



OptiCropTM

A CLEARVUE COMPANY

INNOVATING THE CLIMATE CONTROL LANDSCAPE

Root Zone Temperature
Optimization Technology
for Tomatoes



Opticrop Pty Ltd

A LEADER IN SUSTAINABLE AGRICULTURAL TECHNOLOGIES



Headquartered in Australia, OptiCrop is a wholly owned subsidiary of ClearVue Technologies Ltd (ASX: CPV), dedicated to integrating groundbreaking agricultural solutions with next-generation solar greenhouse technology.

OptiCrop is at the forefront of sustainable agricultural innovation, leveraging advanced technologies to optimize plant growth, improve water efficiency, and enhance crop resilience in challenging environments.

Root Zone Temperature Optimization (RZTO): by heating or cooling roots, farmers can significantly increase crop yields in an economical way.

Irrigation By Condensation (IBC) allows growing crops in arid areas, off the grid and without additional irrigation.

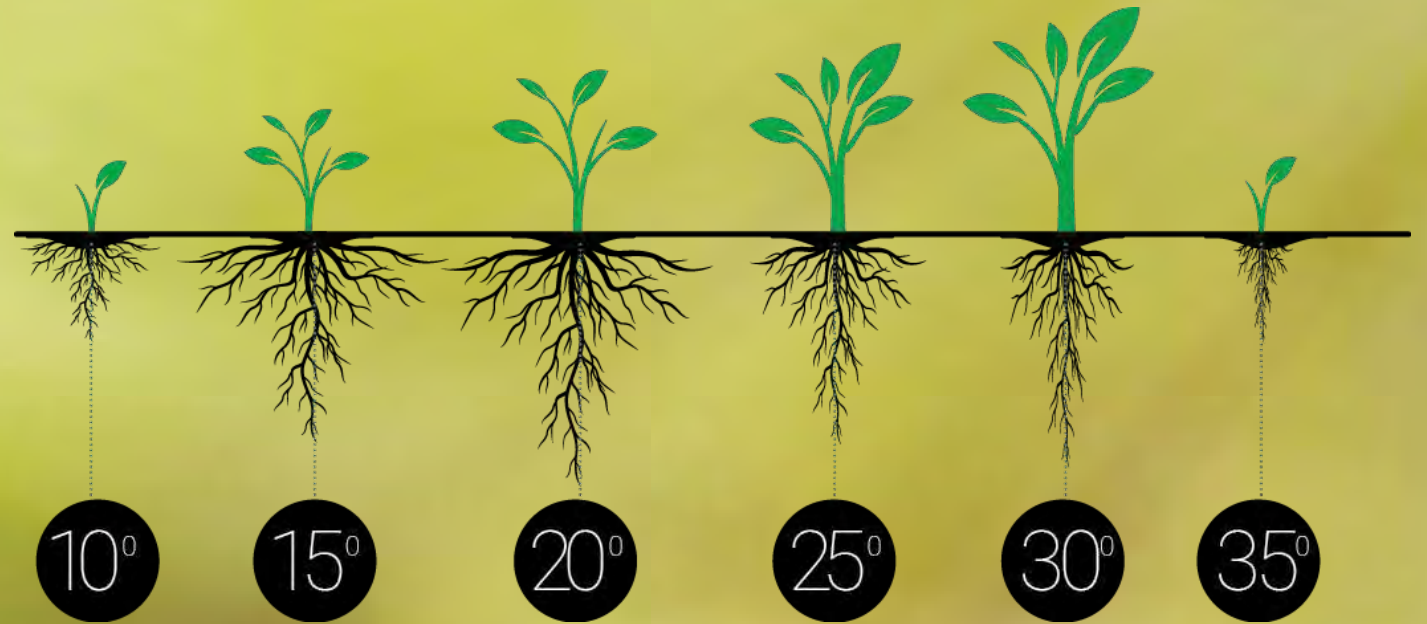
OptiCrop ag tech helps increase yield, save energy and water, and shorten growing cycles. We have the range of products to achieve food security and improve food production in various climatic zones.



Root Temperatures

Root temperature is the most influential factor in plant physiology for growth, productivity, and quality.

