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Significant progress made on patents in China and EU for Roots' revolutionary heat exchange stub technology

- Heat exchange stub designed to heat and cool any agriculture substrate especially in pots
- Pan EU design patent protection covers 28 countries (including UK) for 25 years until Nov 2044
- China Patent expected within 60 days and delivers 10-year protection for innovative, functional design
- Combined IP Coverage in EU and China – huge markets opportunity for ROO.
- China Agriculture sector alone is expected to reach US\$4Bn by 2024ⁱ

Roots Sustainable Agricultural Technologies Limited (ASX: ROO, Roots or Company) updates the market on the pan EU registration notice and China allowance notice from the People's Republic of China's Patent Office to register a patent for its unique heat exchange stub for use in any substrate and especially for use in pots. The registration is valid from the date of filing (25 November 2019) for 45 years in the EU and ten years in China and unlocks a significant opportunity for Roots.

The Company recently received the two notices through its intellectual property lawyers and Roots expects to receive the official grant of the design patent in China within the next 60 days following the "allowed" notice. This development comes after the successful registration of a design patent for the product with Australia's Department of Industry, Innovation and Science (refer ASX announcement: 21 January 2020).

The revolutionary heat exchange stub (see image below) is designed to be inserted into the tops of plant's ports and grow bags to significantly simplify working procedures and lower installation costs associated with the Company's Root Zone Temperature Optimisation (RTZO) technology.



Images: Roots' revolutionary heat exchange stub



RTZO technology optimises plant physiology for increased growth, productivity and quality by stabilising the plant's root zone temperature all year round. Besides water, optimal root zone temperature is commonly known to be the most influential parameter in a plant's physiology

The heat exchange stub enables the mobility of pots and grow bags during the growing cycle. Chains of stubs with insulated pipes in-between can be used for row installations. The solution caters well for nurseries and greenhouses and has been successfully tested (refer ASX announcement: 27 September 2019).

The EU and China greenhouse markets represent a significant opportunity for Roots. China's market alone was valued at ~US\$2.4Bn in 2017 and is expected to reach over US\$4Bn by the end of 2024, growing at a CAGR of 7.60% between 2017 and 2024.

Roots Chairman and CEO, Mr. Boaz Wachtel, said: *"Gaining permission from the EU and China's patent offices to register of revolutionary heat exchange product is an additional and critical step in our EU and China market entries and considerably strengthens the Company's IP position. The EU and China have a real appetite for any technologies that help it with food security given their vast populations."*

"The stub will assist producers in stabilising soil temperatures during any season. Further, it simplifies and lowers the cost of our RTZO technology, which can assist growers in increasing crop yields."

"Roots is proactively and aggressively pursuing opportunities for the deployment of its RTZO technology and will update shareholders on more progress in the coming weeks. We have seen a noticeable uptick in interest for our technology lately as more and more countries look at the issue of food security and their desire to increase local cultivation and rely less on imports. As such Roots is in an excellent position to capitalise."

-ENDS-

About Roots Sustainable Agricultural Technologies Ltd:

Israeli-based, Roots Sustainable Agricultural Technologies Ltd. is developing and commercialising disruptive, modular, cutting-edge technologies and products to address critical problems being faced by agriculture today, including plant root zone climate management 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

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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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ⁱ <https://www.marketresearch.com/QYResearch-Group-v3531/China-Greenhouse-Horticulture-Research-Report2018-11506937/>