



Organic Centre Wales
Canolfan Organig Cymru

Response from the Welsh Agri-food Partnership Organic Strategy Group
prepared by Organic Centre Wales, Aberystwyth University, SY23 3AL
to the Welsh Assembly Government consultation on:
The Welsh Soils Action Plan

<http://new.wales.gov.uk/consultation/desh/2008/welshsoils/welshsoilsactionplan.pdf?lang=en>

Background

Organic Centre Wales (OCW) was established in 2000 as a focal point for the dissemination of information on organic food and farming to producers and other interested parties in Wales. In 2003 it was agreed that it should extend its focus to public education, market intelligence, public procurement, and policy and strategy development, thus providing support to the whole of the community in Wales. There is a clear synergy between the aims and aspirations of organic farming and environmental goals, particularly relating to soils and their husbandry, and we offer our thoughts on the Assembly's proposed Soils Action Plan.

General Comment

It is disappointing that organic farming is not mentioned once in the Action Plan document; not only that, but the Organic Farming Scheme, an agri-environment scheme in the suite of Welsh Assembly Government Axis 2 schemes, is not mentioned at all. It is also a matter of regret that Organic Centre Wales was not directly contacted as a consultee.

Response

Question 1. Have the main functions of soil been correctly identified and described? If not, what other functions should be considered?

We consider the first function should be re-worded to prioritise the function of soil for the production of food, rather than focus on the role of food in rural economy. Food production is not just an economic activity, important though that is.

Soils' role in recreation and education are mentioned in the action plan, but not listed as functions, which should be corrected. In particular, the role of soil in gardening, both ornamental and horticultural is important in engaging citizens with ecological processes and the environment as well as providing exercise and increasing awareness of food production, quality, and contribution to good health.

In terms of recreation, the role of soil in providing functional green spaces for exercise and relaxation within urban environments is inadequately covered in the functions and in the action plan generally.

Question 2. Have we identified the main threats to Welsh soils, and the interpretation of those threats? If not, what other threats should be considered?

3.3 Contamination: the potential of contamination by GM should be listed, as this may render land unsuitable for some agricultural purposes in the future.

3.4 We query the statement that the main impact of soil erosion is on water quality, in that with increasingly catastrophic rainfall events, the impact of potential loss of soils, both for agricultural use and in terms of carbon retention, may be greater than anticipated.

3.5 Soil degradation. We query the statement that Welsh soils are less vulnerable to structural degradation simply because they are not ploughed. Ball et al (1997)¹ describe increased potential for atmospheric pollution following denitrification and for aquatic pollution caused by surface runoff in over-compacted grassland soils: further they note maximum and cumulative rates of emission of nitrous oxide were 2-3 times larger from compacted soil than non-compacted grassland soils after the application of nitrate fertilizer, either alone or with livestock slurry.

Comment: In the introduction to Chapter 3, a threat is defined as ‘an action or event that degrades the ability of the soil to perform the function for which it is being utilised.’ This may not be the most useful definition as it doesn’t protect the soil for its other purposes, such as carbon retention or capacity to produce food which may be strategically important. The threshold of irreversible damage also needs a time-scale, in particular for carbon retention. Ploughing of organo-mineral soils clearly causes some oxidation of organic matter, but if within an agricultural rotation, where the land is then under a grass ley for some years, the organic matter can return to previous levels.

Question 3. Is the relative emphasis on the individual threats correct from your perspective?

It is difficult to get a clear picture of the emphasis on threats unless the order of mention is a priority order. From our perspective the order of threats would be 1. Loss of soil organic matter, 2. Soil erosion, 3 Degradation of soil structure, 4 Loss to development (although this is a priority in urban areas), 5 loss by extraction.

We take this opportunity to highlight that some cross compliance measures suggest providing hard standing or tracks to avoid damage to soils, whereas these practices cap the soil and may be less reversible than some poaching.

Question 4. Have the right actions been identified for each sector?

¹ B.C.Ball, D.J.Campbell, J.T.Douglas, JK.Henshall & M.F. O’Sullivan European Journal of Soil Science, December 1997, **48**, 593-601

There is some duplication in Actions (for example reference to the Axis 2 review) and action 3, for example, is simply a statement.

Action 7. We would argue that there is sufficient work assessing the role that trees and woodlands play in the management of flood risk, diffuse pollution and soil erosion that the case is made and the action should be to move to incorporating their role in Axis 2 schemes rather than repeating assessments. Actions 22 and 23 duplicate to an extent.

Action 8. 'properly taken into account' will need some clear direction and guidance on importance. As it stands, this action would probably not provide motivation for doing things differently.

Question 5. What other actions are required within Wales, overall and within sectors? Who needs to deliver them and in what timescale?

The word 'consider' is mentioned frequently. These considerations should be documented and actions arising from the results of consideration deemed to be part of the Action Plan, rather than simply the consideration being the sole action.

The Welsh Assembly Government supports organic farming, a system of farming which prioritizes soil management and relies on soil husbandry for nutrient cycling and yield maintenance, yet the tools of organic systems are ignored in this action plan. Research has demonstrated that legume-based cropping systems have reduced carbon and nitrogen losses (Drinkwater, et al, 1998²). Research from long term trials elsewhere indicates better Carbon retention under organic than under conventional fertiliser regimes; any remaining unknowns relating to the fate of organic matter in organic rotations in Wales should be researched urgently. As there are multiple 'wins' from organic mixed farming systems relating to biodiversity benefits, high standards of animal welfare, systems less reliant on external inputs and responding to the market, information on rotations to support the development of soil organic matter should be identified and promoted.

Question 6. Which actions need to be prioritised?

Given the timescale for the Axis 2 review, Actions 21, 2, 6, and 7, but monitoring is also clearly vital.

Question 7. How and over what timescale should success be measured?

Many of the actions could reasonably be achieved within a year, given the timescale for the Axis 2 review and COGAP. Other actions where the action is to 'consider' steps, that consideration should also be achievable within one year.

Question 8. What indicators might be used to measure success of the Plan?

² L. E. Drinkwater, P. Wagoner & M. Sarrantonio (1998) *Nature* **396**, 262-265

The uptake of revised Axis 2 measures to protect soils will be useful, as would monitoring cultivatable land managed organically as an indicator of soil under productive use being protected. Otherwise, Actions 10 and 28 may provide some baseline information. Other indicators would be if positive actions result from the consideration of issues 10,11,12,14,24.

Question 9. What monitoring should be done to measure progress in protecting soils?

SAF returns could be used to monitor soils under continuous arable cropping, or to identify the proportion of soils with arable crops grown so frequently (ie without sufficient ley periods between) that there is a likelihood that organic matter in the soil would be depleted. Action 24 may provide some measures if a range of soil types is monitored. Aerial or satellite imagery, and local intelligence, could identify catastrophic soil events

Question 10. Over what timescale should the Plan operate before it is reviewed?

Soil being so important and so many of the actions being deliverable within one year this plan should be reviewed in no more than three years once a clearer idea of the situation has been gathered from monitoring.