

Peat carbon farming – experiences from Farm Peat

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1. Introduction

The FarmPEAT Project EIP is a pilot project funded by the EU Recovery Instrument Funding under the Rural Development Programme 2014-2022. This pilot was set up in 2021 in order to design and trial a results-based agri-environmental scheme with farmers who farm on peat soils around raised bogs in the midlands of Ireland. Another main objective of the project was to increase awareness of the importance of peat soils in terms of climate, water quality and biodiversity both within the local farming community and the wider local communities.

The FarmPEAT Project worked with 36 pilot farmers in Year 1 and this has increased to 49 farmers to date. These farmers have helped design the pilot agri-environmental scheme and their input and engagement has been vital to the success of the project. There is no obligation on any farmer to undertake any specific actions on their farm as part of the FarmPEAT Project. The only obligation that is asked of them is to allow their farm to be assessed by the FarmPEAT Team, to engage with the Team and to attend one training day a year. One of our main focus areas is farming on peat soils and how this can be best done to reduce greenhouse gas emissions from drained peat, while also benefitting biodiversity, water quality and the farmers. Some farmers (5) have undertaken drain management actions to rewet some of their peat soils and an additional two farmers are planning to follow suit. In other words 14% of farmers are committed to undertaking, or have undertaken, drain management actions to rewet peat soils. We are interested in exploring why some farmers are willing to do this and others are not.

Increasing awareness of the importance of appropriate management of peat soils among farmers, local school children and the wider local community is an important part of the project. We believe that sharing the latest knowledge and up-to-date science with farmers is an important factor in influencing decisions on farm management and educating local school children is a way of influencing future decision makers, landowners, farmers and policy-makers. However, we also felt that it was important to have the support and understanding of the local communities and so we have reached out to local community groups at our project sites to share knowledge and ideas.

2. The Results-Based Approach

Results-based agri-environment schemes are where farmers are paid to deliver a specific result or outcome. They differ from the more traditional approach to agri-environment schemes which were typically action-based schemes where farmers are paid to complete an action irrespective of the quality of the intended outcome. However, in a results-based (RB) scheme, farmers are paid depending on the quality of specific

results delivered on their farm (generally environmental quality of the land). In a way, RB schemes create a market for ecological goods and services of the land.

The FarmPEAT Project’s main focus in the results-based agri-environment scheme was to design a scheme that would pay farmers for managing farmed peat soils in a way that was beneficial, or more beneficial, for climate, water quality and biodiversity. However, we decided to take a whole-farm approach and so the scheme also pays farmers for managing peatlands, semi-natural grasslands, woodlands, hedgerows and treelines on their farms, irrespective of soil type.

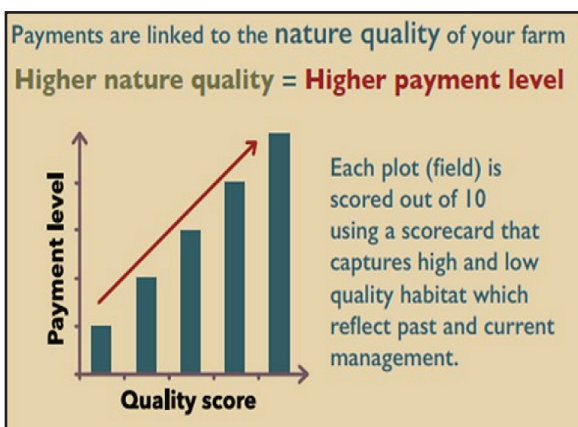


Table 1: Payment rates for plots in the FarmPEAT scheme

Plot Score	Payment rate (€/ha)
0	0
1	25
2	50
3	75
4	150
5	200
6	250
7	300
8	350
9	400
10	450

Most results-based agri-environment schemes use a scoring system in order to assess the quality of the desired ecological result and have a payment rate associated with each possible score. In FarmPEAT, we used scorecards from existing, well-established and successful RB schemes in Ireland as a foundation to design our own scorecard – schemes such as The Burren Project, the Pearl Mussel Project, the Hen Harrier Project and others. The scorecard is designed to be relatively simple and straightforward to use, but the importance of proper consideration to its design cannot be overstated. If the scorecard is designed correctly and the farmers understand it, it serves as a good communication tool to the farmers who can see clearly what the desired outcomes are and they can modify their farming practices to maximise their score/payment if they wish. As the scorecard is essentially the method of incentivising change or of maintaining certain management practices, it is crucial that it is designed correctly to ensure that appropriate actions/results are incentivised.

