Service ID

S00134

Location

Netherlands

Provision of a phenotyping greenhouse with extensive sensor set - NPEC

Provider service

Wageningen Research - WR

Link to content

https://agrifoodtef.eu/services/provision-phenotyping-greenhouse-extensive-sensor-set-npec

Type of Sector

Arable farming, Greenhouse, Horticulture

Accepted type of products

Physical system, Other

Type of service

AI model training, Collection of test data, Data analysis, Performance evaluation, Provision of datasets, Test setup, Test exec

Description

NPEC will enable you to make accurate, high-throughput studies of plant performance possible in relation to relevant biotic (diseases, bacteria) and abiotic (light quantity and quality, nutrients, temperature, moisture, soil pH and atmospheric CO2 level) factors across a range of scales. The experiments can be performed in a greenhouse compartment with an extensive set of sensors to measure the plant and it's environment. In growth rooms smaller scale experiments can be performed, with a special chamber for studying the roots of plants using transparent growth media. In the open field crop measurements can be performed using the Traitseeker for RGB, spectral and 3D measurements.

How can the service help you

NPEC does enable to study a plant species on required selection criteria. If you have a large set of available plant species of which e.g. drought stress is unknown, after an experiment in the NPEC greenhouses the resistance to drought stress is measured in a scientific way. Costumers can use this data to train, test and validate AI based crop growth models.

How the service will be delivered

The NPEC greenhouses, growth chambers and open fields are located in Wageningen on the WUR campus. The facilities are available all year round, especially the greenhouses give the opportunity to perform tests throughout the year.

Costumers would have to supply either the plant starting material, or indicate which species or varieties need to be tested.

Service customisation

The facilities are fitted with a default sensor set, if a certain sensor should be added to the measurements there are possibilities for customisation.