



FARMING FOR
nature 
AMBASSADORS

Viewing the farm through basic ecological processes: water cycle, mineral cycle, energy flow, and community dynamics, is a fantastic way to shift your thinking towards farming with nature and low energy productivity. For example, increasing the number of green leaves photosynthesising on a given acre increases the amount of sunlight harnessed and therefore increases the “energy flow”. This will enhance the mineral cycle and improve soil structure, restoring the water cycle. The best way to maximise the number of green leaves is [through] “community dynamics” – [creating] denser swards with many different leaf shapes of different ages, filling different niches within the pasture. Above the pasture, there is potential for another canopy level with hedges and trees of different sizes and ages that will capture more sunlight, again increasing mineral cycles and improving the water cycle...

Clive Bright, Beef farmer, Co. Sligo



Nutrient management

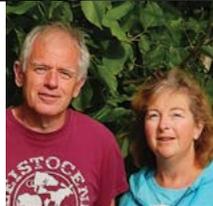
Slurry and fertilisers release harmful greenhouse gases.

The manufacture of chemical fertilisers generates ~1.4% of all carbon dioxide emissions and the application of both slurry and fertilisers releases nitrous oxide, a gas with 300 times the global warming potential of carbon dioxide. A nutrient management plan can help you to reduce your use of these inputs (and their associated costs) by improving the efficiency of their use and absorption.

- Treat your slurry with respect! – slurry is an increasingly valuable farm asset, don't waste it
- Retain, enhance and create buffer strips and hedgerows to help prevent nutrient run-off
- Maximise nutrient absorption by maintaining optimum soil pH
- Measure grass to identify fields that don't need fertilising
- There is a slurry storage deficit on ~40% of Irish farms. Could a slight reduction in numbers take the pressure off in terms of slurry storage?
- Where possible, use low emissions slurry spreading
- To maximise nutrient absorption, spread fertiliser, slurry and farmyard manure on warmer days (soil temp at least 6°C) and don't spread slurry out of season!
- Include nitrogen fixing legumes in swards or feed crops (e.g. clover, vetch, beans)
- Switch to using protected urea (rather than CAN)
- Try simple mobile phone operated GPSs and tractor sensors to maximise nutrient uptake through more targeted spreading

Co-benefits for farmers

- Decreased fertiliser use (lower costs)
- Increased farm self-sufficiency (lower external inputs)
- Decreased vulnerability to market forces (greater resilience)



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We have found that regenerative grazing practices have shown improvement in the soil and its fungal network in a just a couple of seasons. Furthermore, by leaving branches, old logs and sticks laid into the base of a hedge (they) provide nesting cover for birds, protect saplings and rot down to feed soil. We take wood from coppiced or pollarded (coppiced above browse height to allow regrowth when stock have access) broadleaved trees as it is a long-term sustainable source of fuel (firewood), fodder (stock love tree leaves) and bedding/mulch (woodchip).

Paul McCormick & Jacinta French, Beef & agroforestry farmers, Co. Cork



We found the main key solution for nature restoration on our farm is habitat-adapted suckler cows. Using Galloway cows, we practice the following grazing hierarchy on the Omega Beef farm; precision, strategic, targeted and extensive grazing. Empirical evidence has shown that this type of grazing delivers not just for nature and soil restoration but also for climate and food security.

Joe Condon, Beef farmer, Co. Tipperary



Pastures & soil

Healthy soil stores carbon and maximises the grazing season

Feeding (silage and concentrates) and housing livestock generates significantly higher emissions than keeping livestock at pasture. To maintain healthy soil and maximise the grazing season:

- Naturally fix nitrogen and improve drainage and drought tolerance by planting species-rich swards
- Allow sward diversity to develop naturally by reducing grassland management intensity (fertilising/spraying) and by avoiding overgrazing (especially in May-June when meadows are flowering)
- Keep your soil aerated by avoiding compaction by heavy machinery, poaching and pinch points
- Retain maximum soil carbon by minimising ploughing and reseeds
- Maximise the grazing season to minimise the need for imported feed – our use of soya based feeds is contributing to rapid destruction of the rainforest in Brazil
- Consider habitat adapted native or traditional breeds (e.g. Droimeann, Moiled, Kerry or Dexter cattle). These breeds are lighter on the land and require less intensive management to thrive

Co-benefits for farmers

- Reduced labour
- Reduced input costs
- Improved animal welfare
- Increased farm resilience and self-sufficiency



Water management

Our water bodies (rivers, lakes and oceans) naturally work together to support biodiversity and to store carbon.

