

Asparagus detection principle in clay vs. sand soil

Master graduation assignment/ thesis 40 hours/week, Location: Heeze (close to Eindhoven)
Start date: to be agreed upon

Is it your dream to have a challenging internship at a high-tech startup? Can you adapt to the speed of a fast-growing company? Then this could be the perfect opportunity for a great internship.

Background information on the task

Cerescon develops the world's first automatic selective asparagus harvesting machine for white asparagus: Sparter. Sparter is pulled by a tractor that drives with constant speed. The machine detects asparagus subsurface, passes on the coordinates to a cutting robot, which then cuts the asparagus from the top of the bed, shakes out the sand and positions the asparagus on a conveyor belt. A sand bed recovery makes the bed homogeneous to prevent new asparagus from growing curved. Since Cerescon has presented the first prototype, we have won several prestigious prizes. Season 2019 is the last season before the market introduction.

Cerescon's USP is the patented subsurface detection. This detection causes less subsurface damage than manual harvesting resulting in higher yield. Also the quality increases as there is less violet coloring and less curved asparagus.

Description task

The detection principle is realized by using proximity sensors positioned on probes that move subsurface.

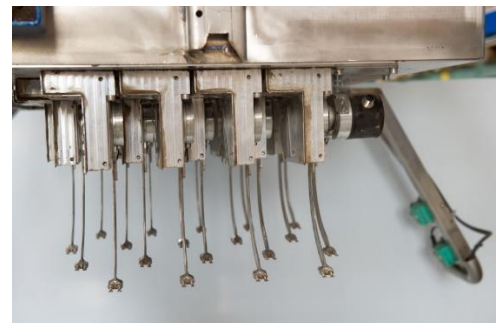
Explanation of the working principle – please see <https://youtu.be/YddoZF4iStg>

This detection principle is very effective in sand. The electrical conductivity of the asparagus is significantly higher than the surrounding sand.

When the ratio clay : sand goes up, the subsurface detection becomes more difficult or even impossible in high percentage clay.

It is your graduation task to find a solution for this subsurface detection issue.

Proving the technical feasibility of your solution is part of the assignment as well as a study to prove your detection solution is at least as fast, similar or smaller size as the current detection solution and within an acceptable cost of goods range.



Your profile

- Your education is agrotechnology
- You're the type of person that (after some help of a mentor) can work independently
- You preferably have knowledge of sensing technology
- You combine a sound theoretical approach with a practical attitude
- Language Dutch or English

We offer

We offer you an educational internship in a challenging high-tech startup environment where we never have two similar days. As a startup, we face every day and every week new unexpected situations. The culture is very informal, very open and close. The pace is high since we switch quickly and make efficient decisions. We'll find you a suitable mentor. If this mentor is not within Cerescon, we'll hire capacity. You'll get an allowance/ graduation fee and travel expenses if you have no free public transport.

I'll take the challenge

Please respond as soon as possible (latest 31 May 2019) by applying your motivation letter and CV to: Thérèse van Vinken - therese.vanvinken@cerescon.com.

If you have questions regarding the assignment: contact Erik Vermeer, erik.vermeer@cerescon.com or 0031 6 53206013

About Cerescon BV

Cerescon is a very young, fast developing high tech startup. Cerescon is aiming at the development, the production and the marketing of an automated selective asparagus harvesting machine.

Asparagus production is up till now a very labour intensive part of agriculture.

The so called "white gold" is up till now harvested manually by thousands of manual workers.

Cerescon is the first company that successfully has proven the feasibility of an automatic asparagus harvesting machine. We now face the challenge to bring this innovation to a successful product and to let Cerescon grow to a successful company. For this, Cerescon needs good employees who can think and act on all levels. Employees with the skills and personality to let Cerescon grow to the organization we want to become: a global player.

For more information see www.cerescon.com. Sparter @ work in season 2018: <https://youtu.be/Dev6UplRxoY>



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