

# agrovista SELECT

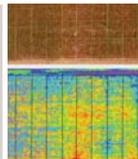
DEVELOPMENT INNOVATIONS


 @AgrovistaSelect  
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## PotatoSize™

### Innovative measurement app launched

There are some good old fashioned practices that have stood the test of time; for those involved in potato production, assessing the size of test digs is one such practice.

Tuber size assessments are taken for granted as one of those jobs that is part of the crop season, technology however is about to give growers an option to streamline the process thanks to the launch of a new smartphone/tablet app.

PotatoSize™ is the result of a joint project between James Hutton Institute, James Hutton Limited and Agrovista and aims to replace laborious riddling and counting to estimate tuber sizes with automated

analysis of an image of tubers obtained from the test dig. This type of analysis is a vital component to allow growers to manage burn down/haulm destruction strategies to ensure market requirements are achieved.

The mobile app allows quick and easy assessment of crop statistics, including crop weight in 5mm size bands (t/unit), current

“ Growers can now forget about using cumbersome riddles and size grids. ”

estimated crop weight per area (eg t/ha) and an easy-to-read bar graph of size bands.

This provides growers with the information they need to achieve accurate, consistent across crops and sites, says Lewis McKerrow, Agrovista's head of precision technology.

“Growers can now forget about using cumbersome riddles and size grids. In addition, larger organisations benefit from the ability to get consistent results from different staff across multiple locations, as well as the ability to export results back to a central point.”

**Using PotatoSize™, growers can assess crops using the following simple steps:**

- Dig a measured length of row
- Organise potatoes uniformly on the soil
- Place an A4 reference sheet beside the potatoes
- Take a picture
- Press process
- Wait a few minutes for the results

Commenting on ease of use, Mr McKerrow says that it is important users follow the guidelines in the app. “Image analysis is a complex piece of software, when you add in different soil colours, tuber colours, and ambient light conditions, it has certainly proved challenging to develop. We have spent the last year refining the algorithms and as long as users follow the detailed instructions then good, consistent results are achieved.”

PotatoSize™ is available for iOS and Android devices and can be downloaded from the App Store and Google Play store. Once downloaded and registered, users will get 5 free image processes to try the app, thereafter it is priced at £1 per image process (discounts for volume credit purchases). Existing users of Axis can download the app and use their existing login to use the app.

# Grass growth promoters grower evaluation trials

## Improving grass growth and dry matter output

A number of trials are being carried out across the country to evaluate the value of both Smartgrass & Terra-Sorb in improving grass growth and dry matter output.

Even from April treatments and in challenging spring conditions dramatic visual and quantifiable differences are being found.

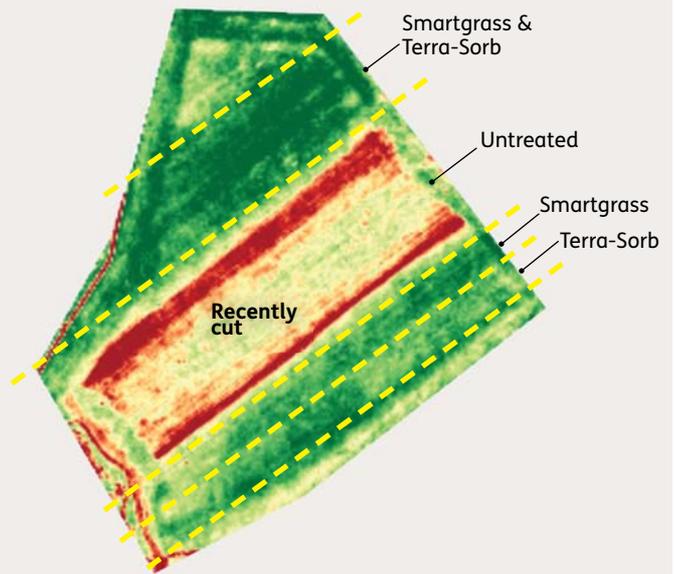
### Cheshire Grass Trial

- 10 year Grass Ley with Clover, near Nantwich
- Zero Grazing system
- Cut 6th April 17
- Treatments applied 9th April 17

Visual colour & growth difference where Terra-Sorb treated post cutting.



Differences in NDVI detected by drone where grass treated with growth promoter.



