

**21 January 2020**

**Design Patent registration received for revolutionary heat exchange stub**

**Patent received from IP Australia – agency of Department of Industry, Innovation and Science**

- **Heat exchange stub designed to efficiently heat and cool any substrate in agriculture – successfully tested on cannabis grow operations and other crops**
- **Stub simplifies greenhouse work and lowers costs of Root Zone Temperature Optimization technology – ROO is confident of uptake in cannabis sector**
- **International design patent registrations pending – global sale initiatives are ongoing**

**Roots Sustainable Agricultural Technologies Limited (ASX: ROO, Roots or Company)** is pleased to advise that it has successfully registered a design patent for the Company's revolutionary heat exchange stub in Australia.

The heat exchange stub is designed to be inserted into the tops of plant's pots and grow bags to significantly simplify working procedures and lower the installation cost associated with Roots' Root Zone Temperature Optimisation (RTZO) technology.

RTZO technology optimises plant physiology for increased growth, productivity and quality by stabilising the plant's root zone temperature year around. Optimal Root zone temperatures is known to be the most influential parameter in plant's physiology besides water.

The Company's 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 primarily to the nursery, greenhouse and cannabis markets and has been successfully tested to Roots' research hub and among Cannabis growers in Israel (refer ASX announcement: 27 September 2019).

Roots completed the registration on 10 January 2020 and were awarded the patent shortly afterwards. The patent was approved by IP Australia. IP Australia is an agency of the Department of Industry, Innovation and Science. It administers intellectual property rights and legislation relating to patents, trademarks registered designs and plant breeder's rights in Australia.

The design patent will protect intellectual property developed and owned by Roots, while it sells the solution internationally.

**Roots Executive Chairman and CEO, Boaz Wachtel said:** *"Being granted design patent approval for our revolutionary stub technology is a tremendous achievement for Roots and considerably strengthens the Company's IP position."*

*"The proprietary stub enables producers to stabilise soil temperatures during any season, as well as simplifies and lowers the cost of RTZO technology. As the Company pursues opportunities for the deployment of its RTZO technology in the cannabis sector, the stub solution will become more integral to our offering."*

*"Roots has a number of opportunities pending and looks forward to updating shareholders as the progress."*

**-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 in agriculture today, including plant climate management and the shortage of water for irrigation.

Roots has developed proprietary know-how and patents to optimise performance and reduce energy consumption to bring maximum benefit to farmers through their two-in-one root zone heating and cooling technology and off or on 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.

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](mailto:info@everblucapital.com)

P: +61 2 8249 0000

**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.

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.