

**2 July 2018**

**Roots enters the ag-tech sector supplying the rapidly growing US cannabis market with RZTO system pilot**

- **Roots enters the Ag Tech sector serving the US cannabis market**
- **First use of RZTO system technology in Cannabis open field**
- **Pilot to be conducted with American Farms Consulting LLC in Washington State**
- **Planting scheduled to occur July 2018**

**Roots Sustainable Agricultural Technologies Limited (ASX: ROO, Roots or Company)** will enter the Ag Tech sector supplying the US\$7 billion US cannabis market, conducting a pilot using Roots' Root Zone Temperature Optimisation ("RZTO") technology with American Farms Consulting LLC ("AFC").

The pilot represents Roots' entry into the Ag-Tech sector supplying equipment to the US cannabis market, which is expected to increase to US\$22 billion by 2021. The pilot will be installed in Trinidad, Washington, a semi-desert climate characterised by high temperature variances between day and night, about 200 kilometres south-east of Seattle.

The pilot will consist of the installation and use of Roots' RZTO technology and associated products by AFC, a licenced breeding platform for cannabis growers for the legal cannabis industry in Washington State. They will cool the roots of cannabis in part of a 30,000 sq. ft. open field license awarded to the farm owner. Assuming the pilot is deemed a success, AFC will then purchase the RZTO system for future use. The pilot is not expected to generate any significant revenue for Roots. Rather, it is intended to demonstrate the viability of the RTZO system for the cannabis market in general which, if successful, will hopefully lead to future products sales for the Company.

Roots CEO, Dr Sharon Devir said, "This pilot is the first time RZTO system technology is being used in a Cannabis open field, a growing cannabis production method with increasing popularity due to lower initial capex and low opex. It should demonstrate how the Roots RZTO technology optimizes the root zone temperatures – in this instance by cooling - until the optimum temperature of the cannabis plant is reached and maintained."

Planting is scheduled for July 2018 where, even in Summer, the temperature difference between hot days and cool nights is high due to the semi-desert topography and elevation of 928 feet (283 m). Results are expected in late September 2019.

"The RZTO system is expected to cool the root system of the cannabis seedlings and stabilise the temperature range between night and day normally occurring at this time of year in the open field. This should lead to three financial advantages for the farmer:

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- First, due to increased growth rates we should see an increase in flower yield compared to control plots.
- Second, quicker growth rates and higher yield quantities could help facilitate growing two crop cycles - instead of just the one, which is common in this area for this type of crop. This leads to the farmer now being able to benefit from higher, premium prices for longer periods for a crop that would normally be out of season.
- Third – we anticipate greater uniformity between the flowers as seen in results obtained from other crop roots' cooling.

Other parameters to be studied are the influence of Root zone cooling on flowers' cannabinoid values and composition.”

Importantly, Roots is only supplying equipment to AFC for root zone cooling and will not be engaging in any conduct that handles the cannabis plant.

-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 being 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](http://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.

The system has three configurations depending on local conditions:

Basic – Ground Source Heat Exchange (GSHE) only with circulation pump

Hybrid – GSHE system supplemented with heat pump

Heat Pump alone – for proof of concept purposes and where digging is problematic.

This significantly increases yields, provides flexibility for off season planting, improves quality, mitigates extreme heat and cold stress while significantly reducing energy consumption by stabilising and optimising the roots zone temperature.



### **About American Farms Consulting**

American Farms Consulting is a full spectrum Cannabis Consulting company with expertise in horticulture, processing, operations and marketing. AFC provides a sound platform for licensed cannabis producers and processors to monetize their assets in Washington's legal recreational program.

The company manages multiple farms, AFC's current operations cover over 100,000 sq. ft. of green canopy. The company's innovative approach to farming and data collection includes the planting of a wide variety of genetic strains of both seeds and clones that are grown in local soil, using drip irrigation and two main techniques: full-term open field; and light-deprivation – all of which results in AFC's ability to maximize value for its clients.

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