Green colours = higher NDVI = higher biomass  
 Red colours = lower NDVI = lower biomass  
 Low biomass (red) in central square recently cut area of field

	9 April Pasture Height cm	19 April Pasture Height cm	Height % increase	Dry Matter % increase	Rate of growth DM/day
Control	15.1	15.6	3.31	17.98	47
Terra-Sorb (2 l/ha)	16.2	21.2	30.86	31.44	<b>85.7</b>
Smartgrass (20g/ha)	14.9	18.7	25.50	29.49	74.6

Additional DM produced from Terra-Sorb over untreated in 10 day period would produce additional 67.5 kg/Meat/ha 74 litres/Milk/ha  
**Significant Margin over input cost**

## Scottish Grass Trial

Turnberry, Scotland Grass Trial

Evaluation of Terra-Sorb, SmartGrass & combination of both.

Treatments applied 18th April 17

	Dry Matter % increase	Rate of growth DM/day
Control		75
Smartgrass (20g/ha)	20.1	89
Terra-Sorb (1.5 l/ha)	24.6	92

Visual difference from drone where grass treated with growth promoter.



## Yorkshire Smart Grass Trial

Grass Ley, Richmond, North Yorks

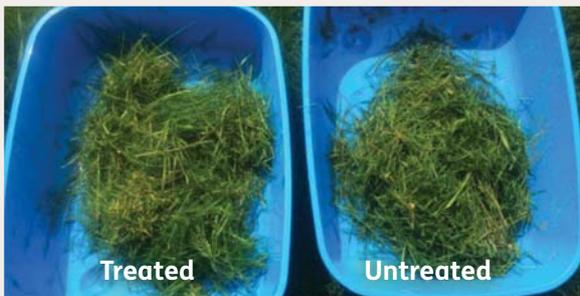
Smartgrass 15g/ha in 200 l/ha

Treatments applied 3rd April 17

Visual growth improvement where Smartgrass applied.



Higher fresh biomass from Smartgrass treated area.



1.4 kg/m<sup>2</sup>

0.9 kg/m<sup>2</sup>

Fresh weight  
55 % increase



It is now past the cut-off date of the end of April for the applications of Smart Grass.

### Terra-Sorb Foliar Plus (MB802)

We now have available Terra-Sorb Foliar Plus - an amino-acid product derived from vegetable protein.

Terra-Sorb foliar Plus should be recommended on forage crops and sugar beet.

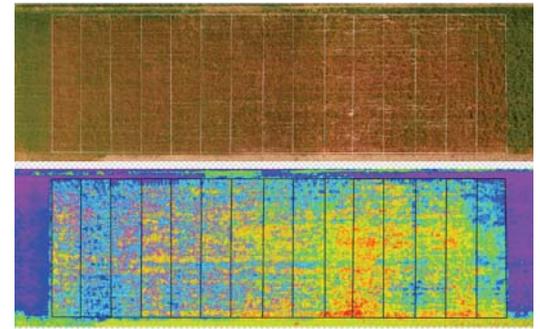
#### Key Recommendation

We have had some excellent early trial results summarised above from the use of growth promoters in grass forage production. So for growers looking to maximise their grass production Terra-Sorb Foliar Plus will give a significant boost to growth and output. This will be even more appropriate to many grass crops following cutting or grazing that are experiencing stress caused by increasing soil moisture deficits and poor fertiliser recovery.

**Terra-Sorb Foliar Plus 2.0 l/ha**

# Glyphosate trials

## Modern, tallow amine free formulations



Much of the debate about glyphosate has been based, about the safety of the co-formulants, and POE-tallow amines in particular.

In October 2015 European Food Safety Authority (EFSA) statement concluded that in comparison to glyphosate, “a significant toxicity of POE- tallow amines was observed”. Regulation (EU) 2016/1313 amended the approval of glyphosate formulations with the requirement that products do not contain tallow amines.

In the UK, sale and distribution of tallow amine glyphosate formulation expires on 30 June 2017, with a final use date for farmers and growers of 30 June 2018.

Surprisingly, tallow amines are still permitted to be included in many adjuvant and water conditioners (sometimes at higher concentrations than in glyphosate formulations). However, Agrovista Discovery Range adjuvants and water conditioners (e.g. Companion Gold) use more modern chemistry and have never contained tallow amines.

Need to check? Look at the product SDS Section 3 and see if the CAS No 61791-26-2 is listed as a hazardous ingredient.

