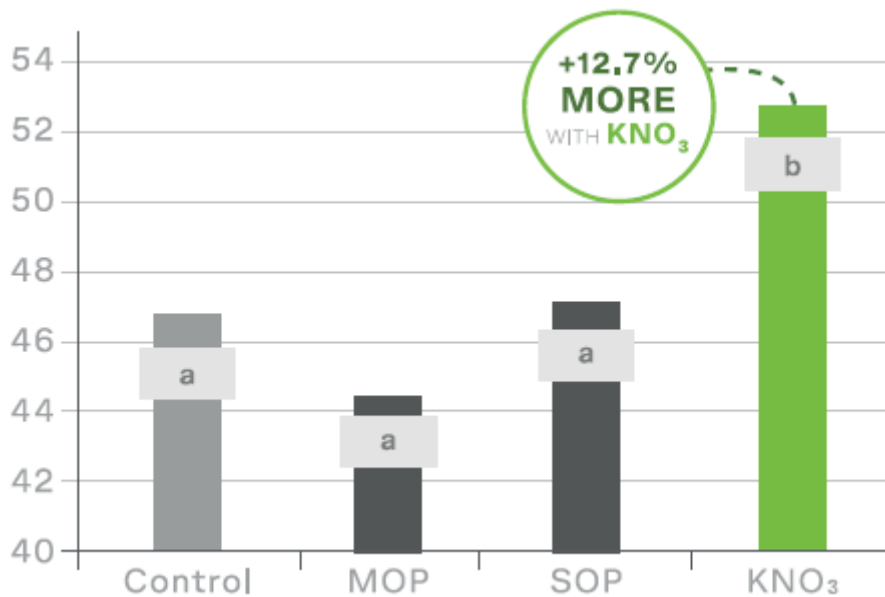
In Spain, potassium nitrate, improved plant performance by increasing mean plant yield, °Brix and mean fruit weight by 25%, 5,13%, and 5,15%, respectively. Total yield was increased from 59 to 70 t ha<sup>-1</sup>.

In Italy, when 70% of this dosage was applied as potassium nitrate via fertigation, the

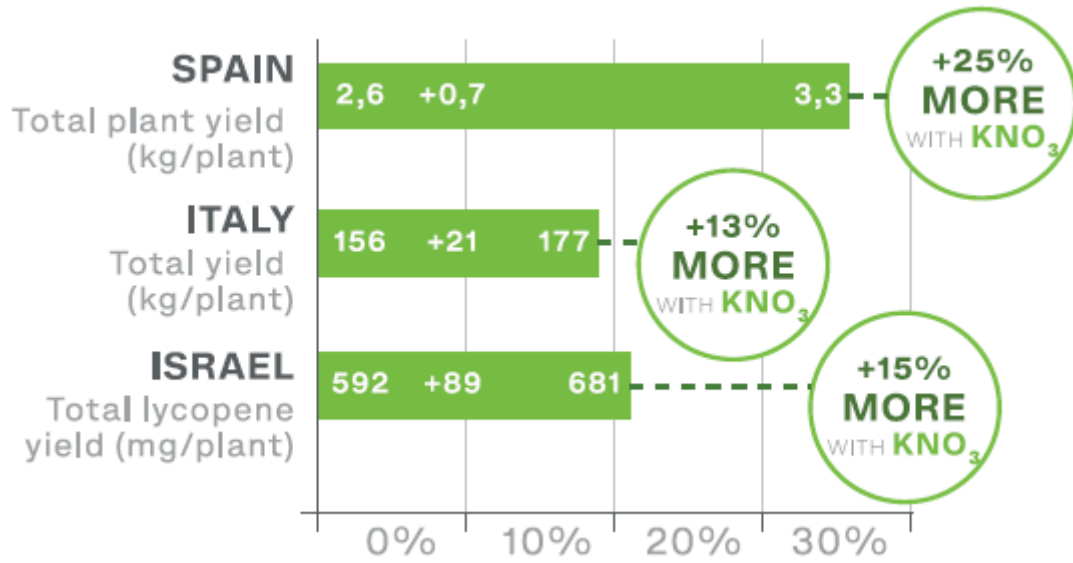
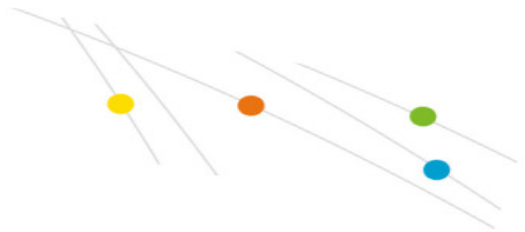


treatment generated higher yields, higher proportion of class I fruit and an increased mean fruit weight. In Israel, nitrate was found to be the best form of nitrogen for maximum lycopene concentration in the fresh fruit.

*The effect of different K-sources on the total tomato yield in Hungary*



Total yield, total plant yield and total lycopene yield (for color) increase (%) by using potassium nitrate in processing tomato



\*Means with the same letter indicate that there are no statistically significant differences\*

Source: Achilea, O. and U. Kafkafi. 2002. Enhanced performance of processing tomato by potassium nitrate-based nutrition.

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