ASX and MEDIA RELEASE

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Root Zone Temperature Optimization (RZTO) heating technology increases total yield of Okra by 78% under extreme cold weather conditions

- **First POC of RZTO technology on vegetables from the diverse Malvaceae botanical family[1]**
- **Global Okra seed market growing at CAGR of 9.8% and valued at ~US$352m by 2023[2]**

Roots Sustainable Agricultural Technologies Limited (ASX: ROO, Roots, or Company) is pleased to report another successful proof of concept (POC) study conducted in Southern Israel with the Root Zone Temperature Optimisation (RZTO) heating technology successfully increasing the yield of Okra plants by 78% under extreme cold weather.

The POC was conducted over a four month period with the technology activated only during the winter months to heat the roots zone of the Okra. The system was able to maintain a stable root temperature of 22C despite air temperature fluctuating between 25^{C} during the day and 8^{C} during the night *(see graph below).* The farmer's Okra growing protocol is based on two annual harvesting cycles.

This POC is another key milestone for Roots as it further illustrates the broad adaptability of the RZTO technology with a wider array of plant groups. Okra forms part of the Malvaceae family which contains ~243 genera and at least 4,225 different species of herbs, shrubs, and trees.

Okra itself represents a large market opportunity with its seed market growing at a compound annual growth rate (CAGR) of 9.8% and expected to be valued at ~US$352m by 2023.

Comment

CEO and Chairman Boaz Wachtel added: "This successful POC potentially opens up another large market for Roots. Okra is part of the Malvaceae plant group with over 4,225 species so we will be looking to conduct POCs on other plants within this group.

“We are now carefully assessing the key regions where Okra is cultivated and will be actively targeting key growers and sharing these exciting POC results. The scope for the RZTO technology across plant groups and different geographies is only just being realised.”

Further information on Okra is referenced below.

[1] https://www.britannica.com/plant/Malvaceae

[2] https://www.globenewswire.com/news-release/2019/07/25/1887743/0/en/Okra-Seeds-Market-Size-to-Reach-USD-352-7-Million-by-2023-at-9-8-CAGR-Predicts-Market-Research-Future.html

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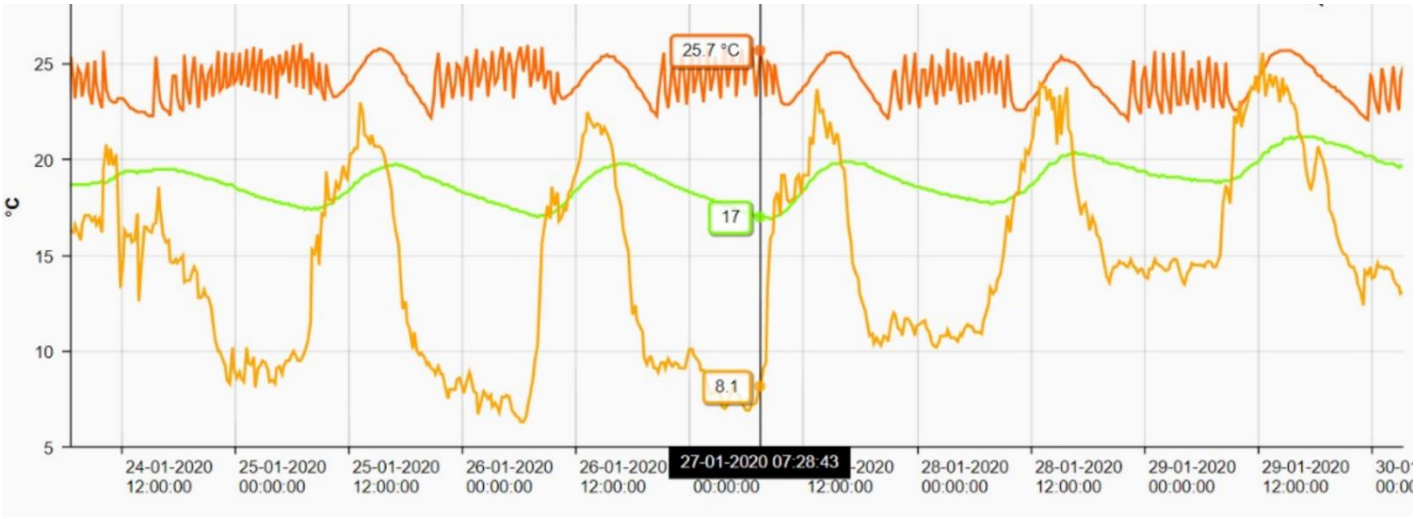
Root zone temperature comparison during winter



