

PEOPLE

Scotland's biodiversity engineer

In recent years it has developed a poor reputation but the humble cow is improving the soil under its feet, and the vegetation above it. Deforestation is down to us and how we manage cattle, says **Roger Morgan-Grenville**

Ten thousand years after man first domesticated cattle to his own purposes, the signature of the modern cow is everywhere in our connected lives. Far beyond the obvious role cows play in our diet and footwear, they appear in our sweets, our shaving cream, our shampoo, and even the tyres on our cars, and the fire extinguishers in our homes.

Down in the local hospital, you'll find their signature on every ward, and in each department of the garden centre. Even the fact that you don't have, and never will have, smallpox, is down to a cow named Blossom. There are around a billion of them, based in just about every country on earth apart from the Vatican. But for all that they give us, and it is a great deal, we have somehow come to place the cow at the middle of all the battles we are fighting on diet, emissions, ethics and biodiversity loss, often as the villain.

Nothing could be further from the truth. It is not the cow, but the way that we have come to farm the cow, that is the problem. With our insatiable burger habit, and our extraordinary ability to waste a third of all the food we produce, we have come to farm cows intensively, often indoors, and frequently on imported food that they are simply not designed to eat.

This not only wastes fossil fuel moving feed around, but has also led to an appalling round of deforestation in countries like Brazil and Malaysia. At the rate that we are going on the extinction of other species, it is also likely that the cow will be one of the largest animals left on earth in a hundred years, so we might as well start doing the right thing by them, and with them, if only for selfish reasons.

In the 18 months that I followed cows, and worked with the farmers

and stockmen and women who looked after them, one of the most compelling discoveries I made was just how good at biodiversity engineering cattle are.

To understand what I mean by that, we need to go all the way back to their ancestor species, the aurochs, and to imagine them moving their way around the countryside in enormous herds; the natural eating pattern that they followed we now call 'mob grazing', a term that describes short-term, intensive grazing that allows the grass to recover and thrive between visits, and the cow to understand exactly when is the right time to come back.

Maybe the best modern example



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of this were the 60 million bison on the American plains, until they were killed off in the evolutionary blinking of an eye in the 19th century. The cow is good for the grass, and the grass is good for the cow.

Deep in a Dutch laboratory, millions of Euros are being spent on a project to recreate the aurochs so as to graze conservation areas in a more sympathetic way, but it really isn't necessary.

Because in every corner of the country and the continent, we already have the breeds available to do this job without spending any money at all. They are our local breeds, all of whom evolved to fit perfectly into the landscape that they would be grazing: hardy for the mountains, light-footed for the wetlands and thrifty when the available pickings were hard to come by.

For many decades, these specialist breeds were allowed to decline alongside the race to get the most productive milker and the most reliable beef producer. But since 1973, when the Rare Breeds Survival Trust was established, not only have there been no more breeds lost, but many of them have come to thrive again.

Take the Belted Galloway, the striking black cow with the white "belt" that we now see as the conservation grazer of choice in many areas.

Down in Galloway itself, where writer and farmer Patrick Laurie runs part of his little herd of Galloway Riggits on the edge of some tough Forestry Commission land that was once covered in tough sliabh grass that prevented almost anything else growing alongside it, and gradually lost the hierarchy of its own biodiversity, from the grouse to the curlew to the very raptors that had once preyed on them.

What follows the removal of farm activity is, counter-intuitively, a



Belted Galloway cattle, main and above; intensive cattle farming has led to deforestation, above right; Roger Morgan-Grenville, below left

loss of habitat and a degradation of the surrounding land. A few years after the cattle were put in place, the cascade has started that will eventually lead to a return of the lost species. And it's not just the birds. Invertebrates and other animals are coming back, as well, quite apart from the reduction of the risk of damaging wild fires.

The benefits of grazing under these circumstances are twofold: first, the "lusher" plant species tend to be the most attractive to the cow, which in turn gives the less powerful plants the opportunity to thrive.

Secondly, by preventing nutrients from being recycled back into the soil, they allow back many of the rare plants that require low nutrient conditions. In the Forestry Commission's Lochaber Study, Highland cattle are helping "to improve habitat for butterflies, including the rare chequered skipper and pearl-bordered fritillary".

