

CALVERSTOWN HOUSE

Farming for nature



A 214 acre farm situated on the ancient settlement of Calverstown. In 1280, a Norman Knight named Thomas Calf took possession of the domain, giving his name to the village.

The farm was purchased by Peter McCall in 1958 and taken over by his son Kim in 1986. The modern day farm is managed in a holistic manner. What we are promoting is excellent biological activity and interaction between plants, soils and animals.

www.calverstownaubrac.com

PLANTS

Pasture management has changed dramatically in the last 10 years from set stocking to rotational paddock grazing. Paddock grazing can go now from 1 week to 2 days, depending on age of animals and group size and topography. The idea is to leave grass to grow grass, so the cows are removed before re-growth occurs. This allows the grass not to be checked and photosynthesis not to be impeded.

At the end of the day we all live on photosynthesis, be it ancient (petrol in your car) or recent (milk on your cereals). We try to graze effectively so we don't need to top. The sheep move around, with or without the cattle.

All pastures are **old permanent pastures**. The youngest pasture is about 50 years old. Over-seeding with a diversity of species was used on a couple of fields where they had been abused through previous poor management practice.

Leaving a sufficient grass cover when the animals are moved from the pasture and using **a variety of grasses** rather than a monoculture means that there are no bare patches. Every inch of ground is covered. The grass is thick and nutrient rich.

Some of the species include, clovers, plantain, dandelions, daisies, yarrow amongst others. They all have their roles to play as mineral collectors and also provide flowers for insects and seeds for birds.



As an experiment in May 2019 we direct drilled 20 different types of plants in one field - grasses, cereals and legumes directly into an existing living pasture (no use of roundup).

Nutrients to pastures: Slurry in January/February depending on year: 1100 gallons + 2000 gallons of water per acre go on 60 acres. Slurry in May, 1000 gallons + 2500 gallons of water/acre go on 50 different acres.

Additives to slurry: humates, biochar, penergetics or Sobac, boron, molasses, sea water on agitation and spreading. It is spread with a pipe and splash plate, on a cool windless day if possible.

Other nutrients used are natural rock: lime (2 tons/acre); polysulphate (50 kg/acre); basalt dust (1 to 2 tons/acre) added to farmyard manure and mixed. In 2019, 20 tons of quartzite (silica) will also be spread. Farmyard manure is spread in spring or late summer at about 4 tons/acre.

The hedgerows are managed as shelterbelts and for biodiversity. The roadside hedges are trimmed yearly in winter but top and roadside only. All other hedges are never touched or maintained only if needed.

The cows trim the field side where they can reach it. The same applies to the grasses at the bottom of the hedge. The base of the hedges are never sprayed. The hedges are predominantly hawthorn and blackthorn.

Where gaps have occurred they have been filled with field maple, hornbeam, dogrose (all capable of growing in the shade) with added crab apple, spindle, guelder rose, hazel, holly, red and black currants. All are good for flowers, berries and nuts. Oak and beech trees are also planted in the hedge as future trees.

A hedge planted on a bank is best. This creates more than one habitat. Hedges





are purposely left wide and surplus fallen branches can be added at the base to create yet another habitat. Anything goes except excessive spraying and cutting.

There are a number of **wet grasslands** on the farm. These can be productive as well as rich in diversity but need a more careful management than conventional grassland as you are trying to achieve a number of different aims. In a nutshell, cattle are excluded in the summer time from these areas and allowed to graze from September to end of April. This creates flowering habitat that will re-seed naturally and areas for various species to breed. The grazing cow is the management tool.

The **forestry** operation, approximately 30 acres, is constantly evolving. 40,000 trees have been planted in the last 60 years. They are a mixture of softwood and hardwood. In 2015 a plantation of Sitka Spruce was clear felled. It has been replanted with mainly Sitka but also a diversity of other species, birch, chestnut, alder etc... In other parts of the farm there are also oak and beech woodlands. The old trees on the farm have been carefully retained. They provide food and habitat for a huge number of species. Replacing a large tree by a sapling (better than not replacing it!) will take a hundred years to provide the same habitat.

