

Ardoch of Gallery

Maximising farm efficiency

Ardoch of Gallery
Climate Change Focus Farm

Notes from the Discussion
Group Meeting on 22nd March
2018

This was the tenth meeting of the Ardoch of Gallery focus farm discussion group, considering practical and profitable ideas to improve the farm business.

Ardoch of Gallery update

Host Willie Officer outlined progress at Ardoch of Gallery

Willie updated the group on what has been happening at Ardoch. Key points included:

- Potato prices have been poor but the spread of salad and seed mostly on contract has given protection.
- Liquid fertiliser (23N + 16S) has been applied to winter crops.
- Bulbs—Picking flowers may be uneconomic due to early Easter and colder winter/ early spring.
- SB—Concerto and Laurette to be sown. Trying some of the new seed treatments, Kickoff (phosphite and zinc) and Radiate (zinc ammonium).
- Winter crops looking well, still a few loads of WW and WOSR to sell.
- Haulage business very busy; still a lot of seed potatoes to move from North for dressing.



Nutrient Budgeting

David Ross from SAC Consulting; Take yield into account!

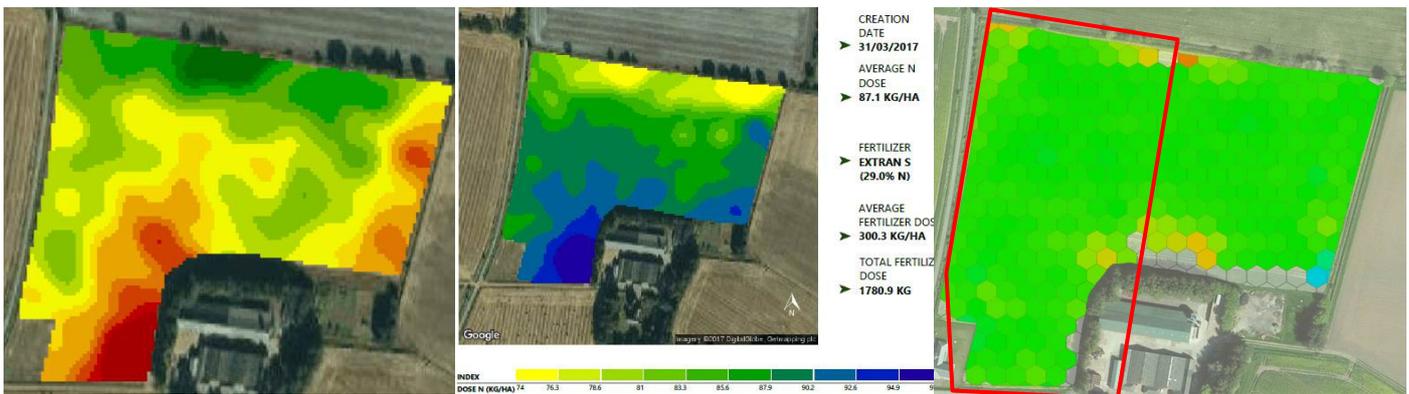
A yearly nutrient budget is a good way of checking if the amount of P and K you are applying is sufficient to maintain soil status. Some crops have a high offtake for example potatoes take off 5.8kg of K per tonne of potatoes which could be as much as 250-300kg/ha. This is not a problem so long as the nutrients are being replaced somewhere within the crop rotation. This table shows the overall budget for Ardoch. As you can see there is a reasonably positive balance, partly due to lower yields than applications have targeted. With the addition of FYM to the balance and more chopped straw, there is potential to save around £3,288 by tailoring the P and K applications for the 2018 harvest.

	Phosphate (kg)	Potash (kg)
Total removed by	8,397	12,618
Added by Fertiliser	9,557	12,771
Added by Chopped	194	1,516
Added by FYM	960	2,400
Balance	2,314	4,069
Potential Savings	£1,457	£1,831

Results of the variable N trial

Aidan Monaghan from SOYL; Marginal gains!

Aidan explained that for the 2017 harvest, Willie had purchased a 2nd hand fertiliser spreader capable of variable rate applications. With the purchase of an ipad and the SOYL app, variable rate N, P and K could be applied. Aidan explained how the system worked; by replacing the offtake of the previous crop and taking into account the soil status and soil analysis for P and K. The group then discussed the use of aerial images to determine the rates of nitrogen applied. On the 2nd application the rate is set at an average for the field but will increase on the poorer areas (lower Leaf Area Index (LAI) on the aerial maps) and decrease the rate on the better areas (higher LAI).



By looking at the aerial maps and then the yield maps, you can then see if the different treatments have made any difference. The map above left shows the LAI (red is low LAI dark green is high LAI) of a winter barley field in march. The middle map shows the application map for Extran S (blue areas are higher application rate, yellow are lower application rate). The field was split with the left hand side of the field spread with variable rate nitrogen and the right hand side spread at a fixed rate. This was then repeated for the second application of nitrogen. The map above right shows the yield data mapped from the combine. The yield on the left of the field averaged 10.6t/ha and on the right 10.2t/ha which is a 4% increase in yield, worth £53/ha with barley valued at £130/t.

The typical cost for the LAI maps and recommendation services is between £3-£5/ha. Using this technology has two a two fold benefit: Firstly the correct application rate of fertiliser is applied to the areas that require it, potentially saving fertiliser; and secondly, in doing this overall yield should increase typically between 3% and 7%.

There are nine climate change focus farms in Scotland. Keep up to date with their activities at



@SACFarm4Climate

www.farmingforabetterclimate.org

Meetings are free to attend and all farmers are welcome.

For Ardoch of Gallery, contact farm facilitator David Ross in the SAC Stonehaven Office on 01569 762 305 or david.ross@sac.co.uk

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