

**Service ID** S00044



**Location** At user's premises, Austria, I

## Testing of biomass and yield estimation

### Provider service

Josephinum Research

### Link to content

<https://agrifoodtef.eu/services/testing-biomass-and-yield-estimation>

### Type of Sector

Arable farming

### Accepted type of products

Software or AI model

### Type of service

Collection of test data, Performance evaluation, Test design, Test execution, Test setup

### Description

Our testing service assesses the accuracy of your system's biomass estimation capabilities. You can opt to evaluate your model virtually using existing datasets, such as satellite or image data, or we can gather new field data with our field sampling equipment specifically for your needs. The main targeted crops of the biomass estimation are grassland as well as clover and alfalfa, but also grain crops are possible. As yield and biomass are highly correlated in grassland, both can be determined with this test. We provide results using metrics like Pearson correlation/R-squared and MSE/MAE to give you a clear picture of your model's performance.

## **How can the service help you**

This testing gives you clear, objective insights on the real-world performance of your AI-based biomass estimation system, addressing the uncertainty of how well it functions under varied field conditions. After the test, you can benefit from our ground truth data, which we are sampling with our specific tools, as well as the comparison of your model to our model.

## **How the service will be delivered**

The test can be customised at various levels. One of the main parameters is the crop, the number of repetitions, and the locations of the test. Also, it is possible to estimate the biomass yield during the whole growth period. The test is not dependent on good environmental conditions, as taking samples is done by hand and therefore possible even if the field is muddy. If your model is dependent on satellite data, the probability of delays due to cloud coverage can be a factor.

## **Service customisation**

The test will be executed on a field at our institute in Austria. However, it is also possible to carry out a test at your premises. After the test, you will receive a report on biomass estimation quality in terms of metrics like mean squared error and Pearson's correlation. In addition, metadata on the field and weather are recorded. Seasonally, the test is possible between March and October; in case of testing the model against our model, the test is possible the whole year. The customer brings a Docker container with their model in it.