

BASE – UK VISIT TO LAMPORT Ag X – Wednesday 16th November 2022

Around 30 BASE Members recently enjoyed a sandwich lunch at the “Stags,” Maidwell, before heading off to the field for a tour around the Agrovista Lamport site.



Members get a brief introduction to the Lamport site.

First up was a quick walk around the Rotational Systems to view the Autumn Covers, OSR, Wheat and Linseed.

Whilst “Soil Health” is very much to the fore at Lamport, Grassweed control must always be a major consideration.

This was ably demonstrated when members viewed two side by side plots both Direct Drilled, one established using a Disc Drill, the other using a narrow-tipped Tine.

Key message, Soil disturbance at the time of Drilling must always be minimised at Lamport

Differing methods of Covers establishment ranged from broadcasting pre harvest, Direct drilled straight into stubble and after light shallow cultivations.

Overall Covers have established well on site this Autumn irrespective of establishment technique.

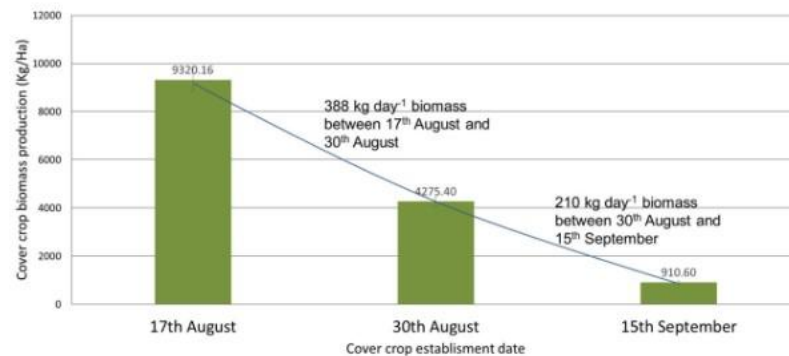
Interestingly, where the Cover had been blown on Pre-Harvesting, the plot had subsequently had the straw rake lightly run through once the plants were big enough, this had stimulated further Blackgrass germination.

A discussion on Chemical residues and their effects upon subsequent crop establishment in the absence of soil disturbance concluded that careful consideration and planning should always be given to the use of residual chemistry in the preceding crop.

LAMPORT **AgX**

Timing of Covers Establishment

Cover crop biomass (dry weight) production collected
5th December 2020 v establishment dates



Key message, timely establishment of Covers essential to maximise both root and shoot growth

Blackgrass levels in Plot A7 never cease to amaze visitors, this plot is now in its tenth year of Autumn fallow followed by Spring Wheat. Blackgrass levels are out of control and yields rapidly declining.

Contrast this with next door plot, A5, now in its tenth year of Cover Crop followed by Spring Wheat, yield and Blackgrass levels remaining stable.



Plot A7 (Blackgrass)



Plot A5 (Cover crop)

LAMPORT AgX

Value of autumn cover crop



Previous 8 crops: Spring Wheat



Autumn Fallow
/ Spring Wheat



Autumn Cover crop
/ Spring Wheat

Key message, Cover crops have multiple benefit

Plot A9, Direct Disc Drilled Wheat sown after two years of AB15 was viewed, concerns were voiced at the alarming levels of Blackgrass showing.



Whilst AB15 can be a useful part of a diverse rotation, it was suggested that where high levels of Grassweeds are known this option should be avoided.



Sequential topping of Blackgrass is not a successful control strategy

Key message, AB15 should be avoided in high pressure Blackgrass situations

Results from Harvest 22 were discussed with some real notable achievements.

Many of these plots were viewed in July when BASE Members last visited

1st Wheats (following Lampport best practice)



SEPTEMBER SOWN

<1 blackgrass head/m²

12.45 - 13.39 t/ha

Following two year break of Cover crop fb Spring Oats, Cover Crop fb by Spring Beans

23

Winter Wheat + clover mulch



73 blackgrass heads/m²

9.54 t/ha

no grassweed herbicide

40kg N (made up to 100kg with MZ28)

Direct drilled into a small leaved clover mulch

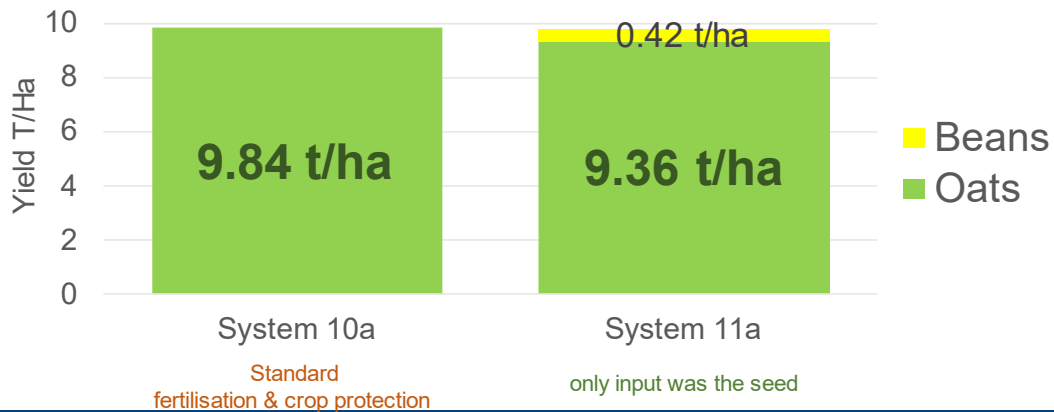
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Whilst the headline figure for the Clover mulch plot looks favourable with lower overall input costs, the more conventionally grown neighbouring plots of Wheat yielded substantially more but at greater cost (Herbicide programme + 80kg N more)

Managing the Clover plot at times caused much head scratching!!

