

## 2<sup>nd</sup> Field Day (Copenhagen, Denmark)

### Demonstration of the Autonomous Vehicle in Denmark

August 18<sup>th</sup>, 2023, a demonstration of the autonomous vehicle equipped with the laser system occurred at the research facility Højbakkegaard, Taastrup, belonging to the University of Copenhagen. In late July, sugar beet and maize were sown. August 18<sup>th</sup>, the beets had two cotyledons and the maize 1–2 leaves. Three pavilions were bought and placed in the field to protect the computers, monitors and people from eventual wind and rain. However, the weather was fine during the demonstration.

Stakeholders from all over Denmark were invited to the demonstration, and several came from Jutland. Upon arrival, the guests were offered coffee and bread. At 10 a.m., the Danish host, Associate Professor Christian Andreasen, welcomed the guests and presented the program (Figure a). Written information about the WeLASER project was distributed to the guests, and they had to read and sign the laser safety information before they could attend the demonstration in the field. After the welcome, the project coordinator Professor Pablo Gonzales-De Santos (CSIC), gave a 20-minute presentation describing the WeLASER project and followed by questions from the audience. At 10.45 a.m., we all went to the field and were received by Dr Luis Emmi, who introduced what the audience would see (Figure 1 b, c). The autonomous vehicle then started controlling the weeds in the sugar beets and maize fields.

The guests could walk out in the field to see how the laser beam has hit and damaged the weeds. There was much discussion going on in the area between the WeLASER staff and stakeholders. After the demonstration of the vehicle, Associate Professor Giuliano Vitali, UNIBO, presented equipment developed to support farmers in collecting field data and decision-making concerning laser weeding (Figure d). The field demonstration took about one hour, whereupon many guests and WeLASER staff returned to the auditorium to further discuss the concept and future work. People were very interested in knowing how the WeLASER group would follow up on the activities with field experiments and commercialization of the autonomous vehicle after the project ended. In the end, the stakeholders were asked to fill in a questionnaire before they left.

It was a successful day. About 45 people participated. Several stakeholders came from the seed and horticultural industries, farm advisory services, and agricultural innovation. Also, farmers and researchers attended. People were very optimistic about the project, and the WeLASER staff were encouraged by many stakeholders to continue the research and get the laser robot commercialized as soon as possible due to the great need to replace herbicides with new eco-friendly weed control methods.

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