



## Transpiration flow and early season nutrient support for leafy salads

As salad crops mobilise water and nutrients to aid growth in early season, transpiration, the process where plants absorb water through the roots and then give off water vapour through pores in their leaves, plays a vital role.

Transpiration is the driving force behind nutrient flow and many nutrients rely on this totally for movement up the plant. Transpiration is greatly affected by the weather. Cooler days and nights, poor light levels and wet weather reduce transpiration and therefore nutrient flow. Even hot sunny days affect nutrient flow. High temperatures increase transpiration flow for cooling the plant, however, the plant filters out nutrients to allow more water through.

The most important of nutrient affected by transpiration flow for salad crops is calcium. Calcium is hugely important at this early stage as cell division is taking place across the plant as it builds shoots and leaves. Every cell is built using calcium so any restriction in its flow will have significant effects on the growing crop. It is therefore vitally important during periods of low transpiration to support calcium levels in the plant with foliar calcium.



## Tank Mixing calcium and early season applications

Tank mixing can be difficult early season as growers need to reduce the number of sprays due to adverse conditions and growers often have multiple product tank mixed together with pesticides. This can be difficult especially when calcium is required. The anions of sulphate and phosphate and the use of phosphites in both agrochemical and nutrient forms will create problems if calcium is free to react.

### We recommend

It is for this reason Engage Agro focuses our work in leafy salads with our Bio-Chel Ca Chelated calcium. Its robust chelation allows its use in even the most ambitious tank mixes without fear of reaction and even offers a safening effect in reducing the scorch potential of other products and nutrients.

Bio-Chel Ca liquid is 10 % foliar calcium, the strongest calcium liquid chelate in the world. Its contains no negative anions so leaf acceptance is high plus being fully organic the nutrient has high bio-availability so the calcium is rapidly assimilated into the plants cells.



Consistent supply of calcium is needed by leafy salads as its movement once out of the transpiration flow is localised to plant cells. Calcium cannot be moved around the plant like other nutrients as movement in the phloem transport system is not possible.

In leafy salads, Bio-Chel Ca is seen as an all year round product. It can be used right up to harvest and unlike nitrate based foliar calcium's, Bio-Chel Ca does not drive the calcium to new growth being generated by the companion salt (nitrate) which results in greater distribution of calcium throughout the plant.

#### **Benefits and uses of Bio-Chel Ca Liquid**

- ✓ Bio-Chel Ca liquid is the ideal foliar calcium as it provides a superior calcium source that is bio available, highly efficacious and are safe on crop.
- ✓ The chelation in Bio-Chel Ca keeps the calcium available and working better for longer.
- ✓ Bio-Chel Ca rapidly penetrates and is assimilated by the plant to correct deficiency, reduce calcium disorders and boost crop quality.
- ✓ Bio-Chel Ca liquid has the ability to rapidly bolster epidermal cell wall integrity to reduce pathogen ingress and has proven to be highly effective in the reduction of disease ingress.
- ✓ Bio-Chel Ca is highly cost effective and will tank mix with nearly all pesticides, PGR's and nutrient products even those containing phosphates and sulphates.

*Further information and downloads are available on the following link*

[CLICK HERE for more information on this technology](#)

[www.engageagroeuropa.com/bio-chel](http://www.engageagroeuropa.com/bio-chel)



**Contact  
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