Ambient temperature **Heated root zone temperature** **Un-heated root zone temperature**

"Abelmoschus esculentus (Okra) is cultivated throughout the tropical and warm temperate regions of the world for its fibrous fruits or pods containing round, white seeds. It is among the most heat- and drought-tolerant vegetable species in the world and will tolerate soils with heavy clay and intermittent moisture, but frost can damage the pods. In cultivation, the seeds are soaked overnight prior to planting to a depth of 1–2 centimetres (0.39–0.79 in). It prefers a soil temperature of at least 20 °C (68 °F) for germination which occurs between six days (soaked seeds) and three weeks."

Okra offers up some little-known health benefits. It contains magnesium, which can help prevent osteoporosis. Okra is a good source of folate, which helps prevent neural tube birth defects. It contains vitamin A, which helps keep eyes healthy. Okra also contains thiamin, which is important for brain function.

The U.S. Food and Drug Administration has approved the following nutrient content descriptors for okra: fat-free, saturated fat-free, very low sodium, cholesterol-free, low in calories, a good source of vitamin A, a good source of folate, a good source of thiamin, and a good source of magnesium.

-ENDS-

About Roots Sustainable Agricultural Technologies Ltd:
Israeli-based, Roots Sustainable Agricultural Technologies Ltd. is developing and commercialising disruptive, modular, cutting-edge technologies to address critical problems faced by agriculture today, including plant climate management and the shortage of water for irrigation. Roots has developed proprietary know-how and patents to optimize crop performance, reduce energy consumption to bring maximum benefit to farmers through their two-in-one root zone heating and cooling technology and off the grid irrigation by condensation technology.
Roots is a graduate company of the Office of the Israeli Chief Scientist Technological Incubator program. More information www.Rootssat.com

About Root Zone Temperature Optimization (RZTO):
Root Zone Temperature Optimization (RZTO) optimises plant physiology for increased growth, productivity and quality by stabilising the plant's root zone temperature. Leveraging the principle of Ground Source Heat Exchange (GSHE), Roots installs a closed-loop system of pipes. The lower part is installed at a depth where soil temperature is stable and not affected by weather extremes, and the upper part in the target crop's root zone just below the soil surface. Water flowing through the lower pipes is charged by the soil's stable temperature. The heated (or cooled) water is pumped through the pipes installed in the root zone, where the heat (or cold) is discharged. This significantly increases yields, increases growing cycle planting options, improves quality, mitigates extreme heat and cold stress while significantly reducing energy consumption by stabilising and optimising the roots zone temperature.

Corporate Enquiries:
EverBlu Capital
E: info@everblucapital.com
P: +61 2 8249 0000

Commercial Order Enquiries:
Adi Moll Teichman
E: adi@rootssat.com
P: +972 54 457 3679

This announcement was authorised to be given to the ASX by the Roots Executive Directors, Mr Boaz Wachtel and Mr Sharon Devir.

Released through: Henry Jordan, Six Degrees Investor Relations, +61 (0) 431 271 538

Forward Looking statements
This announcement contains forward-looking statements with respect to ROOTS and its respective operations, strategy, investments, financial performance and condition. These statements generally can be identified by use of forward-looking words such as "may", "will", "expect", "estimate", "anticipate", "intends", "believe" or "continue" or the negative thereof or similar variations.

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The cautionary statements qualify all forward-looking statements attributable to ROOTS and persons acting on its behalf. Unless otherwise stated, all forward-looking statements speak only as of the date of this announcement and ROOTS has no obligation to up-date such statements, except to the extent required by applicable laws.