



Potassium nitrate, product features and benefits

Potassium nitrate is a unique source of potassium by its nutritional value and its contribution to the health and yields of plants. Potassium nitrate features desirable chemical and physical properties, integrated with environmental qualities. The Cl-free potassium along with the counter-ion of Nitrate-nitrogen make it an ideal source of N and K for optimal plant nutrition.

The versatility of the product makes it ideal for multiple application methods, timing, and use. It is compatible with most other fertilizers and can be blended easily to create a balanced nutrition program for any crop. It is highly soluble and rapidly available to the plant so it can be applied during critical demand stages of crop growth.

It can be applied as a liquid through drip irrigation, foliar sprays, fertigation, and top dressed or side dressed as a liquid. The prilled material can be applied banded alone or in a blend; broadcast, incorporated, preplant, at planting time and even flown on as a late top dress are some of the other application methods.

One can easily see how flexible Potassium nitrate can be to meet the demands of row crops, field crops, permanent crops like fruit and nut trees, berry bushes and green house or nursery use year-round.

Advantages of nitrate over ammonium-containing fertilizers

Nitrates are the preferred nitrogen source

- Non-volatile: unlike ammonium, nitrate is non-volatile, so there is no need to incorporate it in the soil when applied by top- or side dressing, which makes it a convenient source for application.
- Mobile in the soil - direct uptake by the plant, highest efficiency.
- Nitrates synergistically promote the uptake of cations, such as K, Ca and Mg, while ammonium competes for the uptake with these cations.

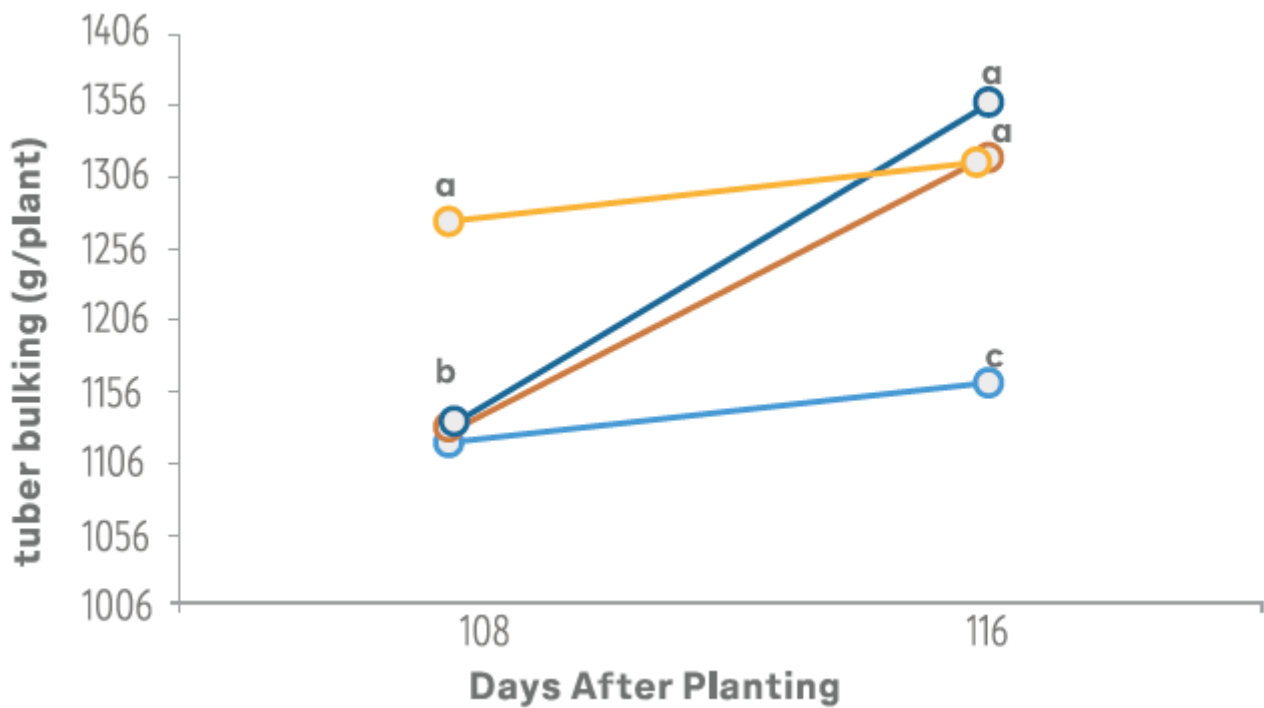
- No acidification of the soil if all the nitrogen is applied as nitrate-nitrogen



