

MSc Thesis Opportunity (WUR & University of Göttingen)

Field Logistics & Technological Requirements for Agrivoltaic Farming Systems

Agrivoltaics offers a unique opportunity to increase land-use efficiency and support energy transition while continuing to grow crops. On the 800-hectare experimental farm of the University of Göttingen, a new agrivoltaics field will be established next year.

Before construction begins, we aim to develop a solid recommendation for field logistics and technological requirements. From machinery access to crop management patterns and the interaction between agricultural equipment and photovoltaic structures, thoughtful planning is essential. We expect several parallels with challenges already observed in strip-cropping systems especially regarding spatial constraints, machinery manoeuvring, and operational planning.

Your Role

In this MSc thesis, you will explore and define what it takes to farm effectively with agrivoltaics installations, and translate those insights into practical guidance for both the Göttingen farm and future adopters.

- Review scientific and practical knowledge on agrivoltaics installations and related field-logistics challenges.
- Identify technological requirements for machinery, crop management, safety, maintenance, and layout design. (e.g. dimensions, manoeuvrability, clearance), crop management, safety, maintenance, and system layout
- Machinery dimensions and compatibility with PV structures (clearance height, working width, turning radius)
- Trafficability and soil protection under constrained conditions
- Automation potential (e.g. guidance systems, autonomy)
- Infrastructure requirements (e.g. service access, maintenance corridors)
- Speak with specialists (researchers, farm managers, engineers) to gather practical insights and document operational needs, bottlenecks, and conditions for effective implementation.

Supervision & Collaboration

You will be supervised jointly by:

- René Werner, Agricultural Technology, Georg August University of Göttingen
- Lisa Marijke van den Berg, Agricultural Biosystem Engineering Group, Wageningen University & Research; Industrial Engineering & Innovation Sciences, Eindhoven University of Technology

This project directly aligns with the ongoing work of René Werner, offering you a chance to integrate your thesis into a broader research effort. The project is part of the CLAAS Stiftung Twinning Program, supporting innovation and international collaboration in agricultural engineering. Work location can be arranged flexibly and includes (part of) your experiments or modelling work in Göttingen, depending on your preferences and the supervision plan.