The results-based payment issued to each farmer is based on the score of each plot. Each plot receives a score between 0 and 10 with 0 reflecting low ecological value (and probably high agricultural value) and 10 indicating very high ecological value (and probably a low agricultural value). A plot that achieves the highest score of 10, will receive a payment of €450/ha. Payment rates for plots are shown in Table 1. Based on this payment system, the average annual payment in the FarmPEAT Project over three years is €2,442 per farmer. These payments are not for carbon credits, but they do incentivise carbon emission reduction and maintenance and enhancement of existing carbon stocks on farms.

3. Farms and Case Study

There is a variation in terms of farmers’ willingness to undertake ‘carbon farming’ or drain management actions on their peaty soils. We have found that there are a variety of factors that will influence this – factors such as if are they full-time or part-time farmers, the type of farm enterprise, the make-up of their farmland, in what condition their peat soils are and their succession status. A big factor is the strength of the desire to ‘do the right thing’ for future generations and what they believe this to look like. Farmers need absolute certainty from the scientific community that actions that go against all previous professional advice, which supported increased farm productivity and government schemes, are beyond contradiction and are the correct actions to follow for the best climate outcome. Financial compensation on its own may not be enough to sway some farmers who would see some of the actions that are asked of them as undoing their lives’ hard work.

Table 2: Summary of farm types in the FarmPEAT Project and of those farms that are committed to drain management on peat soils

	Number of farmers in FarmPEAT	% breakdown of categories of farmers in FarmPEAT	% (number in brackets) breakdown of farmers who have undertaken, or committed to, drain management actions on their peat soils
Predominantly Dairy	4	8%	0% (0)
Predominantly Tillage	1	2%	0% (0)
Sheep/Beef	45	88%	86% (6)
Other	1	2%	14% (1)
Total	51	100%	100% (7)

Within the FarmPEAT Project farmers, average farm size is 27 ha. The peat soils on the farms cover an average of 41% of the farm with a range from 4% to 89%. A summary of the types of farms that are within the FarmPEAT Project and those that have undertaken or are committed to undertaking, drain management actions on peat soils, is given below in Table 2 above.

Case Study A

Farmer	Full-Time, Sheep/Beef
Farm Size (within Project Area)	34 ha
% Peat Soils	35%
Length of drain impacted by raising the watertable	140 m
Approx. area of peat soil with raised water-table	1.2 ha
No. of dams installed	6
Type of dams:	Peat (4), Peat/Soil mix (1) and Plastic (1)
Installed by	Contractor

Adjustable pipe in peat dam gives flexibility and control with farmer – can adjust height of water in drain. Plastic notch can be made lower or wider. This flexibility is key.



Plastic dam being installed on Case Study Farm A on 7th Feb 2023



Drain one week after installation of dams



Drain one week after installation of dams

4. What’s the Future of Farming on Peat?

The FarmPEAT EIP is due to end in December 2024 and the farmers are keen to continue to receive financial rewards for farming their peaty soils in a carbon-friendly manner that also benefits biodiversity and water-quality. They are currently left with questions such as: Are carbon-credits the way that we will get funding for this in the future? How will the carbon be quantified and verified? Can a results-based approach be used as part of a carbon-farming system?

The FarmPEAT Project Team share these queries and below are some thoughts we have on the subject developed over the last couple of years working with these farmers.

- ▶ What is the baseline? Will farmers who have undertaken peat soil restoration measures as part of EIPs or other projects be able to access further financial support?
- ▶ Price of carbon units needs to be high enough to attract farmers and reward adequately but not so high as to attract large companies to buy up large tracts of land in rural Ireland
- ▶ Carbon credit should be linked strongly to biodiversity and water-quality, i.e. the accumulation of carbon or reduction of GHG emissions should not occur at the expense of water quality or biodiversity. We would see a carefully designed results-based approach as being a potential way to provide this balance.
- ▶ Verification for carbon/biodiversity needs to be thorough and of a very high standard

If a results-based approach is going to be used, FarmPEAT believes that further work is needed to:

- ▶ Develop and refine a suitable scorecard for carbon-farming (to include water-quality and biodiversity)
- ▶ Develop robust training for scorecard users to ensure consistence across time and space
- ▶ Conduct research into the distance from drains where water-table impacts are seen as a result of drain management actions
- ▶ Conduct research to determine the magnitude of the impact on watertable from drain management actions

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