New glyphosate formulations are coming onto the market and Agrovista Select trials are evaluating the application and efficacy of the new 360g/L formulations in comparison to the old tallow amine containing formulations.

Initial replicated trials looked at the destruction of cover crops and blackgrass prior to drilling spring wheat. A tallow amine (TA) and TA free formulation were applied at 1.5 l/ha (540g/ha), and both treatments gave a high level of efficacy on control of susceptible species such as black oat and wheat. However, control of blackgrass was significantly reduced with the new TA free formulation in comparison to the old TA containing formulation. (see Fig 1).

So although both formulations reduced the amount of biomass in comparison the untreated, there was significantly more weed left in the plots treated with the new formulation, and this was blackgrass. Not good news.

Fig 1: Lamport 2017 Glyphosate trial

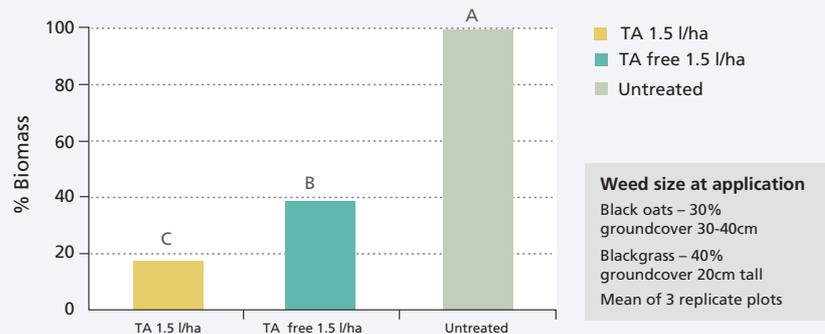
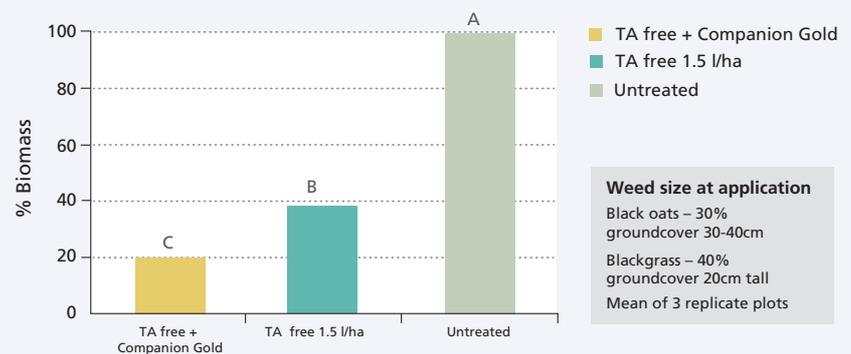


Fig 2: Companion Gold benefit



“In the UK, sale and distribution of tallow amine glyphosate formulation expires on 30 June 2017”

In the same trial we also looked at the benefit of tank mixing Companion Gold with the new TA free formulations. Companion Gold is a multifunctional adjuvant and pod sealant.

Companion Gold is a tallow amine free adjuvant ideally suited to glyphosate,

combining drift reduction, anti-foam, pH buffering and water conditioning with improved rainfastness and efficacy.

The addition of Companion Gold significantly improved the level of blackgrass control, such that the amount of biomass remaining was halved in comparison the TA free formulation applied alone (see Fig 2).

Of course, this is a single trial result applied at growth stage of the blackgrass which we know is challenging for control, deliberately so – in order to pull out differences between treatments. Additional trials are underway to assess efficacy and spray application technique.

The first trials were applied by hand-held boom at 3.6kph, and subsequent trials are being conducted using our specialist spray application trials sprayers at 100 l/ha at 14.4kph.

# Project Lamport

## Exploring the opportunities

As Agrovista's Project Lamport comes to the end of its fourth season it's a good opportunity to remind our customers of the lessons we are learning from the Project, where we are heading in the future and the R & D opportunities Agrovista have to offer.

