



# Technical Information Sheet

## CR K-SUL in Vegetable Crops

### CR K-SUL (0-0-21-11)

CR K-SUL is a liquid potassium formulation designed for fertigation that delivers higher nutrient efficiency than conventional mineral fertilizers such as potassium sulphate. CR K-SUL uses multiple control release technologies to increase nutrient availability & utilization to the crop while also reducing leaching losses & tie up. Global figures on fertilizer efficiency indicate that potassium utilization is typically in the range of 30-50% for most crops. This means that at least half of the applied K is not being recovered through crop production, so there is potential for significant improvements to be made in fertilizer efficiency.

Potassium has high mobility, particularly in lighter soils or those low in organic carbon. Therefore leaching losses can be substantial (eg. >25%). The polymers in CR K-SUL bind to soil colloids and significantly reduce leaching from the root zone. This means that lower rates of potassium can be applied to the soil without reducing fruit yield or quality. These polymers also enhance the availability of conventional fertilizers when used in combination with CR K-SUL.

CR K-SUL also contains an organic complex to further enhance efficiency and uptake of potassium. Significant amounts of potassium can be 'fixed' or trapped in clay mineral layers & crystal lattices. The organic complex helps keep potassium in a soluble or exchangeable form that can be readily utilized by the roots.

The organic complex is also a readymade food source for soil micro-organisms that drive much of the nutrient release cycles in the soil. So applying CR K-SUL actually helps to release locked up nutrients such as calcium, phosphorous and trace elements through increased microbial activity.

Optimal nutrient balance in the soil is an important factor for determining crop quality. The base cations (Ca, K, Mg, Na) all interact with each other & need to be considered together, not just individually. Potassium is a particularly aggressive cation and it is well known that high K levels reduce magnesium and calcium uptake. Conventional K fertilizers tend to flood the root zone with high levels of soluble potassium that cause a short term cation imbalance. In vegetable crops, calcium and magnesium are critical for quality, colour and shelf-life and the crop requires a continuous supply of these essential nutrients from planting to harvest. This is where CR K-SUL has a major advantage due to its higher efficiency as less potassium in a more available form can be applied to maintain an optimal nutrient balance for improved crop production.

### Application

A major advantage of CR K-SUL is the easy to use liquid formulation. Potassium sulphate can be a nightmare to dissolve, especially over the winter months, so significant time & hassle can be eliminated with CR K-SUL. If required CR K-SUL can also be applied effectively through sprinklers & has a good level of foliar uptake as well.

### General Rate:

CR K-SUL @ 10 L/ha every 10-14 days

### Equivalent Rate:

CR K-SUL @ 10 L  $\approx$  25-30 kg potassium sulphate

### Cost

CR K-SUL compares favourably with granular potassium sulphate on a per hectare basis.



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