When water bodies are polluted, these systems break down. Almost half of Irish surface waters are not in good health and the situation is deteriorating. Help to restore our water bodies by eliminating harmful farm run-off:

- Retain, enhance or create wetlands, buffer strips, field margins and native hedgerows to reduce run-off
- Never spread or spray inputs when rain is due
- Treat your chemicals with respect – just one drop of pesticide can pollute a small stream for over 30kms!
- Reduce herbicide use by using alternative methods of weed control e.g. non-synthetic herbicides and diverse crop rotations. As many synthetic herbicides are water soluble (e.g. MCPA, 2,4-D), it is almost impossible to ensure they do not end up in watercourses after application
- List the potential sources of run-off from your farm and how you might eliminate them. Some of these (e.g. slurry, herbicides) are more obvious than others (e.g. spoil from tractor tyres, washings or waste silage)
- Manage grazing livestock: fence livestock well back from watercourses; don't allow stock to drink

Co-benefits for farmers

- Reduced input, labour, fuel and machinery costs
- Cleaner water and improved health - research has detected herbicides in 38% of drinking water wells tested in Ireland!



Trees, scrub & hedgerows

Woody vegetation captures carbon.

- In less productive areas, allow for natural regeneration of trees and scrub
- Plant native hedgerows
- Allow existing hedgerows to grow tall and wide
- Experiment with agroforestry/silvopasture to build a climate resilient farm system
- Diversify farm enterprises by planting a native woodland (or better yet, allow one to naturally regenerate!)
- Retain, enhance or create woodland areas, copses and scrubland

Co-benefits for farmers

In a beef farming system woody vegetation can:

- Provide diverse grazing
- Provide shade & shelter
- Improve animal welfare
- Enhance biodiversity
- Diversify farm enterprises



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My top pointers to do would be to:

1. **Plant a hedge**
– draw down the ACRES payment over 5 years,
– hedge will allow you to get cattle/sheep out earlier in spring and leave out in autumn due to shelter benefit thus reduce slurry and feed bill.
2. **Trim hedges every 3 to 4 years on a rotational basis and reduce hedge cutting bill (60-70 euros/hour).**
3. **Plant a mix of red clover and ryegrass and get 3 cuts of top-quality silage with no nitrogen added and reduced meals to cattle.**

Stephen Morrison, Beef farmer, Co. Kildare





Energy & fuel

Maximising energy efficiency and moving away from fossil fuels are two ways in which beef farmers can minimise their carbon footprint!

- Minimise the use of chemical fertilisers, herbicides and pesticides – these are all manufactured using fossil fuels
- Have you looked into renewable energy? – a shed roof can be the ideal place to install solar panels and supports are increasingly available
- Can you produce more of your own inputs on farm? For example, growing your own feed crops reduces emissions from the transport of feed grown elsewhere [e.g. Brazil!]
- Can you mend a leaky pipe or trough? – drinking water production and supply requires energy from fossil fuels yet >43% of treated drinking water in Ireland is lost to leaks!
- If it's not in use, can you turn it off? [e.g. lights, appliances, electronics]
- Plastics are produced using fossil fuels – choose suppliers that minimise the use of plastic packaging and try to avoid using single use plastic products around the farm

Co-benefits for farmers

- Reduced fuel and input costs
- Reduced energy costs
- Improved farm self-sufficiency and climate resilience



Bogs & uplands

Peaty soils store an incredible amount of carbon, but they are fragile - it can take ten years for a single centimetre of peat to form!

Protect peaty soils in our bogs and uplands:

- Retain (don't drain!) bogs and wetlands
- Avoid burning, extracting turf, planting forestry, or overgrazing on bogs or peat lands
- Rewet and enhance bogs and wetlands by blocking manmade drains
- Fence livestock off sections of uplands to allow for some natural regeneration – historically our uplands would have supported a mosaic of trees, shrubs and grasslands!

Co-benefits for farmers

- Flood and drought mitigation – bogs act as giant sponges, absorbing water and then slowly releasing it
- Clean water – bogs and wetlands purify water





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Going organic works for my farm and pocket:

- A 40 hectare organic farmer gets paid Euro11,500 per year
 - An organic farm has priority access to Acres
 - An organic farm is kinder to nature because organic practices nurture the soil
 - Organic farms help against global warming because there are far less inputs in organic systems i.e. no chemical fertilisers and no pesticides
- It's worth thinking about.*

Michael Hickey, Beef farmer, Co. Tipperary

On my farm I have driven down inputs, maximised subsidy and supports and pushed revenue through direct sales. As a result the farm shows a profit equivalent to the average industrial wage and is a wildlife haven and a pleasure to farm. Conversely the average drystock farm uses up part of its subsidy income to survive and involves very high time-consuming inputs leaving very little opportunity to enjoy the farm.