They have also found that the shorter grass has provided better areas for the black grouse to lek in, and more choice of vegetation in which to feed their chicks. The Scottish Wildlife Trusts have around 30 reserves under some form of grazing regime, helped by a herd of 400 cattle and 4000 sheep.

The skill in this is, as in so many other things in farming, timing – and knowing when to remove them, say, so as not to disturb the breeding cycle



Taking Stock: A Journey among Cows is published by Icon Books, out now at £18.99

WELLBEING

How to make a micro-meadow in a city garden with just five plants

Gardening expert Lucy Bellamy offers planting recipes for small spaces, writes **Hannah Stephenson**

Creating your own tiny patch of meadow in an urban area doesn't have to be complicated – in fact you only need five types of plants to do it.

So says Lucy Bellamy, author and former editor of Gardens Illustrated magazine, who has a small city garden 5m wide by 8m long in Bristol. She has now written *Grow 5*, a collection of 52 simple planting 'recipes' featuring seasonal ideas for small outdoor spaces using just five plants.

She says that using five types of plants draws on repetition, a key design principle. A combination of five allows the plants to provide the excitement and perform the lion's share of design work.

"I chose five because it's close to nature, where it's really rare to see a monoculture or just one or two plants in a sea of soil. Nature is all about knitting a small group of plants together and that's what this does.

"There's been a move in the gardening world into what is called perennial meadows. Whereas a traditional meadow uses annual plants, perennials which look meadow-esque will keep coming up year after year but are not necessarily grown from seed every year. They are really easy maintenance but look amazing."

If you have no borders and only a trough or other container to plant in, you can still grow a micro-meadow, she insists.

"The idea of five plants works really well in a pot, working together as a medley but in a really tiny space, using maybe one of each of the five plants.

"It's about thinking about your colour palette, using different textures and choosing plants that flower for a really long time."

In a small city garden, loose meadow-like plantings feel quite unexpected and therefore have much more impact than they would in a wider setting, she observes.

Consider your aspect – are you in sun or shade? Think about choosing plants with different shapes – look



Lucy Bellamy, above; Allium 'Miami', inset

at the clusters and shape of flowers, consider grasses with fine filigree foliage.

"Think about contrast in shape and the element of repetition, so everything's not the same but everything's not completely different," Bellamy advises.

Here, she offers a recipe for a contemporary take on a micro-meadow, using structural plants with strong shapes,

including alliums, irises and plume thistles, softening them with stipa grass and wispy fennel.

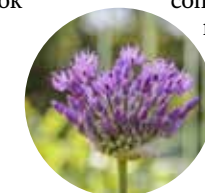
"The plants I've chosen will all benefit from a sunny position, but they won't need a rich soil," she says.

"New contemporary meadows thrive on quite a scratchy, urban soil. To give them extra compost makes them less resilient, so grow them quite hard."

The five plants you'll need are Allium 'Miami'; Cirsium rivulare 'Atropurpureum'; Foeniculum vulgare (fennel); Iris 'Sable'; Stipa gigantea.

Begin by digging over the soil to a crumbly consistency.

Starting with the Stipa gigantea, space the plants out on the soil, still in their pots, and consider how they will look in different spots, including when you view the scene through your window.



Add the Cirsium and fennel, in ones and twos, so that the flowers and foliage mingle at the tips.

Dot Iris 'Sable' at random among the other plants, making sure you don't place them too close together, as they will be hefty plants.

When each plant has a spot, dig a hole for the stipa, Cirsium and foeniculum, tapping each plant from its pot and easing out a few roots with your fingers.

Dig a hole the depth of each plant pot before planning them.

Plant the irises, not too deeply, as the top of the rhizome must remain above the soil. Water thoroughly. Alliums are best planted the previous autumn as dormant bulbs, buried 10-15cm deep, tucking them between other flowers, or you can buy them as budding bulbs in early summer.

Bellamy adds: "These modern meadows are designed to have a long season of interest – the plants will naturally change and evolve throughout the year – so the fennel will in summer have yellow flowers, while the allium and cirsium will hold their shape after their colour fades, providing decorative seed heads which last through winter."

Grow 5 by Lucy Bellamy (photography by Jason Ingram) is published by Mitchell Beazley, priced £22. Available now.