

Aqualatus[®] Ca

Saving water, accelerating hydration/expansion of coir and buffering out unwanted salts

As the world moves away from unsustainable and greenhouse gas protecting growing media, the search for sustainable alternatives, produces new challenges. Aqualatus Ca developed by Engage Crop Solutions is meeting those challenges.



90% less

Aqualatus Ca is proven to cut water during the rehydration of coir slabs and blocks due to the speed of hydration.



15-20%

Aqualatus Ca will significantly expand coir fibres far more than water and fertiliser alone due to the unique balance of air and water it creates. This has been consistently tested at up to 20% in coir blocks.



8-10x Faster

Aqualatus Ca accelerates the buffering process for coir so growers can plant crops in a far shorter time. This delivers greater flexibility in planting and removes the need to hydrate weeks in advance.

The challenges Coir presents

When using coir in predetermined slabs or from compost made using compressed blocks, coir presents three main challenges:

1 Re-wetting after transport

There is a common misconception that coir is a hydrophobic medium when it is not. It is however difficult to rehydrate due to the drying and compression processes employed during the production of the raw material.

Coir is a fibrous growing media made of a mixture of hollow tubes and finer particles and once compressed in to planks, slabs or blocks the moisture level is generally down to less than 11%. The drying process, so necessary to remove weight for transport, results in a slower rehydration process as the tubes refill with moisture. Traditionally this has been a process taking days or even weeks to achieve.

2 Removal of high levels of salts

An important process of coir slab/block hydration is the removal of high, naturally present salts in the fibres of the coir. Coir is high in potassium and due to the locations where the crop is grown also contains higher levels of sodium and chloride.

Quality coir producers reduce this as much as possible using fresh water to soak the coir before the drying process rather than brackish water yet, due to the nature of the fibres much of the salt is retained and needs to be buffered out. This again has been known to be a slow but necessary process.

3 pH Management

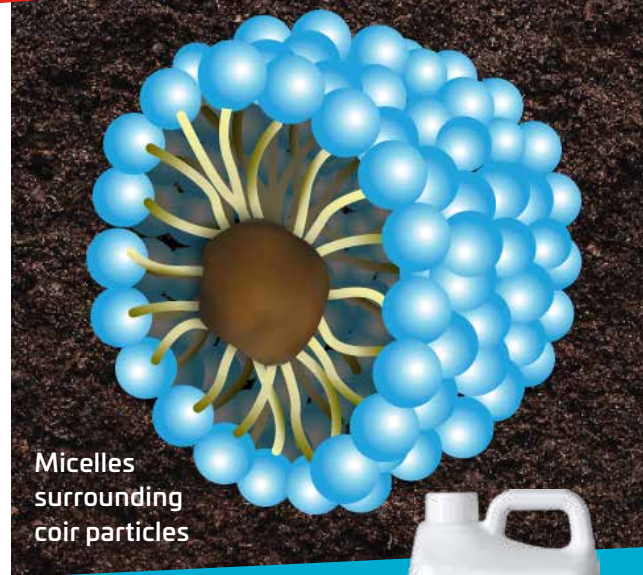
Coir is naturally high in pH at approximately 7.0 however high yielding crops perform better at pH's of 5.5-6.5.

This requires the pH to be lowered before use which is not easy at there is a natural drive for pH to go up due to the interactions of CO₂ and O₂ levels present in the material itself.

How does Aqualatus Ca overcome coir issues?

Aqualatus Ca is made using a blend of polymers specifically designed to accelerate water penetration and to expand the fibres in coir to allow more water and nutrients to fill their hollow tubes.

Within the polymers are billions of microscopic structures called micelles. The micelle tails adhere to coir particles and surround each particle to hold a droplet of water around it a tiny pocket of air inside. It is this process which rapidly expands the coir fibres. The micelles quickly join together to create a web of polymer through the coir to speed up total hydration and expansion.



The addition of calcium

Aqualatus Ca is formulated with 18.5% calcium preloaded into the polymer micelles which rapidly catalyses the buffering process allowing much faster removal of the salts present in coir.

Within coir growing media there are exchange sites where nutrient cations are bonded to the fibres. The majority of coir slabs exchange sites are tied up with sodium and potassium. These ions are not strongly bonded to the coir and will be readily displaced by natural charge of the calcium molecules which is stronger.

Aqualatus Ca use throughout the season

Although Aqualatus Ca was created specifically for the hydration and buffering processes, Engage also recommend its use as a regular 4- 6 weekly application throughout the growing season.

In this lower application use, Aqualatus Ca is proven to support optimal water to air balance in the coir fibres and uniformity of electro conductivity across the growing rootzone. It also allows for more balanced moisture retention in coir slabs and blocks through warmer temperatures and has shown great results in ameliorating the potential for adverse ion build up.



To discuss how Aqualatus Ca can benefit your business, email Mark or Mike on info@engagecropsolutions.com or call +44 (0) 1257 226590