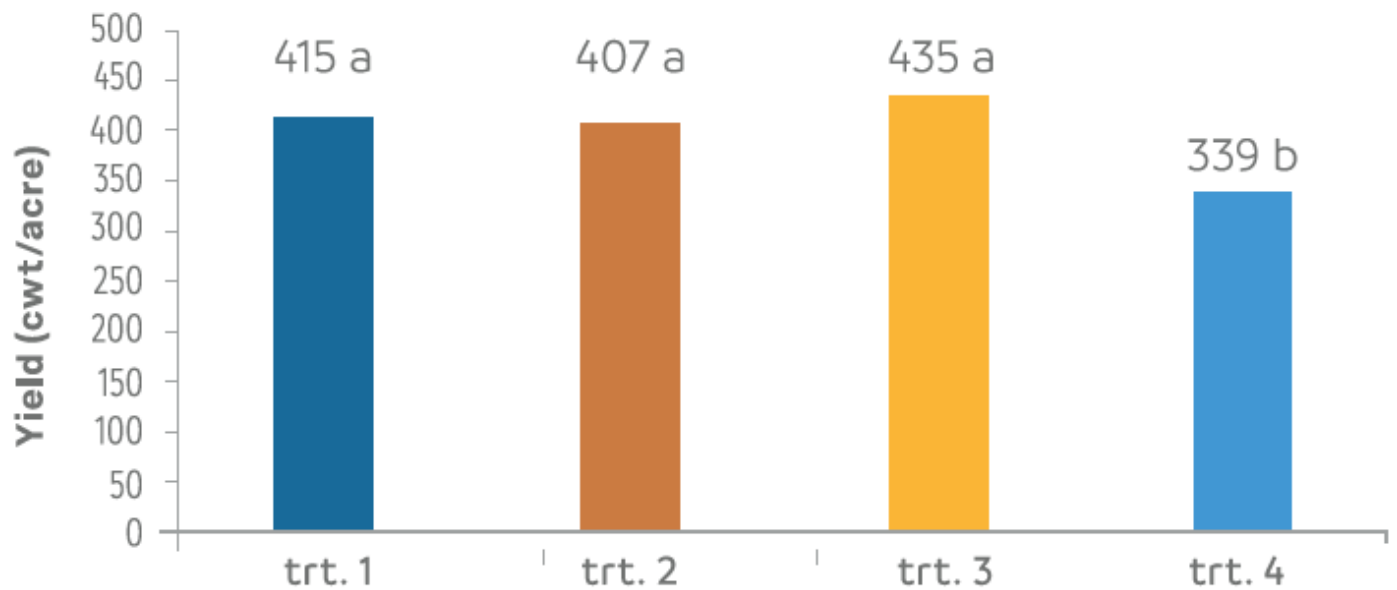
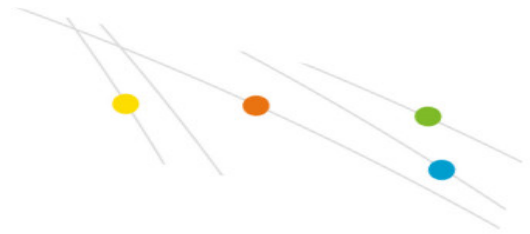
energy, which makes it an energy-efficient process.

The below data from a research trial in cooperation with Colorado State University shows the versatility in application methods of potassium nitrate, as well as its positive effect on yield and quality.

Effect of potassium nitrate fertilizer application on tuber bulking of Canela Russet potato.



Effect of potassium nitrate fertilizer application on tuber yield of Canela Russet potato.



Treatments

- 1** Pre-plant[•] dry blend SOP & Qrop[®] KS + side dress dry Qrop[®] KS
- 2** SOP pre-plant + side dress *Ultrasol[®] K Plus solution
- 3** SOP pre-plant + 1 dry Qrop[®] KS side dress & 2 *Ultrasol[®] K Plus solution fertigation treatments
- 4** SOP - grower standard, all pre-plant single application

[•]Dry blend SOP & Qrop[®] KS was 70/30 blend *Ultrasol[®] K Plus solution equal to 3-0-10

Treatments 1,2 & 3 side dress was applied 3 times 1/3 @ 3 to 4" emergence, 1/3 @ tuber initiation & 1/3 @ row closure.

Values bearing different letters are significantly different at 90% confidence level.



**All treatments received equal amounts of all nutrients.*

Source:

https://spudman.com/article/side-dressing-potatoes-with-potassium-nitrate-fertilizer-improve-tuber-performance/oly_enc_id=0139j3793801F9U