An optimum temperature range is essential to productivity, health, and output quality.





Root-Zone Temperature Optimisation Technology for Tomatoes: Summary



Yield increase

Additional growth cycles

Energy efficient

Mean weight increase

Greater resistance to diseases

Suitable for any substrate

Applicable for indoors,
greenhouses, hoop

House and outdoors

Remote control PC
and mobile viewing

Heating and cooling of roots
in one closed cycle sytem





RESULTS

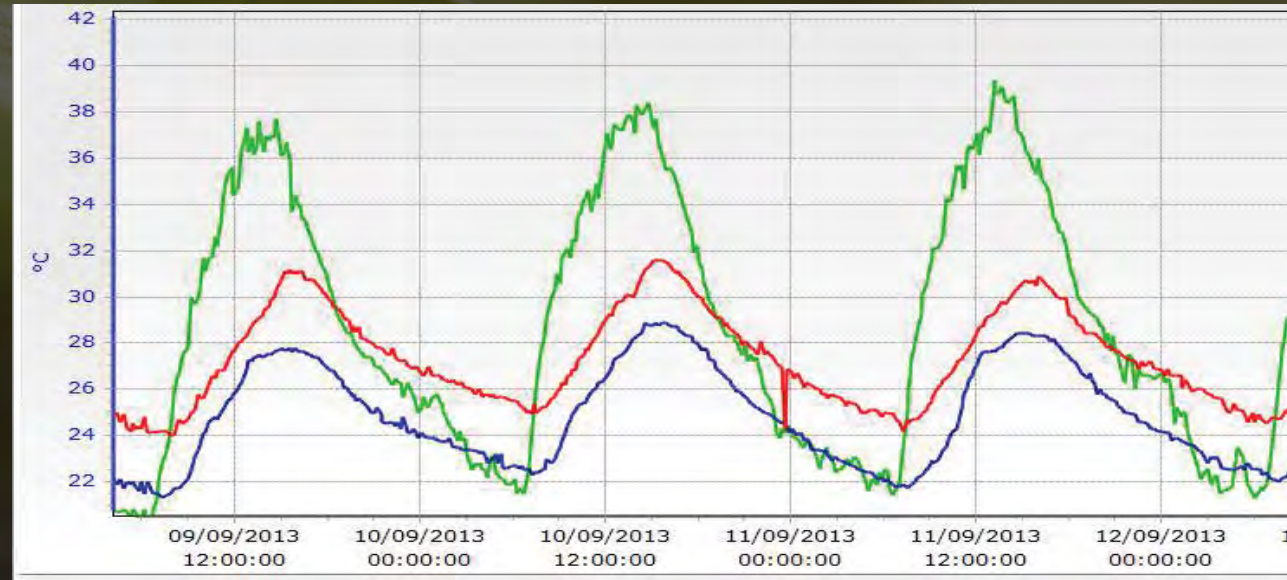
Jordan Valley, Israel



UP TO
3°C



difference between
cooled roots and
uncooled roots



UNCOOLED ROOTS
TEMPERATURE



COOLED ROOTS
TEMPERATURE

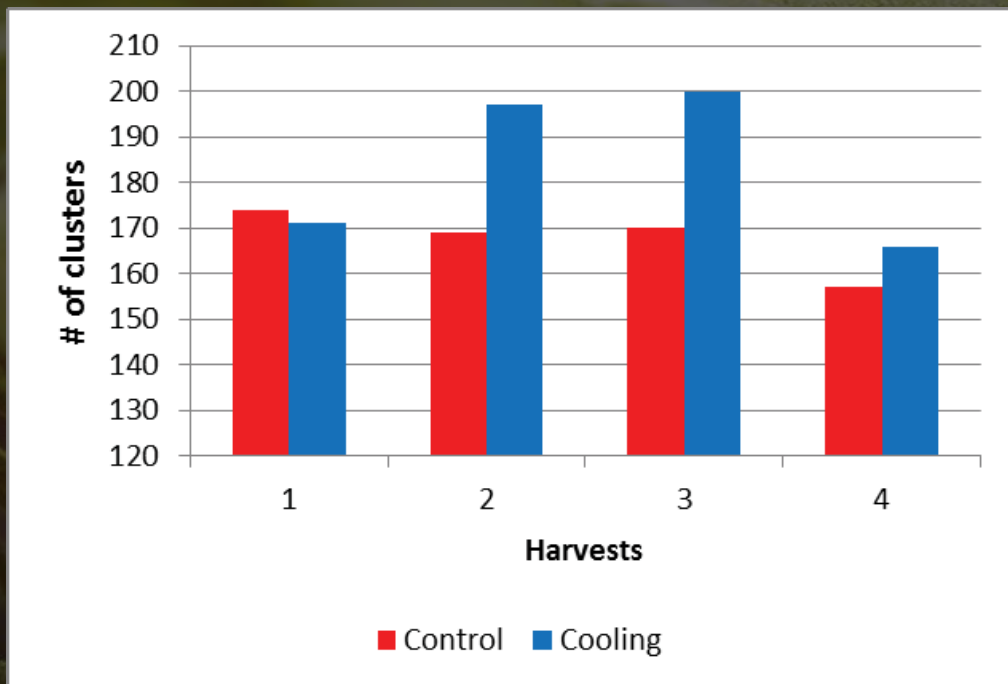


AMBIENT
TEMPERATURE

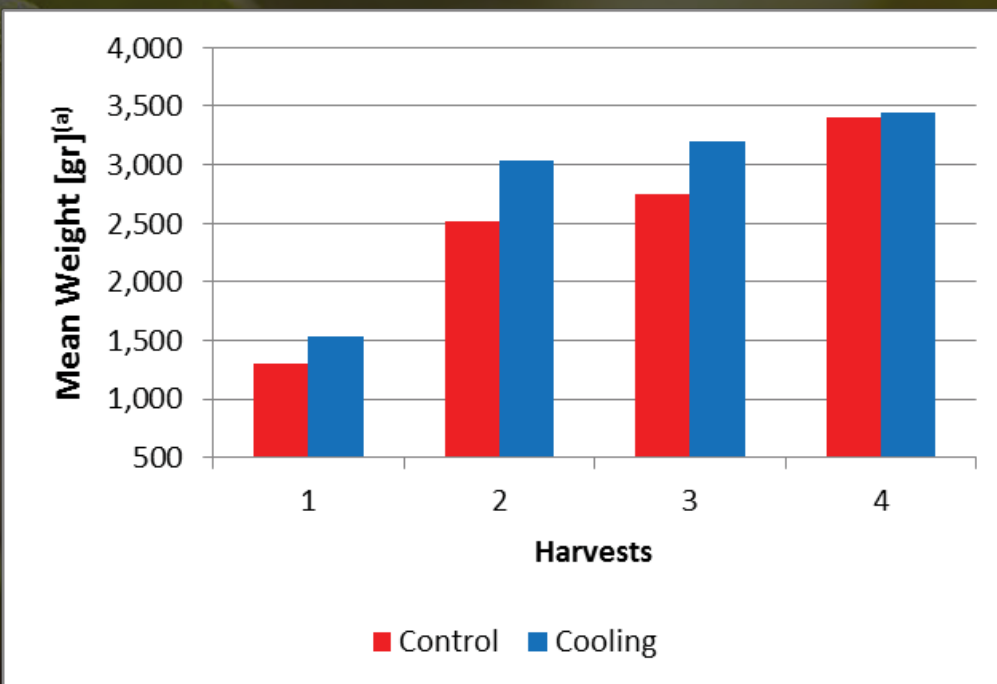


Cooling cherry tomatoes summer planting

Difference in weight and number of tomato clusters on first 4 harvests (until first rain)



