



## securing tomorrow's resources

### BSc thesis "Genetic variability for male fertility traits in diploid potato"

Institute for Breeding Research on Agricultural Crops - based in Groß Lüsewitz

#### The project

Historically potato is bred as clonally propagated tetraploid species. However, genetic gain is expected to be considerably increased when breeding potato as a diploid hybrid crop. This, however, requires the efficient development of inbred lines. Due to inbreeding effects, the fertility of the genetic material is considerably reduced by each selfing generation. Therefore, this trait complex needs to be considerably improved by breeders' selection. In order to do this in an efficient way, understanding the relative importance of genetic and non-genetics factors is needed which is the focus of this BSc thesis.

#### Research activities and methods

The activities of the current project involve (but are not limited to)

- Collection of pollen samples in the field
- Assessment of pollen viability in lab experiments
- Rating of flower properties in field experiments
- Statistical analyses of the collected data set

#### Qualification and interest

We are looking for candidates with the following qualification and interest:

- Enrolled in a graduate program in biological or agricultural science, biotechnology or related fields.
- Willingness to learn laboratory methods such as pollen viability staining.
- Interest in plant cultivation and phenotyping in field experiments.
- Interest to work in the fields of the collaborating breeding companies SaKa Pflanzenzucht and Aardevo
- Interest of (or exposed to) data collection, statistical analysis and interpretation.
- Competent in written and spoken English.
- Motivation and good work ethics.

#### Our offer

- A research oriented BSc thesis at the interplay between two potato breeding companies namely SaKa Pflanzenzucht and Aardevo and the Institute for Breeding Research on Agricultural Crops which is part of the Julius Kühn Institute, the Federal Research Center for Cultivated Plants.
- An international and multi-disciplinary group with expertise on biostatistics, quantitative genetics, plant genomics, molecular genetics, plant breeding, bioinformatics and plant physiology working on current topics of breeding methodology and crop genetics.
- An enabling working environment and friendly colleagues, state-of-the-art plant cultivation facilities, laboratories and an experimental field.
- A financial compensation for the research stay with SaKa Pflanzenzucht and Aardevo
- Our institute can be reached within 17 minutes by train from Rostock central station.

#### More information

For further details on project description and application, please contact

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