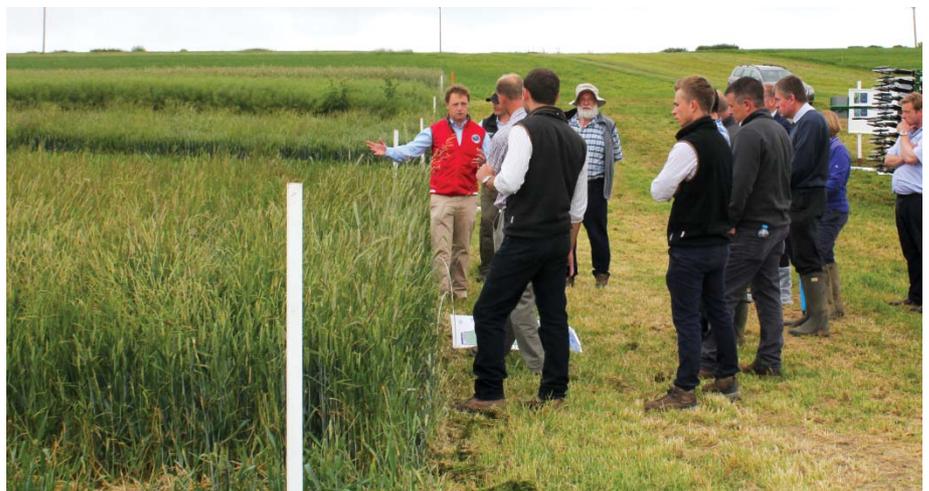
Project Lamport has definitely grown in scope over the last four years from the initial idea and demonstration of Agrovista's innovative approach to grass weed control and spring cropping, to a site with collaboration from machinery manufactures, and industry experts offering the Agrovista agronomist and customer an opportunity to gain from the extensive research and development at the site.

This year in late June we will be demonstrating the Project Lamport systems, highlighting the successful use of Agrovista researched cover and catch crops when used in conjunction with spring cropping to help control grass weeds and improve farm profitability in these challenging situations.

After three seasons, and one very challenging spring we can report Project Lamport has once again proved that profitable farming in high grass weed infestations is not only possible, but we are actively reducing the grass weed seed return to the soil and ultimately reducing the weed seed bank.

Three years of cover crop followed by spring wheat has not only achieved blackgrass control in excess of 99% year on year, but this has led to a seed return of close to 40 kg/ha of black-grass seed in year 3 versus almost 0.25 Tonnes/ha blackgrass seed return for spring wheat following conventional stale seedbeds.

Agrovista has successfully challenged conventional thinking on cover crops and is pushing research into new establishment timing and methods as well as increasing the range of our



“ Agrovista has successfully challenged conventional thinking on cover crops ”

UK researched cover and catch crops available to the Agrovista customer.

Our collaboration with drill manufacturers has expanded this year focussing on spring wheat establishment in a field scale trial. The trial is demonstrating various drills and techniques to establish spring wheat following different cover crops.

A new addition to the open days will be a farm scale compaction trial. This is aimed to examine the effects and differences of cover crops and machinery in a compacted site prior to spring cropping. There will be practical demonstration of the trial so we can highlight the positives and negatives of the different soil preparation methods.

There will be practical demonstrations of our innovative technology via Precision Services and our application advice and use of the Discovery range, and importantly how these technologies can help the grower in the real world.

As of every year from the start of the project we are learning new lessons, fine tuning the core principles and seeking solutions to the new challenges spring cropping gives us.

# Project Lamport

## A new approach to controlling blackgrass

Identifying and evaluating different approaches in the battle to control blackgrass

Project Lamport consists of 14 different rotational systems and is set within a high indigenous blackgrass population. The project incorporates winter and spring cropping, as well as new initiatives such as the latest cover crops. These are evaluated against a traditional winter wheat and OSR rotation, alongside late drilled winter and spring wheat with the challenges of heavy land.

The success of each rotation will be based on final blackgrass control, economic return and the nutritional and soil conditioning benefits of cover crops.

To book a tour and discuss the techniques under evaluation, please contact your local agrovista agronomist

Or email [events@agrovista.co.uk](mailto:events@agrovista.co.uk)

You can also book online at [www.agrovista.co.uk](http://www.agrovista.co.uk)

### Site visits:

June 27th, 28th & 29th

### Tours:

10am or 2pm

### Meeting point:

The Stag - Harborough Rd,  
Maidwell NN6 9JA

### Key features of Project Lamport 2017

- Blackgrass control
- Cover crop use & agronomy
- Compaction effects
- Drill and establishment techniques
- Precision farming systems
- Application methods



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