The **vegetable garden** is also an integral part of the farm, and is cared for in the same way. It is a no dig garden with some permanent beds. Plants beneficial to pollinators and other insects (dead nettles, woundwort) are left to grow amongst the vegetables and flowers. Some of these vegetables are left to provide flowers, especially in the spring, seeds and stems for egg laying or hibernating. No pesticides are used. By providing permanent habitat, it helps to balance pest and predator numbers. A healthy plant is less likely



to be attacked by predators and a healthy soil will grow a healthy plant. A cover of grass is left on the soil for the winter and mowed in the spring as the space is needed. Hay or straw reclaimed from the sheds is used to mulch along with lawn mowings. Seedlings are grown mostly in the polytunnel and transplanted outdoors when the weather permits. The potatoes are placed on the soil surface and mulched with compost, old hay or cut grass. We are not afraid of weeds, they all make excellent mulch with added minerals.



A series of **ponds** that were present in the 1800s and subsequently filled in have been reintroduced in the last 30 years. The largest of them, situated in a damp area has been surrounded with a forestry plantation of mainly deciduous trees (6 ha). At the centre of the farm, this forms a complete wildlife heaven.

SOIL

Homemade Biochar is added to slurry and manure. By adding biochar, the more soluble nutrients will be locked in the pores of the char instead of leaching away and made available to plants when needed, via biology, microbes, mycorrhiza, bacteria, and so on. The surface area of 1 gram of ground bio-char is equivalent to the surface area of a football pitch. Bio-char will in itself sequester carbon by being very stable and will stay in





the soil for many hundreds of years, some say thousands. This method produces nutrient dense forage which in turn has the potential of producing truly forage finished animals, without the need for cereals. This is a way to reverse global warming, taking CO2 out of the atmosphere and sequestering it back into the soil, from where it came from in the first place. Home made biochar is produced in a flame cap kiln, burning scrap wood, in a way that

the flame itself excludes oxygen from the bottom layer, which will pyrolyse rather than ash. This makes biochar while giving very little smoke. Biochar needs to be charged with nutrients (slurry, manure...) before being applied. If applied un-charged, it will absorb the nutrients from its surroundings.

Photosynthesis is also a very important factor. For this reason we remove the cows from the paddocks when there is still 4 inches of grass. This is the solar panel that allows the leaf to recharge the roots which feed the biology in the ground, which in turn feed the plant that grows the leaf. All this adds carbon to the soil, keeps an open soil, water holding capacity increases and it will be more able to withstand unusual climatic changes. Organic matter is built through photosynthesis and biology and this produces stable humus. There is also the misconception that only clover / legumes can produce nitrogen. Wrong. All green living plants in relationship with soil microbes can and do through the process of photosynthesis - exudates capture atmospheric nitrogen. The atmosphere is 78% nitrogen, 21% oxygen, the balance is all the rest. This equates to 74 to 78 thousand tons of atmospheric nitrogen above each hectare of ground (and farmers buy it in bags across the world...).

ANIMALS

The farm carries 75 pedigree **Aubrac suckler cows** and followers and stock bulls. The average number of bovines on the farm all year round is approximately 150.

In winter the cows are fed only on hay, haylage or silage depending on the year. They are fed a set amount in the morning and a small amount in the evening. All cows can feed at the same time. They do not get meal. The heifers are fed mostly silage in the same manner. Bulls for sale are fed silage ad lib and approximately 2kg/day of ration over the winter. Almost all the fodder



is produced on the farm but depending on the year a small amount can be purchased from neighbours, all straw is purchased.

On average all animals are turned out to grass around the 20th of March. Fertility and health are high due to good nutrition and the breed chosen. The cattle do not get mineral buckets but get rocksalt to lick. They get the minerals they need through a variety of nutrient rich grasses (grass in summer/home grown fodder in winter).

We have chosen the Aubrac breed for its ease of management and its true sustainability. It is a mountain breed, able to digest rough forage. Hay is the ultimate fodder, giving a large biomass at the least cost.





