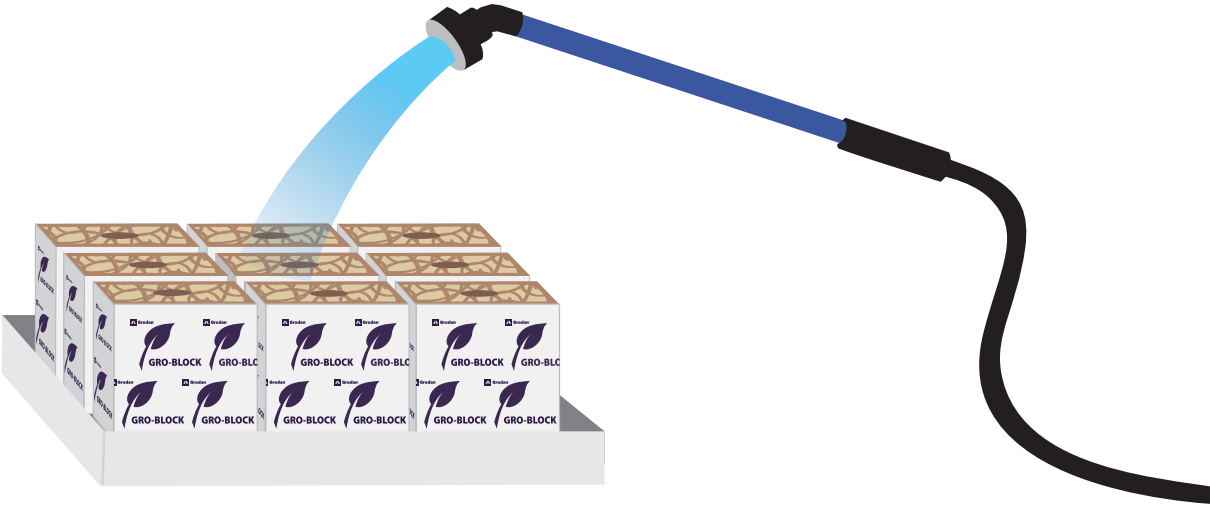
Transplanting

Transplanting from a small block to a slab or large block is an important step in plant development allowing for further root growth and stability for larger fruiting and flowering crops. Extra care needs to be taken throughout this process to prevent plant shock, delayed growth, and poor root development. Transplanting from a smaller volume of growing media into a larger one provides better irrigation control and allows the plant to develop the root system required to support flowering and fruit development.

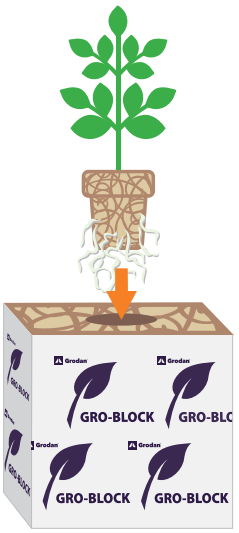


Preparation

The initial conditioning of slabs and larger blocks sets the stage for proper rooting-in. First, the EC of the conditioning nutrient solution should be equal to or slightly less than what the plant is currently receiving. Using the same EC or slightly lower EC will make it easier for the roots to grow into the new substrate. Ideally, the plant should already be irrigated with a nutrient solution of 1.5-2.5 EC and pH of 5.5-6.0 prior to transplanting. Slabs can be conditioned using a drip irrigation system by filling the bags with the proper nutrient solution until they are full. Once the slabs are fully saturated drain holes should be cut at the lowest point of the slab. The placement of the drain holes is important as it allows for consistent water content and EC throughout the slabs. Large blocks will need to be conditioned using a watering wand or boom, by making several low-speed passes over the top of the blocks with a course spray until full saturation is achieved. Block weights (or water contents) can be checked to make sure they are all consistent. Blocks can also be conditioned using a flood table or can be immersed in solution until they sink then they are ready for transplanting.

Transitioning to Transplanting

Plants always need to be transitioned to new environments carefully to avoid transplant shock that will delay growth, hurt final product yield, and reduce quality. Environmental conditions such as temperature, humidity, and light intensity should be maintained as close as possible to what the plant had already been acclimated to. At the time of transplanting, the water content (WC) of the block that is being transplanted should be around 65% to 75%. Once the transplant is placed on the slab or larger block with the dripper applied a single irrigation equal to 3% of the total substrate volume should be delivered to even out the WC and EC.



WC 65% - 75%

Irrigation Strategy

Irrigation strategy plays an important role in how the plant develops during the transplant phase. By utilizing the Grodan GroSens to accurately measure root zone WC, EC, and temperature you can determine the optimal irrigation strategy for your crop and environment.

After the initial transplant, the GroSens Sensor should be placed in the top block that the plant is in. Irrigations of 50mL to 150mL should be applied every 2 to 4 hours for the first 24 hours after transplant to maintain block WC between 50-75% in the top block. The irrigation volume should allow enough water to drain into the bottom substrate, telling the roots where to grow, and the rest time in between allows for dry backs so the top block does not become oversaturated. 24 hours after the initial transplant night irrigations should be eliminated and the GroSens Sensor should be moved to the bottom slab or block. WC should be monitored and maintained at 50-75% during daylight hours and irrigation volumes should be 1% to 3% of the total substrate volume. One week after the initial transplant the plant should be well rooted into the new substrate and the desired irrigation strategy can be implemented for vegetative or generative growth.

For more information on Grodan products and using them for optimal crop quality and yield, check out www.grodan101.com

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