

24 March 2022

Roots secures US design patent approval and RZTO sale to Israel's National Agricultural Research Centre

Highlights:

- US design patent approval received from the United States Patent and Trademark Office for Roots' innovative Heat Exchange Probe design patent
- Design approval secures intellectual property protection in the United States for 15 years – ensures extensive market access and exclusivity
- US is a large market opportunity for Roots with approval coinciding with the establishment of the Company's central US logistics hub in Oklahoma
- Regions with successful patent applications includes Australia, China, the EU, Turkey, Israel, the UK, and India – applications in additional countries pending
- Purchase order secured with Israel's prestigious Agriculture Research Organisation's ('ARO') Volcani Institute – three 'super mini' systems for a total value of A\$17,132
- Israel's Agriculture Research Organisation is an all-encompassing agricultural research organisation with global reach
- Technology to be utilised for a study on the effects of varying root zone temperatures on pathogens
- Discussions with additional agricultural specialists and growers progressing

Roots Sustainable Agricultural Technologies Limited (ASX: ROO, "Roots" or "the Company") is pleased to provide the following update on progress made on the global expansion initiatives for the Company's innovative and sustainable agricultural technologies.

US design patent approval

Roots has significantly strengthened its intellectual property portfolio ('IP') after receiving USA design patent approval for the Company's Heat Exchange Probe ('HEP') technology. The approval follows the Notice of Allowance which was received in October of last year (refer ASX announcement: 05 October 2021) and provides roots with IP protection in the United States until 23 November 2036.

The HEP is designed to heat or cool plants substrates in pots, grow bags and soil (*refer images 1 & 2*). The innovative technology is compatible with the Company's Root Zone Temperature Optimization ('RZTO') system, allowing for streamlined, cost-effective installation and energy saving operation. The HEP allows



farmers to reduce air heating and cooling expenditures creating a sustainable solution for the agricultural industry while also increasing crop yield and shortening grow cycles. The design highlights the continual innovation capabilities and significant R&D, and field trials undertaken by Roots to develop and commercialise the revolutionary technology.

The patent approval is the last step in securing IP protection in the United States which is a large market opportunity for the Company. The extensive 15-year coverage period allows Roots to capitalise on the opportunity with exclusive market access in the United States. The patent adds to the growing list of successful applications in several regions including Australia, China, the European Union, Turkey, Israel, the United Kingdom, and India with applications in additional countries pending.

With the patent now successfully approved, Roots will begin to ramp up a targeted business development program to expand its presence in the US, as highlighted by the establishment of the Company's Central US logistics hub in Oklahoma (refer ASX announcement: 15 March 2022).

RZTO sales to Israel's Agriculture Research Organisation

Roots has secured a purchase order with Israel's prestigious Agriculture Research Organisation's ('ARO') Volcani Institute. The agreement is for the sale of three 'super mini' Root Zone Temperature Optimisations systems for a total value of A\$17,132.

Israel's ARO located in Bet-Dagan, near Tel-Aviv, includes six institutes encompassing a full range of agricultural research disciplines including for plant sciences, plant protection, soil, water and environmental science, agricultural engineering, and postharvest and food sciences. The organisation has close and long-standing ties with researchers in Europe and outstanding international relations attracting a large number of groups from abroad including academics, public officials and representatives of private companies.

The RZTO technology being purchased by the ARO is being utilised for a study on the effects of varying root zone temperatures on pathogens. Each system will be housed in separate rooms and control the root zone temperature of plants under three temperature parameters. Roots' RZTO technology was chosen as it's the only solution on market meaning ARO did not proceed with an industry wide tender process as is typically common for the purchase of such technologies.

Management commentary:

Roots Executive Chairman and CEO, Boaz Wachtel said: *"Whilst modest in revenues terms, the sale into the ARO adds to the first revenues for the super mini RTZO system we announced in January and highlights the growing acceptance of our technology. It's encouraging in particular given the reputation of Israel's ARO as a world-renowned agricultural research organisation with widespread global relationships. The acceptance of our product from a number of different agricultural specialists and growers highlights the accurateness of the strategic direction of our global expansion initiatives."*

"The approval of our US design patent application provides us with IP protection into another large market opportunity. Our extensive R&D initiatives have proved the effectiveness and validated our technology so we can now securely sell the HEP into the large and lucrative market. The timing of the approval coincides perfectly with the establishment of our central US logistics hub, which we have begun to leverage and expedite sales opportunities from."



Images 1 & 2: Heat Exchange Probe deployed into pots (left) and grow bags (right) maintaining optimal root zone temperature

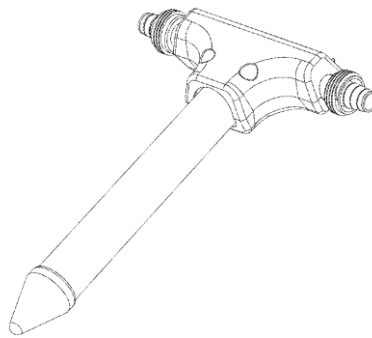


Image 3: Design patent drawing for Roots Heat Exchange Probe

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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 management of plant's root zone temperatures and the shortage of water for irrigation.

Roots has developed proprietary know-how and patents to optimise performance, lower installation costs, and 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. Using Ground source heat exchange (GSHE) installations either alone, or in combination with heat pumps, or with heat pumps alone, ROOTS is able to provide accurate range of root zone temperatures for farmer and the plants to obtain the multiple benefits.

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.

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

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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.

The actual results and performance of ROOTS could differ materially from those expressed or implied by such statements. Such statements are qualified in their entirety by the inherent risks and uncertainties surrounding future expectations. Some important factors that could cause actual results to differ materially from expectations include, among other things, general economic and market factors, competition and government regulation.

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.