The Aubrac is a solid, all round efficient breed. The cows produce a quality calf per year at a minimum cost (mother's milk and grass). They calve unassisted. Vet bills and meal bills are small. They have good beefing ability (even on a grass only diet) and their kill-out is high. They are the perfect breed for true sustainable farming.

The herd is a pedigree herd and most animals are registered in the Aubrac Herd-Book. It is fully monitored and part of Herd Plus, BDGP and the Whole Herd Recording Program from ICBF. Most of the animals are sold as breeding stock.

There are also **60 ewes**. They produce on average 1.65 lambs/per year. The ewes are a Rouge de l'Ouest cross, the rams used are Rouge for replacement and Beltex or Beltex

cross for terminal. They are fed on home grown hay and like the cattle are fed a controlled amount of fodder. The pregnant ewes get approximately 1 pound of concentrates in the last 6 weeks of pregnancy. No meal is fed to the lambs.

Biodiversity is life and the more biodiversity you have, the more life you have, from the smallest to the largest.

The more habitats you can provide the more biodiversity you will have:

old trees, hedges, dark places, sunny sheltered spots, wet areas, dry areas etc... if you provide a suitable space, Nature will fill it. On this farm, we have many such habitats and we have the wildlife to match it. There will always be room for new ones. It would be better

not to have invasive species but if they are there, you have to live with them and Nature will work it out. All creatures are welcome as they all contribute something. All they need is, like ourselves, a safe place to live and rear the next generation.

With the help of **Birdwatch Kildare**, we have put up several types of nest boxes. We also participate in monitoring schemes with the **National Biodiversity Data Centre** (butterflies and bumblebees), but all species can be recorded and anyone can do it from beginners to professionals. Who knows, you could become a world authority on a less known species.... Just give it a go!

The farm will be involved in a **European Innovation Project** coordinated by the **National Biodiversity Centre**. It will involve 40 farms of different types.

The aim is to monitor pollinators on those farms, advise farmers on how to improve the habitat and come up with a general scale which could be applied to all farms across the country to measure their pollinator habitat.

We are looking forward to first of all knowing more about the species that live on our farm and then learning how to look after them better.



REFLECTIONS

If every farm across the world could keep a green cover on the ground for as long as possible, we could restore the carbon in soils.

80% of the world soils have been depleted or lost and soil organic matter has dropped on average from 5% to 1%. That is a huge amount of carbon that has been gasified.

We firmly believe that the suckler cow can be a friend rather than a foe in keeping carbon in the soil, as well as being a valuable food source (most trees are not), if the appropriate breeds are used and managed in an appropriate manner. They can be a positive tool in enhancing high biodiversity grassland.

As farmers, collectively, we have control over vast areas of land. Not everyone has that chance. Many people who have no land would love that opportunity to make a difference on the ground. Let us not waste the huge opportunity we, as farmers, have.

Unlike someone sitting at a desk in front of a computer, a farmer never has a blank page in front of him. There is always something

growing, living, breeding where we intend to farm. Just because what is there is not exactly what we want, it doesn't mean it should not be there at all.

Maybe plants and creatures can just be moved over slightly to the side instead of being eradicated.

Every farm has little corners that are awkward. Let biodiversity live there, let your hedgerows be wildlife corridors, and let just a few of your "weeds" flower and support life. Those **small areas can make a big difference**, cost nothing and have no impact on your farming income.

For advice look up:

FarmingForNature.ie or **Pollinators.ie** amongst others. Life on earth has had 3.5 billion years of research and development, it has always swung either side of balance and is constantly evolving.

We as a species should listen to these systems because Planet comes first and individual species come a very distant second.



The farm has received multiple awards:

1989 winner of All Ireland ICI-Farmers Journal Farming Conservation Awards;

1999 winner, RDS-Bank of Ireland Profitable Farming And Conservation Awards;
also Award winner for Leinster of REPS 2000;

Runner up of RDS National Forestry Awards in 2011.

Featured on Ear-To-The-Ground in the late 90s
and in December 2016 (carbon footprint).

In 2018 it was one of six finalists in the new Farming For Nature Awards.

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