

# Torr Climate Change Focus Farm meeting



Discussion group meeting held at Torr Farm on Thursday 29<sup>th</sup> November 2012 from 11.00 until 14.30 by kind permission of Ross and Lee Paton.

## **Meeting Theme – Improving farm soils and drainage**

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The theme for this meeting was to discuss farm drainage issues and practical solutions. The meeting was led by SRUC Consultant Seamus Donnelly with demonstrations from drainage contractor Colin Dempster and Sons plus Galloway Drainage Supplies. Gillian Reid chaired the meeting.

Seamus commenced the meeting by highlighting why there are drainage problems, stating that it is a combination of old drainage systems failing and increased rainfall. In the months from April to September 2012 there was nearly double the amount of rain than the same period in 2010.



Before providing an overview of drainage problems, Seamus gave a quick summary of the history of drainage as far back as 360 AD.

### **Drainage problems**

Groundwater, surface water and springs are all common problems, with surface water being the major problem seen. Poor drainage not only reduces crop yields but it also affects soil and crop management, reducing access to fields and can increase risks to animal health.

Seamus went onto tell the group about the benefits of drainage, estimating that good drainage will deliver 30-40% improvements in the yield of grass. In addition, drainage also improves root growth, reduces risk of some parasites and diseases, results in less soil damage, longer utilisation of fields and reduces the risk of diffuse pollution.

### **Signs of poor drainage**

Water lying on the surface or in a soil pit, dull grey coloured soil, the presence of a 'sour' smell, shallow roots, un-rotted manure or crop residues are all

signs that a soil has poor drainage. Seamus explained to the group that these signs can be identified by digging a soil pit.

### **Failure of drainage systems**

In the south west of Scotland, 22% of drainage problems in the late 1970s were due to the failure of new drainage schemes. This was due to new materials being used i.e. plastic pipes were introduced, new installation methods i.e. backactor's were replaced by trenchers and gravel was used but it was not connected. Getting new drainage systems right is essential.

### **Step to improve drainage**

Seamus talked the group through the various steps that should be undertaken to improve drainage. Seamus showed the group some pictures of fields and asked the group to suggest if drainage is required – this stimulated discussions. Seamus facilitated the group to design a drainage plan.

1. Investigate the site and identify problems. Start with the ditch/outfall, check if the main ditch needs cleaning out or not, check if the pipes, outfalls and culverts are clear. Obtain old 1:2500 maps and/or drainage reports to help identify where the drains are, dig holes to look at the existing drains, check if they are silted or rooted up/ochre/clear/underwater. If the drains are clear and it has been very wet it could be due to levels not being rights, holes are silted and water can't get into the pipes. This needs to be checked.

2. Prepare and budget a plan. Decide what the solution is; maintenance of the existing drainage system or a new drainage system. New drainage is expensive. If there is no old system do not drain as there will be a reason to why it hasn't been drained. If soils are peaty it is low priority. Check if you are allowed to drain. Also collaborate with neighbours as the problem might also be theirs.

3. Drainage design. Design a new plan for the desired outcome, allow for expansion at a later date, design from the outfall back, where possible install ditches on boundaries, isolate the site-gravel catchment plan, minimise requirements of culverts, install correctly sized pipes, decide on desired spacing and if necessary decide on the level of gravel backfill, are all essential in drainage design.

Seamus went on to tell the group about the advantages of gravel backfill i.e. the scheme will work better and last longer, maintains easy route to drains, connects old systems but at around £15/ton delivered it is expensive. Gravel is usually backfilled to just below the plough level, although gravel may need to be filled to the surface depending on the undulations of the field. Drains must be laid across the slope to intercept water.

4. Carry out and record the work. Seamus emphasised that it is essential that the person undertaking the drainage work is experienced and competent; poorly designed and installed drainage systems can be very costly to the farm business.

After lunch discussions continued out in the field, where equipped with a drainage report that Seamus completed for Torr Farm back in 1982 the group were able to take a look at the drains thanks to Colin Dempster and Sons. Galloway Drainage Supplies were also on hand to discuss the different tools, pipes and materials available.

Gillian closed the meeting and thanked Seamus, Ross, Colin Dempster and Sons, Galloway Drainage Supplies and the group for their participation.

**Do you farm and would you like to attend to future meetings?**

The meetings provide sensible ideas for the farm business, from invited speakers and other farmers, to improve efficiency whilst reducing the loss of greenhouse gases. It's free to come along and you will be able to influence future topics, speakers and location of meetings.

The SAC facilitators role at Torr is shared by David Keiley and Gillian Reid. For details of the next Torr event you can contact either David at the SAC Dumfries Office on 01387 261172 or email [david.keiley@sac.co.uk](mailto:david.keiley@sac.co.uk) or Gillian in the SAC Perth Office on 01738 636611 or email [Gillian.reid@sac.co.uk](mailto:Gillian.reid@sac.co.uk)

If you want to keep up to speed with what's happening at Torr but don't want to attend all the meetings, ask to be added to the Torr email list; you will receive notification of future events and meeting notes. You can also follow us on Twitter @SACFarm4Climate

Visit the website at [www.farmingforabetterclimate.org](http://www.farmingforabetterclimate.org) or email a general enquiry to [climatechange@sac.co.uk](mailto:climatechange@sac.co.uk)

