



Aqualatus Ca®

Contains 18.5% Calcium (CaO) and 30% surfactants and hydrating polymers.

A liquid technology specifically designed to meet the needs of Coir growing media during the hydration process and to manage water and nutrient balancing in substrate grown crops during the season.

Aqualatus Ca contains a unique blend of hydrating surfactants, polymers and calcium which will optimise the hydration process of coir to increase water penetration, coir expansion and salt leaching.

The unique blend of surfactant and polymers allows water to penetrate and expand coir slabs at up to eight times the normal speed to accelerate the salt leaching process.

The polymers and calcium in Aqualatus Ca initiate and rapidly accelerate the leaching of high sodium and potassium levels naturally present in new coir slabs.

Aqualatus Ca can be used to hydrate and rehydrate coir, coco peats, peat, peat/bark and all other growing substrates.

Aqualatus Ca will also create equilibrium in growing media to aid moisture and nutrient distribution throughout the season.

CROPS

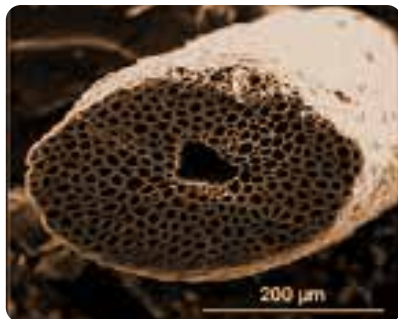
All substrate grown crops including:

-  Strawberries
-  Raspberries
-  Blueberries
-  Tomatoes
-  Cucumbers
-  Peppers
-  Ornamentals

* Known as *Integrate Ca™* in the rest of Europe.

Hydration of Coir

Coir has become the growing media of choice for the European berry and salad fruit sectors due to its longevity in use, its ability to hold structure and environmental credentials, (excluding freight). It is however difficult to hydrate due to the drying and compression processes employed during the production of the raw material.



Microscopic view of coir fibre

Coir or cocopeat is a fibrous growing media made of coconut husks. Comprising a mixture of hollow tubes and finer particles, once compressed into planks, slabs or blocks the moisture level is generally below 11%. The drying process is necessary to remove weight for transport but as the coir is not completely hydrophobic this does result in a slow re-hydration process as the tubes slowly refill with moisture.

Rehydration using plain water is a process conducted over several days or weeks as much of the applied water is lost, moving around the coir rather than penetrating it.

To increase hydration speed, penetrant wetters which reduce surface tension will help, however, to optimise expansion, more sophisticated technologies are required.

Aqualatus Ca combines selected penetrants along with a unique blend of polymers to rapidly penetrate and expand the hollow coir fibres to allow greater water absorption to optimise the structure of the coir as it opens up. Expansion under the influence of Aqualatus Ca will be instant as the polymers allow the moisture to pass through fibre walls to fill the hollow tubes.

The process is then reduced to a matter of hours and not days or weeks which is so important to early crop production.

Salt Leaching and Coir

Another important process of coir slab hydration is the removal of high, naturally present cations in the fibres of the coir. Coir is naturally high in potassium and due to the locations where the crop is grown also contains high levels of sodium along with chloride.

Quality coir producers reduce this as much as possible using fresh water to soak the coir before the drying process yet, due to the nature of the fibres much of the salt is retained and needs to be leached. Coir retains cations on what are known as exchange sites and are weak bonds where nutrients are held by the coir fibres.

As the bonds are weak, using organic compounds and other cations such as calcium and magnesium they can be exchanged for the potassium and sodium allowing these nutrients to be slowly reduced.



Early calcium deficiency in strawberry

Continues over

Normally cation exchange is started during the hydration process and the use of Aqualatus Ca will help initiate and support the exchange of nutrients so it will be achieved at a higher level allowing most of the exchange sites to be loaded before planting.

The process is important to the success of the growing media as the sites need to be loaded before nutrients can be available for uptake by plants. Many times growers will have planted before nutrient leaching, exchange and loading is complete and this leads to a loss in available nutrient during the early growth stages and can lead to deficiency even though adequate levels are being applied.

In season use for all growing media

Aqualatus Ca is ideal for use on a monthly basis for Coir substrate and all other growing media such as peat/coir, peat/bark and peat free substrates. Regular use will ensure optimal uniformity of moisture and nutrients across the rootzone, prevent dry spots and dry back especially in peat substrates and will optimise the use of other rootzone applied technologies such as nematodes and mycorrhiza.

Regular use will aid nutrient movement through the rootzone and will support drainage. It is also frequently used in fruit production to maintain a stable conductivity level around plant roots. This support will also reduce the accumulation of adverse ions such as sodium, chloride and sulphate.

Aqualatus Ca technology

Aqualatus Ca is a sophisticated blend of polymers, surfactants and calcium which work together to aid penetration, distribution and retention of water and nutrients. It comes from the Integrate/Aqualatus stable of technologies and contains a unique 'micelle' technology which encapsulates substrate particles with millions of microscopic structures which create a balance of air and water at root level to aid uniformity of conductivity and prevents over watering yet still supports greater retention of water under warmer conditions.



Rates of Use

GROWING MEDIA	TIMING	RATE OF USE
Coir Slabs	Single application during wet up	Apply 3.0L per Hectare of production in the wet up solution with 4-10,000 litres of water. Can be applied within calcium nitrate solution if required Aqualatus Ca will accelerate hydration and solution retention, resulting in less water requirement for wet up, so the number of irrigation cycles will be reduced.
Coir Slabs	Monthly Application	Apply 2.0-2.5L per Hectare of production in the wet up solution with 4-10,000 litres of water. Can be applied within calcium nitrate solution if required Aqualatus Ca will accelerate hydration and solution retention, resulting in less water requirement for wet up, so the number of irrigation cycles will be reduced. For subsequent applications on a monthly basis, use 1.5 litres per Ha every 4 weeks.
Peat & Peat/Coir Growbags and Compost	Monthly Application	Apply 2.0-2.5L per Hectare of production in the wet up solution with 4-10,000 litres of water. Can be applied within calcium nitrate solution if required Aqualatus Ca will accelerate hydration and result in less water requirement for wet up, so the number of irrigation cycles will be reduced. For subsequent applications on a monthly use 1.5 litres per Ha every 4 weeks.
Peat/Bark Compost and Peat Free Compost	Monthly Application	Apply 2.0-2.5L per Hectare of production in the wet up solution with 4-10,000 litres of water. For subsequent monthly applications use 1.5 litres per Ha every 4 weeks to prevent dry back and to optimise nutrient distribution.

We recommend the addition of Engage's 'Cypher' technology with Aqualatus Ca for the 'wet up' of coir slabs as this will accelerate the bedonding and removal of sodium chloride and potassium salts. Aqualatus Ca will ensure optimal distribution for maximum efficacy.

Aqualatus Ca is compatible with commercially available chemicals and other nutrients. As Aqualatus Ca contains calcium, it is good practice to perform small scale tests whenever new products or mixtures are used. **Do not** mix with concentrated stock tank mixtures that contain phosphates or sulphates.

For more information on rates or uses, contact Engage advisors.

Unit 5 | Town Lane Industrial Estate | Town Lane Charnock Richard | Chorley | PR7 5XG

t: + 44 (0) 1257 226590 e: info@engagecropsolutions.com
engagecropsolutions.com