

30 April 2019

Roots scales up orders and enters additional markets in Q1 2019

March 2019 Quarterly Report and Appendix 4C

Highlights:

- **Secured A\$278,000 sale from Dagan for second China project**
- **Third sale from Dagan for A\$64,400 state-of-the-art greenhouse project**
- **Entered North America's cannabis sector with first RZTO sale to industry leader**
- **Received second RZTO cannabis sale in North America**
- **World-first RZTO heating pilot on cannabis in an open field more than doubles yield**
- **Received A\$810,000 for the first tranche of the A\$1.62M Convertible Notes issue to fund commercialisation**

ROOTS Sustainable Agricultural Technologies (ASX: ROO, the "Company" or "ROOTS") is pleased to provide its quarterly update for the three months ending 31 March 2019.

Commenting on the company's progress over Q1 2019, CEO Sharon Devir said, "This quarter we have advanced our commercialisation efforts, securing multiple sales in key markets and segments. New sales activity with Dagan has increased our footprint in the world's largest agricultural market and further supports our long-term targets in the region."

"Roots' entry into North America's lucrative cannabis sector validates our sales approach of conducting pilots and proof of concepts to access new territories and segments. A highly successful RZTO open field heating pilot on cannabis in Washington State has already delivered two sales in this market and generated significant interest from other North American cannabis producers. While these initial sales are relatively small, Roots' climate management technology is unique in a sector which is experiencing rapid growth and demand."

"Our Root Zone Temperature Optimisation (RZTO) heating and cooling technology has successfully minimised the impact of external weather conditions on a range of high-value crops and growing conditions. For growers this has increased yield, improved crop quality and facilitated year-round growing."

Financials

Roots continues to invest in product engineering and commercial validations in new territories, as well as ongoing product development. The company's cash balance as at 31 March 2019 was US\$563,000.

During the quarter Roots secured additional funding of A\$1.62 million via the issue of Convertible Notes to CST Capital as trustee for The CST Investment Fund. The Notes will be issued in two tranches with a face value of A\$1.00 per Note with 1,650,000 collateral CDIs over fully paid ordinary shares to be issued to the investor prior to the first purchase of 900,000 Notes.

The first tranche of A\$810,000 (US\$573,000) was funded during the first quarter of 2019, while the second tranche of up to the same amount will be issued at a later date subject to mutual consent between the two parties.

The attached Appendix 4C contains the company's cash flow statement for the quarter.

Operational updates during the quarter

Dagan sales activity in China

During the reporting period, Roots received two sale and installation agreements from Dagan Agricultural Automation, its exclusive distribution partner in China. Valued at A\$278,000, the first purchase order involves the installation of Roots' proprietary RZTO heating and cooling technology in 10,000 sqm greenhouses, growing five crops including tomatoes, herbs and flowers. The second sale this quarter of A\$64,400 is for the installation of Roots' RZTO technology in two-thirds of a one-hectare state-of-the-art greenhouse pilot in the Guiyang district of Guizhou, which is expected to lead to a larger installation project in the near future. The sales follow the successful completion of Roots' first agricultural project in China with Dagan in 2018 and form part of Dagan's exclusive distribution arrangement, conditional on US\$19 million in sales over a five-year period.

North American cannabis market entry

Roots has expanded into North America to meet the growing demand for climate management technologies within the lucrative cannabis sector. The decision to enter the North American market followed a successful technology showcase to key cannabis producers in California, Colorado and Canada who expressed interest in deploying RZTO technology to improve yields. As the price of cannabis has dropped to approximately \$350 per pound, growers are increasingly adopting cost-effective technologies to improve operational efficiencies. Roots' RZTO system is the only known and successfully tested open field root zone heating technology, which caters to the trend away from traditional greenhouse and indoor facilities towards lower Capex and Opex growing methods such as open field cultivation.

First RZTO sale in North America's cannabis sector

In March, Roots secured the first sale of its RZTO technology in North America's cannabis market to industry leader Tim Blake. Valued at A\$49,500, the sale involves the installation of Roots' patented RZTO heating and cooling technology at Blake's property in Mendocino County, housing the cultivation farm called Little Hawk Collective. Given the strategic importance of the sale, the two parties have agreed to split the cost of installation with each paying half. The sale followed Roots' recent Technology Showcase in North America and builds on the successful heating pilot on open field cannabis in Washington State.