Pat McKenna, Beef Farmer, Co. Monaghan



Our mountain farm allows us to practice a traditional winterage system for keeping hill adapted suckler cows. This system reduces the standard cost of keeping a suckler cow by over half. The beef products derived from this system, when sold direct from farm, have marketable traits that attract a significant premium over conventional products. In my own case farming with nature has been

the decisive key to the economic performance of the farm.

Joe Condon, Beef farmer, Co. Tipperary



Curious?

Have you run the numbers for reduced stocking rates or going organic?

Reduced stocking rates

Considering the rising costs of fertiliser and slurry storage, coupled with the new direction of farm payments under CAP 2023-27, could it make financial as well as climate sense to start to reduce stocking rates? If you are running the numbers for reduced stocking rates, don't forget to factor in reductions in your own labour time!

Going organic

Have you run the numbers for going organic? New financial supports and a growing market for organic beef products are making this an increasingly attractive option for beef farmers.

Nature co-benefits

Climate action on beef farms can benefit nature by creating:

- More species-rich pasture, supporting native fungi, insects, birds, mammals and more!
- Healthier rivers, lakes, estuaries and oceans, rich with life
- Habitat for our native species to feed and breed
- Nature-rich farms - loud with humming insects and singing birds
- A model for other beef farmers; when we experience nature on another farm we are more likely to want to protect it on our own!

Nothing beats nature for providing natural climate change adaptation and mitigation. Boosting biodiversity, from the soil to the treetops, will help your farming system to remain productive and resilient in the face of increasingly unpredictable weather events.



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Over the last 2 years I've made a conscious decision to cut grass less often so as to leave more space for insects. By taking just one cut of grass for fodder and also

by raising the slides on the topper [cut once] to leave a longer thatch and hence leaving more living space for insects, frogs and newts. This summer into autumn we have noticed a huge increase in caterpillar numbers especially the hairy horse caterpillar. I also observed an increase in wildflowers especially types of vetch and also knapweed growing in fields away from the hedges.

Gerry Fitzsimons, Beef farmer, Co. Cavan



case
STUDY



JAMES HAM is a beef, tillage and forestry farmer & FFN Ambassador, creating both great produce and diverse habitats on his farm in Co. Westmeath.

James says: "For years we have been fed a model of farming that sees only income from production at all cost. But farming alongside nature has reduce[d] our expenses. So how does it work for us?"

- We gave up on striving for high stocking rates years ago. The result has been healthier cattle, and so less vets bills, thus reduced expense. Lower stocking rate means less need to push the soil beyond it's capacity, so less fertiliser, healthier soil and reduced expense.
- We are lucky to have the land suitable for growing some barley, leaving us self-sufficient in feed and straw. The cereal crop adds to the diversity of species on the farm. Reducing to almost no chemicals on the crop is a further reduced expense, but also has improved soil health and we see an increase in insects which then has nature benefits.
- The cereal rotation means that we are reseeding regularly, and for the last ten years have gone to more mixed seed mixtures with the emphasis on older less

demanding grass types, and clover which results in less fertiliser cost, but also benefits nature.

Including species such as Plantain and Yarrow, help combat the worm load in cattle. We haven't used chemical dose on the stock for a couple of years, with no adverse affects and reduces costs, both chemical and labour. Also hugely beneficial for soil biodiversity.

I have continued the practice of hedge laying, which leaves the hedges much better for biodiversity, but means better hedges for livestock shelter, contributing to the thrive of the animals as they have better weights, so increased value at sale. On our cattle-only farm, a lot of our fields are easier to fence due to the quality of the hedges which reduces expense.

We also have managed for years to produce enough of our firewood need from the hedge maintenance work, so eliminating household fuel bills which is a big one.

- The forestry/woodland, managed as Continuous Cover Forestry, is already also contributing to the supply of fuel, while developing a very nature friendly woodland system it has reduced the household cost. There is some potential for sale of firewood also. Furthermore, the mixtures of species in the woodland is hugely necessary for biodiversity. We planted some plots of Hazel to that end, but for the last two years I have found a small market for the coppice produce from the Hazel, for use in gardening which has bought a new income, albeit limited.

After all that, I suppose what can be said is that making the farm work around nature, leads to reduced costs, and our experience is that, despite perceptions, the production side of things is still working well."

