

Getting the best value from slurry

On-farm trials guide

Practical Guide



Agricultural research has been ongoing for centuries and Scotland was and remains a world leader in terms of agricultural research.

However, not all changes need to come from world leading research or from research institutions. On farm trials can be an effective way to assess new approaches on your own farm. With huge inflation in the price of fertiliser, farmers have responded by making changes to their systems.

Working with Farming for a better Climate, John Kerr from Woodhead farm, Newmilns, recently set up an on-farm trial to assess the impact of reducing fertiliser application rates. The results of these trials are available at <https://bit.ly/47YqUHL>

The economic and policy landscape is changing rapidly in Scotland. It is important that farmers are agile and adapt their businesses to allow them to embrace emerging opportunities.

This Practical Guide designed to help you take a look at the impact of making changes to your fertiliser policy and soil management on your farm

Our Practical Guides cover five useful topics:

1. Use energy and fuels efficiently
2. Renewable energy
3. Lock carbon into soils and vegetation
4. Making the best use of nutrients
5. Optimise livestock management

For more Practical Guides, Case Studies, information and to see what other farmers have done, visit www.farmingforabetterclimate.org

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Where to start

When making decisions to reduce inputs, or change systems, using trial plots provides the opportunity to make the changes on a smaller scale and reduce the risk of the change not suiting the current farm system. Examples could include switching off fertiliser spreader for one strip, or, reducing the rate as you cross the field.

The Woodhead silage trial focused on fertiliser application and made use of a Sustainable Agriculture Capital Grant Scheme (SACGS) GPS and autosteer system. This allowed the creation of virtual plots, rather than physically marked areas. Whilst using GPS, online mapping systems and smart phones means it has never been easier to conduct a basic trial at home, the traditional system of pegging out physical plots is also very effective.

Things to consider

During the planning of trial plots, consideration should be given to ensure that the outcomes can be easily measured, and results analysed.

A hectare equates to an area of 100 metres x 100 metres. Working with plots that are 100m long by 10 m wide gives an area of 0.1 ha, 100 m x 20m = 0.2 ha etc. Keeping to regularly sized trial plots can simplify calculations during the process and with interpretation and scalability of the results.

Conducting treatments across a series of equally sized plots than means you can make quality comparisons among the different treatments. It is also important to account for the prevailing conditions at the time. Challenge your current practices and measure the results.

Websites

www.farmingforabetterclimate.org

See also:

[Farm Carbon Storage Network - SAC Consulting](#)

[Have a go yourself \(video\)](#)

[Getting the best value from slurry](#)

[Maximising the performance of grass leys](#)



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Get the baseline right.

Any trial plot should be set up on an area that is representative of the rest of the farm. If you are drawing conclusions from your trial, it will not work if you focus your efforts on the best or worst areas of the farm. Getting a baseline for soil pH and fertility is essential to draw meaningful conclusions from your trial. Soil sampling is a powerful tool to establish your baseline and to allow for good interpretation of results.

Often on-farm trials will focus on soil fertility improvements, comparing lime application rates, impact of reducing fertiliser application rates or types would be common areas of interest. Without knowing where you are starting from, it is impossible to know where you are going.

Step by step guide to giving it a go.

1. Find a question you want to answer (e.g., what is the effect of reducing fertiliser application)
2. Take soil samples to determine the baseline soil fertility
3. Select an area to conduct the trial
4. Mark out plot(s), remember to make the plot a size one that simplifies calculations. Working in Hectares makes this process easier.
5. Conduct trial applications/procedures and keep a record of activity in each plot (this can be as simple as taking a photo)
6. Monitor performance thorough the growing season.
7. Record results at harvest, this can be as simple as counting bales, weighing trailers, or using a plate metre to measure grass growth.
8. Challenge the results, do they make sense? Discussing these with friends and advisers or agricultural consultants is time well spent.
9. If the trials have shown a positive result, look to scale the change up for next year.

Remember, lots of minor changes can lead to big improvements.

Challenge your system

Farming systems run alongside the seasons and farming activities change throughout the year. As businesses respond to the ebb and flow of the seasons, it is only natural that farmers find themselves in a routine and repeat their practices year on year.

However, it is essential that farmers make changes to their businesses in response to climate change targets and economic pressures. We know that reducing inputs while optimising outputs will result in improved margins whilst making reductions to carbon footprints.

What you have always done is not necessarily the right thing to do in the here and now. Look at your system and each job within it, no matter how small or insignificant it may seem. Is there a better way to do it, is there a new system that might

work? Does what you have always done actually do what you think it does?

Challenging your system is an interesting and exciting thing to do and making changes to it in a staged and planned manner could save you a lot of money and build farm business resilience.



Farming for a Better Climate (FFBC) is funded by Scottish Government and delivered by SAC Consulting. Keep up to date with the project via our webpages and newsletter at www.farmingforabetterclimate.org or on Facebook and Twitter [@SACfarm4climate](https://twitter.com/SACfarm4climate)