Post quarter end, Roots secured a second RZTO sale of A\$42,300 to independent cannabis producer Ivo Lopez of Mendocino Natural Farms in Northern California. Roots will install its RZTO heating and cooling systems in multiple 1,000 square foot hoop houses at Mendocino Natural Farms' property in Round Valley, California. A holder of several cultivation licenses, Mendocino Natural Farms is a cannabis producer, processor and a member of the Round Valley Cooperative in 'The Emerald Triangle'.

Pilots

RZTO more than doubles cannabis yield in open field

Roots released successful RZTO heating results from a world-first open field heating pilot on cannabis in Washington State, where average cannabis dried un-trimmed bud weight increased by 60 to 283 percent. In addition, heated plants also increased the average dried weight of cannabis leaves. Roots' RZTO heating system stabilised the roots of multiple strains of cannabis at optimal range despite heavy frost conditions and temperatures dropping below zero degrees. These results followed promising interim results released in December, where the average wet weight of plants increased by 40 to 272 percent.

Yield increases of more than 70% on cucumber

Roots added a new crop to its RZTO trials by conducting a successful pilot on cucumbers during the Israeli winter. Yield increases of root-heated crops were more than 70 percent over control crops with no RZTO treatment.

Commercial validations

Pilots and proof of concepts on new crops, growing conditions and territories are an important part of the commercialisation process.

Roots commenced the following commercial validations this quarter:

- RZTO heating on tomatoes in Almeria, Spain;
- RZTO heating on strawberries in Huelva, Spain;
- RZTO heating on greenhouse-grown tomatoes in Southern Israel; and
- RZTO heating pilot on avocado trees in Northern Israel.

Marketing activities

As part of a new strategic focus on the Australian market, Roots CEO Sharon Devir attended a key agricultural conference in Melbourne in February. EvokeAg, an agrifood international technology event specifically for the food and farming community, was attended by recognised industry leaders, farmers, innovators and investors. The company will continue to follow up leads from this event.

Mr Devir also took part in promising initial discussions with key representatives from the Victorian Government regarding RZTO funding subsidies for local growers.

Outlook

Over the coming year, Roots will concentrate on increasing sales within the global cannabis market, where it offers the only successfully tested root zone outdoor heating system. Its patented technology facilitates year-round cannabis cultivation in open fields and is already generating interest from key industry players in the United States, Canada and Israel. The company will devote marketing and sales support to drive sales within this growing market segment.

In line with Roots' long-term growth strategy, the company will work alongside distribution partners to increase RZTO sales activity in China, Israel, South Korea and Spain. During 2019 Roots will also look to enter the Australian market through either a distribution partner or directly with

interested local growers.

The company's engineering development is progressing well, successfully scaling-up its ground source heat exchange systems and root zone pipe embedding installation machinery to cater for expected increases in sales activity.

RZTO pilot demonstrations will continue to be conducted on new high-value crops and growing conditions, as the company looks to secure additional customers in key segments.

-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

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Appendix 4C

Quarterly report for entities subject to Listing Rule 4.7B

Introduced 31/03/00 Amended 30/09/01, 24/10/05, 17/12/10, 01/09/16

Name of entity

Roots Sustainable Agricultural Technologies Ltd

ABN

619 754 540

Quarter ended ("current quarter")

31 March 2019

Consolidated statement of cash flows	Current quarter US\$'000	Year to date (3 months) US\$'000
1. Cash flows from operating activities		
1.1 Receipts from customers	68	68
1.2 Payments for		
(a) research and development	(19)	(19)
(b) product manufacturing and operating costs	(42)	(42)
(c) advertising and marketing	(185)	(185)
(d) leased assets	-	-
(e) staff costs	(177)	(177)
(f) administration and corporate costs	(135)	(135)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	-	-
1.5 Interest and other costs of finance paid	(2)	(2)
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	-	-
1.8 Other (institutes)	(46)	(46)
1.9 Net cash from / (used in) operating activities	(538)	(538)

2. Cash flows from investing activities

2.1 Payments to acquire:

(a) property, plant and equipment	(6)	(6)
(b) businesses (see item 10)	-	-
(c) investments	-	-

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Consolidated statement of cash flows	Current quarter US\$'000	Year to date (3 months) US\$'000
(d) intellectual property	-	-
(e) other non-current assets	-	-
2.2 Proceeds from disposal of:		
(a) property, plant and equipment	-	-
(b) businesses (see item 10)	-	-
(c) investments	-	-
(d) intellectual property	-	-
(e) other non-current assets	-	-
2.3 Cash flows from loans to other entities	-	-
2.4 Dividends received (see note 3)	-	-
2.5 Other	(1)	(1)
2.6 Net cash from / (used in) investing activities	(7)	(7)

