**MSc Thesis Opportunity (WUR & University of Göttingen)**

**Harvesting Species-Rich Grasslands: Material Behaviour and Simulation**

Species-rich grasslands, herbal mixtures including alfalfa (lucerne) and other diverse forage species, are becoming increasingly important. They offer higher dry-matter yields, greater nutrient output, and better resilience in the face of climate change.
However, their diversity also creates significant engineering challenges during harvesting, including:

- higher crop losses during harvest compared to conventional grasslands,
- greater variation in material behaviour (stiffness, brittleness, stem structure),
- complex interactions with harvesting machinery.

To address this, we aim to develop technology and simulations that account for the unique material behavior of diverse forage species.

**Your Role**

In this MSc thesis project, you will:

- Conduct experimental test to characterize properties of the various grasses and herbs in species-rich mixtures.
- Translate measured material properties into a realistic EDEM model.
- Build a simulation that reflects the behaviour of diverse plant materials during harvesting.

**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.