

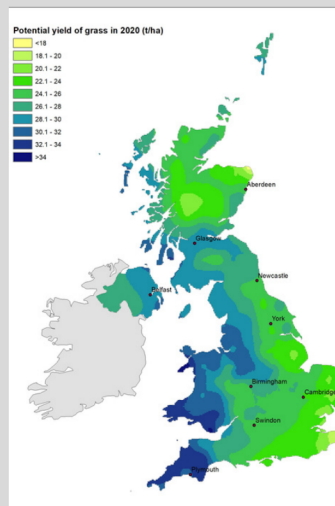
# FORAGE RESEARCH SERVICES

ADAS offers a selection of experimental designs, treatments and measurements to test the statistical effect of agronomic treatments at plot, tramline, field, & rotation levels. All experiments are designed to be independent, scientifically rigorous, & hypothesis driven.

## MEASURING YIELD AND QUALITY

Our forage harvester can be used to measure yield of grass at plot-level, whilst larger-scale tramline & field-scale treatments can be measured by drone & satellite remote sensing approaches. It can detect dry biomass yield differences as little as 120 kg/ha.

We can also carry out replicated maize plot experiments. We can calculate potential yields using our potential yield model based on bio-physical capabilities to compare against actual yields.



## EXPERIMENT TYPES

**Conventional small plot trials** can be used to compare multiple randomised & replicated treatment effects in field. Our forage harvester can be used to measure yield of grass at plot level.

**Agronomics line trials** can be used to demonstrate statistically-proven product or husbandry effects at field-scale in grass & maize crops. Compare 2-4 treatments, from simple split field experiments to replicated randomised tramlines.

**Systems and feasibility studies** can be used to research the broader impact of forage crops in crop rotations. We can investigate a broad range of practical, economic, environmental & agronomic implications.

**We can also measure impacts on:**

- Soils: emissions, soil organic matter, nutrients, earthworms.
- Socio-economics: economic assessments, practicalities & agronomic implications.
- Climate & environment: carbon footprints, emission losses.
- Factors affecting yields: weeds, pests and disease surveys.



Forage harvester



Field-scale treatments

## CONTACT

If you would like to discuss research opportunities, then please contact us:

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# EXAMPLE PROJECTS

## AGRONOMICS LINE TRIALS

### Measuring grass growth with remote sensing

Through this project funded by European Innovation Partnership (EIP) Wales, we developed novel methods to rapidly measure agronomic treatment effects on grass growth using drone & satellite imagery. This provides an easier, faster way to determine grass biomass differences between agronomic treatments in grass, aiding on-farm experimentation.



## SMALL PLOT STUDIES

### Grassland experiments

Annual and long-term grassland studies for Defra, chemical & water companies, carried out on contrasting Grass Growth Class sites (as defined by RB209) across England & Wales.

We have a track record in evaluating the impact of fertiliser nutrients (e.g., different nitrogen forms, sulphur and potash), slurry/digestate (with our slurry plot applicator) & additives (e.g., nitrification inhibitors) on grass yields & quality.

### Maize trials

Replicated plot experiments, commissioned by Defra, chemical and water companies, to evaluate the impact of fertiliser, slurry or digestate applications with or without nitrification inhibitors on maize yield & quality.

## SYSTEMS STUDIES

### Mob grazing

A Defra-funded, ADAS-led consortium comparing conventional & mob grazing systems at nine farms across the country. Measurements include livestock performance, soil quality, biodiversity & nitrogen losses.

### SUPER-G Horizon project ([www.super-g.eu](http://www.super-g.eu))

A European-wide project working with farmers and policy makers to develop sustainable & effective permanent grassland systems by optimising productivity & supporting biodiversity & other ecosystem services.

### Herbal Ley Network

A partnership launched by ADAS, AHDB & Defra between farmers, researchers & industry to provide a platform to investigate the long-term impacts of leys in rotations including on:

- organic matter & soil health from introducing & after destruction of leys
- effectiveness of black-grass control