

GAP conference, 22 September 2009

General theme: Soils and soil conservation, how soils connect to fragmented landscapes

20 mins

Title: Re-connecting with soils. The soil conservation challenge and win-wins for fragmented landscapes.

Talk summary

The soil conservation challenge is to facilitate and maintain soil processes that underpin sustainable agri-ecosystems, whose functions include the provision of food, ecosystem services (e.g. low pollution, clean water) and biodiversity. The sustainable functioning of agri-ecosystems is dependent on the conservation and management of soil biodiversity*.

Soil biodiversity is the primary driver of nutrient cycling, regulator of soil organic matter dynamics, soil carbon sequestration and greenhouse gas emission. Soil biodiversity modifies soil physical structure and water regimes, enhances the amount and efficiency of nutrient acquisition by the vegetation, and enhances plant health.

However, soil biodiversity is also driven by plant diversity, which is widely highly constrained by modern conventional intensive agricultural practices and current levels of soil nutrient availability. A key question is: can levels of plant diversity be established within an intensively managed grassland landscape that will provide a sustainable agri-ecosystem?

I describe an experiment that has just been started that has been designed to test a potential win-win for livestock systems that could fit into the fragmented pastoral landscape of the UK.

Jerry Tallowin

Note:

The Conference of Parties (COP) to the Convention on Biological Diversity (CBD) at its 6th meeting in Nairobi April 2002 **decided (COP decision [VI/5](#), paragraph 13) "to establish an International Initiative for the Conservation and Sustainable Use of Soil Biodiversity as a cross-cutting initiative within the programme of work on agricultural biodiversity. The FAO, with its Member countries, recognised the need for holistic consideration of soil health and integrated soil management approaches through integrating biological, chemical and physical considerations.*