Reasons why potassium nitrate is the right source of K and N

Extreme weather. Too much rain. Not enough rain. Scorching hot temperatures. Blighted and diseased crops.

For such complex agricultural problems, there is not one single surefire solution. However, regardless of the approach taken, the use of potassium nitrate (KNO_3) in agriculture is clearly fundamental. The strategic focuses are reducing imbalances and inefficiencies of nutrients for plants so that they are better able to produce higher yields and improve quality of the crop. Producing a healthier plant helps it withstand the stress of extreme weather conditions and diseases and other pest pressures. Backed by numerous scientific studies, KNO_3 has proven to be more efficient than other fertilizers to promote stronger, healthier crops.

As a result, plants are better able to withstand the effects of drought and extreme temperatures and are also more likely to recover after excessive rain and flooding. Applied to the soil in dry prill form, KNO_3 is highly soluble, thereby facilitating plant absorption of the essential K and N nutrients, efficiently and chloride free. Additionally, KNO_3 promotes the absorption of other critical nutrients such as calcium, magnesium and phosphorus, and combats salinity. Another advantage of the high solubility of KNO_3 is that it can be used with a wide variety of irrigation systems.

KNO_3 has a higher solubility and faster dissolution rate than K_2SO_4 (SOP) - Allows grower to apply higher concentration of nutrients per gallon of water (higher efficiency)

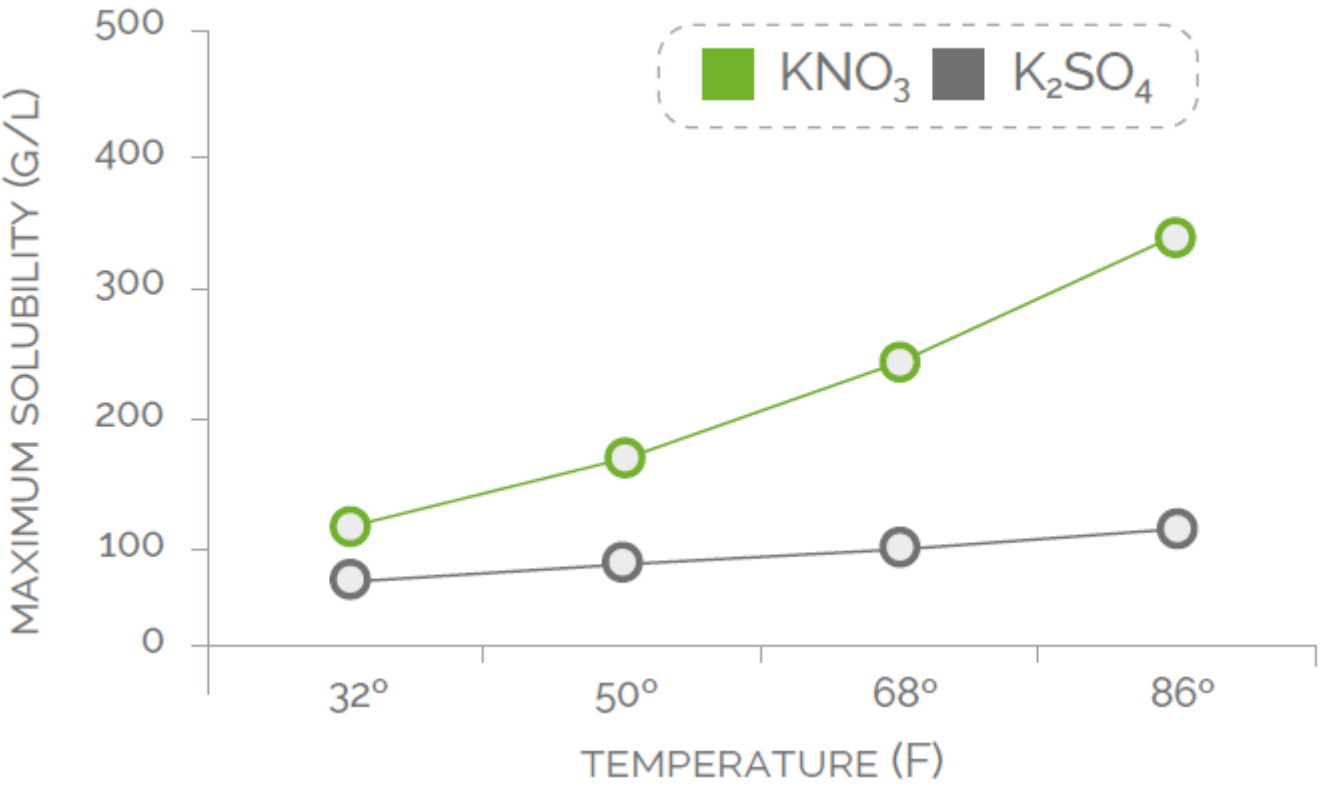

Figure: KNO_3 ideal source of N and K for optimal plant nutrition

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More than 2,400 studies have shown that the use of potassium and correct nitrogen levels improves crop resistance to climate conditions in general and to pests' pressure in particular. Adequate additions of a good potassium source like KNO_3 has resulted in the reduction of bacterial infections up to 70%; fungal infections 63%; pests such as insects and mites 60%; viruses 41%; and nematodes 33%.