NUMBER OF FRUITS



MEAN WEIGHT



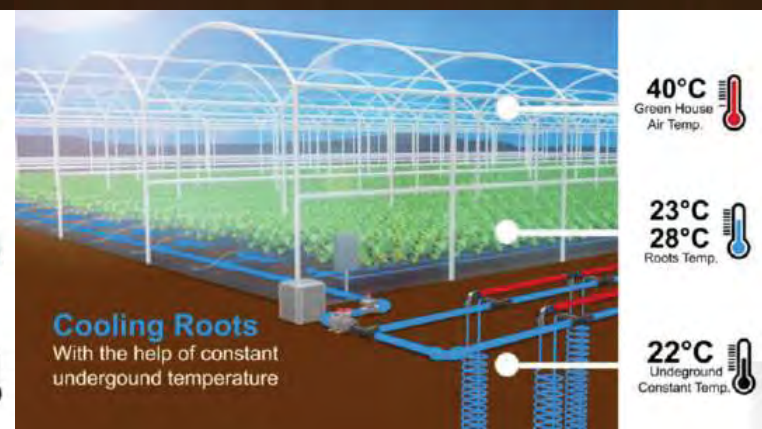
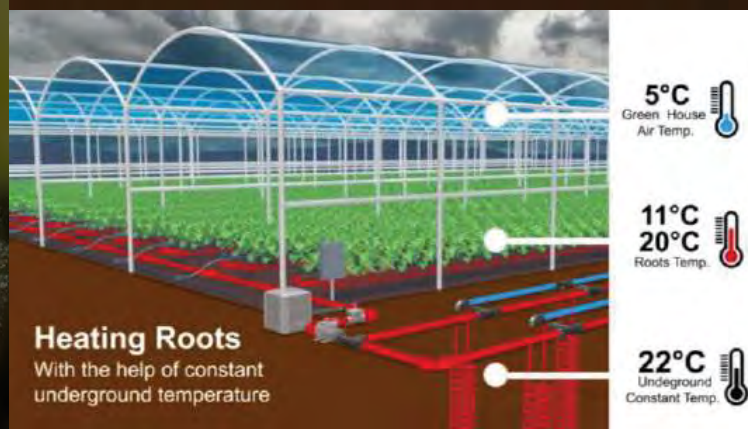
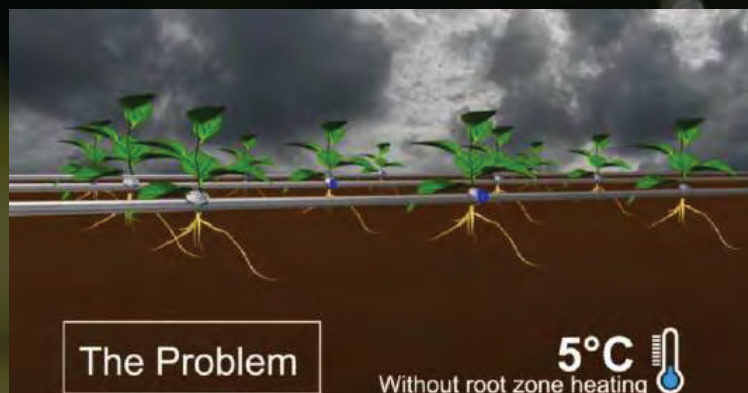
Innovating the climate control landscape



OptiCrop's proprietary technology cools and heats root zone in one system to maintain an optimum temperature range year-round



CLICK HERE TO VIEW
TECHNOLOGY VIDEO





Suitable for any substrate

OptiCrop's proprietary stub enables producers to stabilise pot and grow bag soil temperatures year-round, increases pot maneuverability as well as significantly reduce costs associated with RZTO installation.

Heat exchange stub for various substrates – saves on entering the pots or grow bags from the side and allows free movement of the pots and substrates just by lifting the stub.





How does it work?



CONFIGURATION A:

Heat pump

We install efficient heat pumps for root zone heating and cooling, remotely controlled operated either with electricity or gas.

CONFIGURATION B:

Ground source heat exchange (also called Geothermal)

Inserted coils pipe in soil at 10 meters for heat exchange between water in the coils and soil at depth. Stable water temperature of water emerges from the underground exchange discharged near roots in any substrate. The only energy used to cool or heat by up to 10 degrees vs. control is a circulation pump.

CONFIGURATION C:

Hybrid – Inserted Geothermal coils + heat pump

For more accurate and influential results under more extreme weather conditions. Slightly more energy use compared with the basic configuration.

All three configurations come with a stable monitoring and control equipment available for viewing in app on mobile phone and PC.

THANK YOU

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