3. Cash flows from financing activities		
3.1 Proceeds from issues of shares	-	-
3.2 Proceeds from issue of convertible notes	573	573
3.3 Proceeds from exercise of share options	-	-
3.4 Transaction costs related to issues of shares, convertible notes or options	-	-
3.5 Proceeds from borrowings	-	-
3.6 Repayment of borrowings	-	-
3.7 Transaction costs related to loans and borrowings	(77)	(77)
3.8 Dividends paid	-	-
3.9 Other	-	-
3.10 Net cash from / (used in) financing activities	496	496

4. Net increase / (decrease) in cash and cash equivalents for the period		
4.1 Cash and cash equivalents at beginning of quarter/year to date	593	593
4.2 Net cash from / (used in) operating activities (item 1.9 above)	(538)	(538)
4.3 Net cash from / (used in) investing activities (item 2.6 above)	(7)	(7)
4.4 Net cash from / (used in) financing activities (item 3.10 above)	496	496

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Consolidated statement of cash flows		Current quarter US\$'000	Year to date (3 months) US\$'000
4.5	Effect of movement in exchange rates on cash held	19	19
4.6	Cash and cash equivalents at end of quarter	563	563

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter US\$'000	Previous quarter US\$'000
5.1	Bank balances	563	563
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	563	563

6. Payments to directors of the entity and their associates

- 6.1 Aggregate amount of payments to these parties included in item 1.2
- 6.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2

**Current quarter
US\$'000**

67

-

Salaries and wages paid to Directors and/or Director related entities

Corporate advisory fees paid to a Director related entity

US\$45K

US\$22K

7. Payments to related entities of the entity and their associates

- 7.1 Aggregate amount of payments to these parties included in item 1.2
- 7.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2

**Current quarter
US\$'000**

7

-

Payments for research and development to a related entity.

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8. Financing facilities available <i>Add notes as necessary for an understanding of the position</i>	Total facility amount at quarter end US\$'000	Amount drawn at quarter end US\$'000
8.1 Loan facilities	573	573
8.2 Credit standby arrangements	-	-
8.3 Other (please specify)	-	-
8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.		

On February 2019, the Company has received a financing commitment by way of execution of a convertible securities agreement with CST Capital (hereafter: the Investor), in which the Company borrowed a total amount of up to AUD 1.62 million (\$1,212 thousand) via the issue of convertible notes (hereafter: the Notes). The Notes will be issued in two tranches with a face value of AU\$1.00 per Note (Face Value), with 1,650,000 collateral CDIs over fully paid ordinary shares (CDIs) to be issued to the Investor prior to the first purchase of 900,000 Notes. The first tranche is for an amount of AU\$0.81 million. A subsequent tranche of up to AU\$0.81 million will be issued at a later date subject to mutual consent between Roots and the Investor. The Notes will be interest-free and convertible.

The Notes can initially be converted at 130% of the 5-day VWAP prior to issuance of the applicable tranche. From 65 days following the date of issue, the Notes can be converted at the lower of 130% of the 5-day VWAP prior to issuance of the applicable tranche and 90% of the lowest daily VWAP during the 15 trading days preceding the conversion date. Other than with the prior written consent of the Company, in any calendar month, upon issuance of a tranche, the Investor will receive options equal to the face value, multiplied by 0.2, divided by the closing VWAP prior to issuance. The options will be exercisable for 18 months and have an exercise price equal to 160% of the 5-day VWAP prior to issuance of the options.

On 19 February 2019, the Company issued 1,935,484 Unlisted Options (exercisable at \$0.14 on or before 19 August 2020) being the Options relating to the first tranche of Notes.

9. Estimated cash outflows for next quarter	US\$'000
9.1 Research and development	(247)
9.2 Product manufacturing and operating costs	-
9.3 Advertising and marketing	(124)
9.4 Leased assets	-
9.5 Staff costs	(179)
9.6 Administration and corporate costs	(99)
9.7 Other (provide details if material)	-
9.8 Total estimated cash outflows	(649)

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10. Acquisitions and disposals of business entities (items 2.1(b) and 2.2(b) above)	Acquisitions	Disposals
10.1 Name of entity		
10.2 Place of incorporation or registration		
10.3 Consideration for acquisition or disposal		
10.4 Total net assets		
10.5 Nature of business		

Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.



Sign here:
(Company secretary)

Date: 30 April 2019

Print name: Sarah Smith

Notes

1. The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standard applies to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.

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