Key message – September drilling in high grassweed situations can be successful when following Lampport best practice

Members who visited back in July will remember viewing two plots growing side by side, Plot 10A, W Oats only, Plot 11A W Oats + W Beans.
Results have been truly amazing.



Below, details of inputs applied to the two plots.

Systems 10a v's 11a Inputs

Mascani 340 seeds on 28th Oct

Mascani 340 seeds on 28th Oct

Vespa 38 seeds on 28th Oct

Nitrogen: 120kg/ha total (2 splits)

Pre-em herbicide: 2nd November
Fungicide(s): 27th April + 7th June
PGR: 27th April

NO INPUTS
other than the seed

Following this remarkable result, a greater focus for Harvest 23 on “Bi-cropping” will be a feature at Lamport in both Autumn and Spring sown crops with multiple plots featuring.

Key message – More research and development required

Chris Martin (Agrovista Head of Soils) led a discussion on alternatives to some of the more traditional types of Nutritional products.



In the absence of access to Organic Manures, Composts etc, just omitting Nutrition and hoping all will be well could be problematic and potentially detrimental to crop yield.

High N, P & K prices are driving the advancement of more cost effective foliar and seed applied solutions which are much more efficient than feeding the plant through the soil.

Important to test soils to ascertain where you are at is fundamental.

In addition, building up a data base through leaf, sap and post-harvest grain analysis will then help to make more informed decisions.

Key message – Costly N, P & K can be replaced but Nutrient status must be known. Test, Test, Test.

Craig Morgan (Agrovista Head of Technical) talked through an herbicide trial looking at the effects of differing Pre em herbicides overlaid across Wheat established under 3 differing Non Inversion Cultivation depths.



Its early days as yet with this trial but to date much higher populations of Blackgrass are presently showing after the deep cultivation treatment than the other two treatments.

The addition of Avadex is having a very positive effect in reducing grassweeds incidence overall.



Shallow cultivation

Straw raked only

Deep cultivation

Key message – Considerably more Blackgrass germination after deeper cultivation

Finally, David Purdy talked through just a few of his considerable findings to date.



David's massive data base now spans four years of fully replicated work at Lampport.

The two charts below really drive the message of the value Cover crops bring to over wintered soils.

The grey bars are control plots with no covers. (Bad)

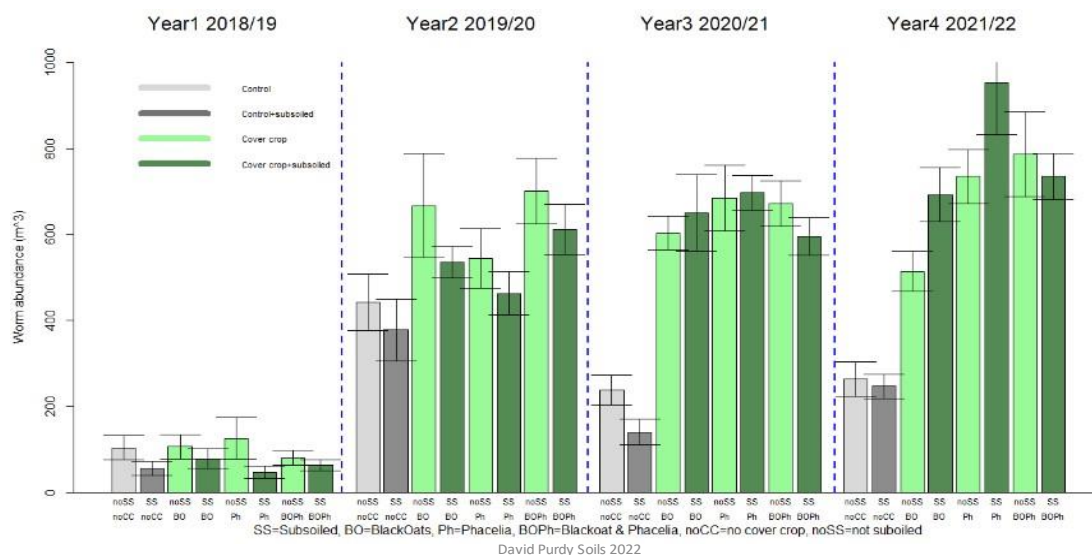
Light grey, bare untouched stubbles, Dark grey, stubbles have been loosened to 250mm. (Very bad)

The green bars all have Covers growing. (Good)

Light green, covers established with minimal soil movement; Dark green covers loosened to 250mm.

Cover crops in year 1 had a slow response improving key soil health indicators but massive differences are now being seen from year 2 onwards.

Earthworm abundance





This is a fantastic demo of the power of roots.

Key message, always maximise the opportunity of living roots in the soil

David also outlined the ongoing work with Philip Wright and the Lamport Team, looking at differing compaction scenarios and the effects of roots alone compared against roots and metal. To date the inclusion of metal has not had the desired effect on yield.

Following the initial successes of Bi – Cropping within the Lamport systems, this work is now being introduced into David's studies with full replication.

This will no doubt be an area for much debate going forward.

Finally, BASE Committee member Ian Waller thanked the Lamport Team for yet another thoroughly informative and enjoyable visit and also for providing the lunch.

The Lamport Team look forward to seeing the BASE Members back on site during 2023.

Niall Atkinson.