For an idea of the scope of the problem, fungal infections alone destroy about 125 million tons of rice, wheat, maize, soybeans and potatoes per year, for a total cost exceeding US $60 billion. Therefore, by halting the spread of fungal diseases in these top five crops worldwide, the surplus produced would allow another 600 million people to be fed.

To provide healthy nutrition to millions of people worldwide, farmers are indeed an essential part the life cycle. To fulfill that goal requires crops that are healthy and more resistant to disease and extreme weather events. Choosing the right fertilization and applying it correctly is the best starting point to achieve the optimal results that we all will benefit from. Through proven research on crops worldwide it has been shown that KNO_3 can be the right fertilizer choice.

Potassium nitrate is a great tool in agriculture production and nutrition. It provides a means to grow a stronger healthier crop through balanced plant nutrition.

KNO_3 improved 7% and 36% more weight per tuber* KNO_3 improved 33% and 20% more average number of tubers per plant* *compared to KCl and SOP respectively

Bester and Maree (1990) clearly showed the benefit of potassium nitrate as opposed to potassium chloride or potassium sulphate fertilization for potato in a pot experiment. Nutrient quantities applied were equal. Under controlled nutrition and environmental conditions, potassium nitrate application gave rise to greatest tuber yield (Figure 1).

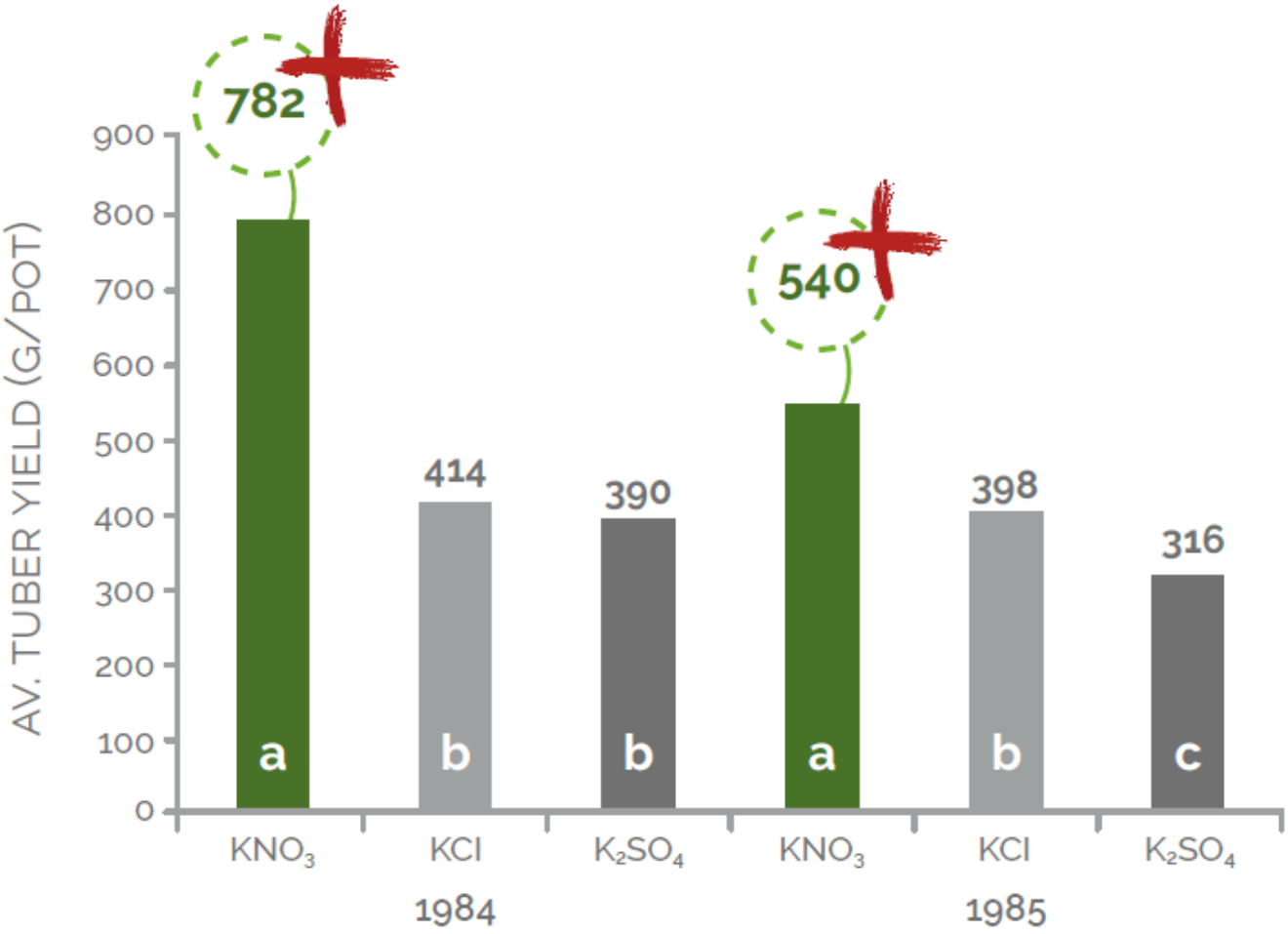

Figure 1. Average tuber yield (g/pot) for three K-sources in two cropping seasons.

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