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**ASX and MEDIA RELEASE**

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## Roots secures first commercial order for its Roots Zone Temperature Optimization (RZTO) technology for hydroponic greenhouse in South Korea

- **First commercial order in South Korea for its advanced Roots Zone Temperature Optimization (RZTO) technology for hydroponic greenhouses**
- **Sale follows signing of non-exclusive reseller agreement with Korean ag-tech distributor Ezfarm in August 2018**
- **NFT greenhouse technology is a collaboration with greenhouse leader Teshuva Agricultural Projects (TAP)**

**Roots Sustainable Agricultural Technologies Limited (ASX: ROO, Roots** or **Company)** has received its first commercial order in South Korea for two Root Zone Temperature Optimization (RZTO) systems, to be used with "TapKit", a NFT technology developed by Teshuva Agricultural Projects (TAP).

The order, valued at AU$22,500 in two installments, comes after Roots signed a non-exclusive distribution agreement in August with leading Korean ag-tech distributor Ezfarm and is expected to be the first of many under contracts the agreement. The project will be built in collaboration with TAP, a leading hydroponic greenhouse builder and technology integrator.

It follows the successful "TapKit" collaborative demonstration project between the two companies in Israel earlier this year where the combined NFT and RZTO technologies cooled the nutrient temperature of hydroponic lettuce during a pilot at a commercial farm. Despite ambient air temperatures in the greenhouse of nearly 40 degrees, the bare plant roots immersed at the nutrient fluid remained within favourable growing ranges more than 11 degrees lower. This increased production quality and shortened the growing cycle by about 20 percent compared to NFT greenhouses where no nutrient temperature control is used.

Dr Sharon Devir, CEO and co-founder said, "The combined NFT and RZTO technologies allows farmers to stabilise nutrient temperatures, increasing yields and profits through more efficient crop growing conditions. It is ideal for farmers in South Korea, who must deal with challenging conditions of cold, dry winters and hot, humid summers. Winters are too cold for normal agricultural growth, even in greenhouses. Summer temperatures during are often so hot that farmers cannot grow high quality leaves or vegetables in most parts of the country."

"Our first order in South Korea is an exciting milestone in a new market for us. While small, we believe it will be the first of many larger orders, as there has been great interest shown by Korean farming groups and the technology is now available locally. The reason is that until now, the only option South Korean farmers had to reduce heat in greenhouses was to use large evaporative cooling systems with several fans. However, they are expensive to buy and operate, use a lot of energy, and increase humidity levels within the greenhouse which increase disease levels on plants."

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"RZTO cooling systems focus on retaining core temperatures at the root zone – not in the ambient air. Cooling the NFT nutrient solution utilises ground source heat exchange, which uses minimal energy."

"We are very pleased with the early success of our commercial partnership with Ezfarm and TAP and hope to expand our footprint in South Korea over the coming months. South Korea is the sixth territory in which we're commercializing our cutting-edge technologies to address critical problems faced by agriculture today, including plant climate management and the shortage of water for irrigation. It represents a significant opportunity for Roots with a rise in specialist greenhouse crops, extreme weather conditions and small family-run farms."

**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 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. 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.

**About Ezfarm**

Ezfarm is one of the leading Ag-Tech providers in Korea with field-oriented solutions that enable farmers, markets, and consumers to utilise technology to combat the changing agricultural environment. It has a speciality area in horticulture and hydroponics technology systems.

In 2014 it was awarded the Minister of the Future Creation Science Award and in 2017 the Korea Leading Company Grand Prize.

More information www.ezfarm.co.kr

**About Teshuva Agricultural Projects Ltd:**

For over 20 years Teshuva Agricultural Projects Ltd. (TAP) has been building and marketing turnkey hydroponic production, intensive vegetable and ornamental production greenhouses and net-houses (protected agriculture) to farmers, research around the world. TAP projects implement advanced, sustainable technologies that maximize yield and return on investment. TAP's two main growing systems are cocopeat growbags and nutrient film technique (NFT).

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