agrichem

# ENHANCE® KCS


**7.0% Calcium, 11.0% Silica, 5.0% Potassium, 1.7% Nitrogen**

**Concentrated calcium, silica and potassium suspension to increase plant tolerance to salinity, improve shelf life and quality of fruit and vegetables and enhance disease and pest resistance**

## Benefits of ENHANCE KCS®

- Moderates plant response to salinity and high levels of sodium chloride in the soil
- Reduces plant water demand in dry soils whilst increasing yield
- Enhances shelf life and quality of fruit and grain through stronger cell structures and enhanced disease resistance
- Increases SAR (Systemic Acquired Resistance) response to pests and diseases
- Neutral pH compared with other silica formulations, increases compatibility
- Controlled release suspension
- Free flowing formulation makes it easy to decant into spray equipment, mixing tanks and irrigation

### THE ROLE OF SILICA

Silica, whilst not commonly thought of as being essential, plays an important role in modifying the physiology of crops to help them better cope with both biotic (Systemic Acquired Resistance response) and abiotic stress such as salinity - whereby the uptake of sodium is reduced. Silica enters plants and accumulates around the epidermis of roots, stems and shoots, thus conferring plant strength and standability. Silica forms a gel and associates with calcium and pectins to stabilise cell walls and increase the plant's ability to handle stress conditions. Silica therefore, also has the ability to improve shelf life and quality of fruit. Silica also enhances disease resistance which will decrease postharvest rotting of fruit and vegetables.

### THE ROLE OF CALCIUM

Calcium is required for the cellulose precursors for cell wall formation. It also stabilises cell membranes and protects them – an important attribute under stress conditions. In fruit crops it is required in high quantities and is important for fruit quality and shelf life. It is also known that when plants are threatened by infection, calcium binds to a protein called calmodulin that prompts plants to manufacture salicylic acid (SA), a close chemical relative of aspirin. SA acts as a signal molecule that kicks off a series of reactions that help defend against external threats (SAR response).

### THE ROLE OF POTASSIUM

Potassium regulates water, electrolytes and turgidity of plant cells. In conjunction with silica, the 2 elements work synergistically controlling water relations and reducing plant water demand and increasing tolerance to drought. Potassium is also vital for cell division, protein and carbohydrate formation, and thus fruit quality. Lack of potassium when the plant is young cannot be compensated for later.



NOTE: The suggested rates of application are designed for typical Australian conditions and such should be used as a guide only. Each farmer's climatic conditions, water quality, soil types, application processes and practices may differ and therefore necessitate corrections to ensure optimum results. Good agricultural practice requires that application be avoided under extreme weather conditions such as temperatures over 280C, high humidity, frost, rain etc. It is recommended that when applying to a crop or area for the first time, or in combination with other chemicals, a small test area should be sprayed and observed prior to the total spray. Where possible, it is recommended that regular leaf (sap) tests are conducted to determine actual plant nutrient availability during each growth cycle. Soil tests at least once per year are essential.

## Product Characteristics

**Specific Gravity: 1.21 Colour: Pale cream suspension**

| Analysis | Australia (w/v%) | International (w/w%) |
|---|---|---|
| Calcium (Ca) | 7.0 | 5.8 |
| Silica (SiO2) | 11.0 | 9.1 |
| Potassium (K) | 5.0 | ($K_2$0) 4.1 |
| Nitrogen (N) | 1.7 | 1.4 |

## Directions for use

**Agitate contents well before dilution. Suitable for application by:**

| Foliar Spray | Fertigation |
|---|---|

| SITUATION | RATE / ha Fertigation | RATE / ha Foliar | Minimum Dilution | COMMENTS |
|---|---|---|---|---|
| AVOCADO | 10 - 15 L | n/a | n/a | Fertigate monthly to enhance shelf life and quality of fruit, disease resistance and decrease sporulation of diseases such as Phytophthora |
| BANANAS | 10 - 15 L | 8 - 10 L | 1:200 | Fertigate weekly from planting to enhance resistance to Fusarium. Otherwise apply monthly for tree health and vigour |
| BROADACRE: Cereals, canola, maize, rice, other | 4 - 5 L | 2 - 3 L | Max practicable | Treat sodium affected areas with 1 – 2 soil applications. Silica treatments can reduce droopy growth and lodging |
| CAPSICUMS, TOMATOES | 8 - 10 L | 5 - 6 L | 1:50 | Fertigate 2 – 3 weekly to increase fruit quality and shelf life. Can also be applied as a foliar to decrease insect and disease infestations |
| CUCURBITS | 8 - 10 L | 5- 6 L | 1:50 | Apply at 4 - 6 leaf stage - repeat application at regular intervals |
| CUT FLOWER PRODUCTION BULB PRODUCTION | 8 -10 L | 6 - 8 L | 1:50 | Apply at emergence or transplant. Drench bulb at planting Repeat 2 weeks after emergence. Continue if weak stem symptoms are evident. Can be applied as foliar to enhance resistance to diseases and pests such as thrips |
| FRUIT TREES | 10 – 15 L | 5 – 8 L | 1 : 50 | Fertigate every 3 – 4 weeks to enhance fruit, shelf life and disease resistance and decrease sporulation of diseases such as Phytophthora. Can be applied as foliar to increase resistance to diseases and pests such as thrips |
| ONIONS | 6 - 8 L | 6 - 8 L | 1:50 | Apply from bulbing onwards to enhance quality and increase resistance to diseases and pests such as thrips. May also be applied to decrease soil salt load |
| POTATOES | 8 - 10 L | 6 - 8 L | 1:50 | Apply at hilling. Can also be applied regularly to decrease soil salt load and increase plant tolerance to salt |
| STRAWBERRIES | 6 - 8 L | n/a | 1:75 | Apply every 2 weeks to enhance fruit quality and shelf life once runners have rooted |
| SUGAR CANE | 15 - 20 L | 8 - 12 L | 1:50 | Apply at planting. Repeat as required |
| TURF | 6 - 8 L | 6 - 8 L | 1:50 | Apply as needed for turf hardiness and disease resistance |
| VEGETABLES Foliar | 5 -10 L | 5 - 8 L | 1:50 | Fertigate every 2 – 3 weeks enhance shelf life and improve fruit quality Apply as required as foliar to enhance disease and pest resistance |
| VINES Table and wine grapes | 10 - 15 L | 6 - 10 L or 0.6 – 2L/100L | 1:50 | Apply as fertigated from 30cm growth to veraison to increase fruit quality and shelf life. Strenghthening fruit skins will also decrease susceptibility to diseases such as Botrytis. Can also be applied as foliar to enhance pest and disease resistance |

MINIMUM DILUTION: A dilution of 1 : 100 means 1 part product : 100 parts water.
In hot weather, use higher dilution rates

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HEAD OFFICE: 2–4 Chetwynd Street, Loganholme Qld 4129, Australia
Ph: 61 7 3801 9000 • Fax: 61 7 3209 9687 • Free call: 1800 65 47 58
Email: enquiries@agrichem.com.au • Web: www.agrichem.com.au

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