Discussion groups:

The new Teagasc Biodiversity Management Practice Index (BMPI) is showing farmers how well they score on biodiversity management practices.

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Do you listen to the dawn chorus as you cross the yard in the early morning? Do you smell honeysuckle at dusk as it emits its scent to attract night flying moths? Have you picked mushrooms in dewy autumn fields? Are there primroses in your hedge banks? This is all down to biodiversity.

Biodiversity is the new 'buzz word'. Farmers availing of the Nitrates Derogation are now obliged to commit to undertaking a biodiversity action and the new CAP will certainly include many references to the 'b' word.

What is biodiversity?

Biodiversity includes birds, bats and bees – not forgetting the insects that are the first rung in the food chain. People like trees, and sometimes clear vegetation from underneath them. But these shrubs, wildflowers, fungi and mosses are as important in terms biodiversity as the trees themselves.

On Irish farms, we are only interested in native biodiversity, which means species that have been here for 10,000 years – since the last ice age ended. This excludes alien species (there are about 100 such species, including Japanese knotweed and the grey squirrel). Many familiar species, such as beech, sycamore and chestnut, are introduced ornamental garden plants and have only been here for a few hundred years.

The reason to favour native Irish flora and fauna is that they are in tune with each other – flowering and fruiting at a time suited to associated invertebrates. For biodiversity, only native species of Irish provenance – which means grown from seed collected in Ireland – should ever be sown.

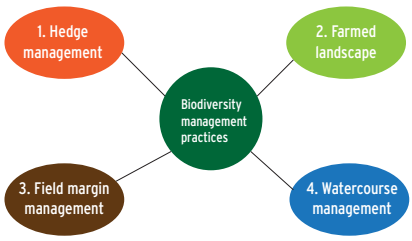
There is a group of native species that must be controlled, however. These are the six noxious weeds: ragwort, docks, thistle, male wild hop, barberry and spring wild oat. All other 'weeds' have biodiversity value and should be allowed to grow and flower where possible.

Why maintain biodiversity?

The law is the first reason to take care of biodiversity – if you have SACs (Special Areas of Conservation) and SPAs (Special Protection Areas) on your farm, you are legally obliged. In addition, laws prohibit hedge cutting during the bird nesting season from 1 March to 31 August throughout the country.

There are financial considerations too, as biodiversity becomes an increasingly important part of agricultural schemes, such as the Basic Payments Scheme and the Nitrates Derogation, as well as agri-environment schemes. Irish food has a clean, green image and maintaining these green credentials includes looking after biodiversity.

Another reason often mentioned by



Nitrogen derogation commitments

Adopt at least one measure:

- Leave at least one mature whitethorn or blackthorn tree within each 300 metres of hedgerow.
- Maintain hedgerows on a minimum three year cycle.

Cutting annually stops flowering and fruiting

Buzzing about biodiversity

Members of the Tallow Lismore Knockanore Discussion Group with Aoife Leader, Eamonn Lynch and host Brian Ronayne.

Brian Ronayne and Eamonn Lynch

Farmer focus

Derogation dairy farmer Brian Ronayne is a member of the Tallow Lismore Knockanore discussion group, milking over 400 cows in Dungourney just over the county border in east Cork. He says he enjoys the biodiversity on his farm.

The farm, which has an average field size less than 5ha, proves that scale and efficiency are compatible with encouraging biodiversity.

"The internal hedges provide shelter for the cows and they are part of the landscape. It's nice to see cows and wildlife living side by side," says Brian.

Dairy advisor and group facilitator Eamonn Lynch adds: "The Teagasc Biodiversity Management Practice Index is very useful for advisors to get a conversation going among farmers in a discussion group on the topic of biodiversity.

"It leaves farmers with a clear understanding of what they can do to maintain and improve biodiversity, without abandoning efficient farming."

Aoife Leader with the results from a BMPI discussion.

farmers looking after nature on their farm is 'well-being' – it is nice to work and live on a farm that is highly productive, but also of high nature value.

Where to start?

There are four key principles. The first is to retain existing habitats. Secondly, maintain habitats following best practice.

Thirdly, rejuvenate degraded habitats. Once these options are exhausted, the final step, the last resort you might say, is to create brand new habitats. For example, while planting new hedges is good for biodiversity, retaining existing old hedges with huge levels of associated fungi, lichen, moss and invertebrates, which have developed over hundreds of years, is far more beneficial.

On intensively managed farmland, the most common habitats are linear – hedges, field margins and watercourses. The value of these linear habitats far outweighs the area they take up.

They are corridors for movement, acting as protected routes for nature through the farmed landscape, allowing productive farming and biodiversity to co-exist – provided both are managed according to best practice.

Benchmarking Biodiversity

More than 90 farmers from Kilkenny and Waterford have 'benchmarked' their biodiversity management practices at recent discussion group meetings.

Using the Biodiversity Management Practice Index BMPI, each group took an in-depth look at their management practices, in relation to biodiverse areas such as hedges, watercourses, field margins and the 'farmed landscape'.

Lively discussion was had around various aspects of farmland biodiversity and its management.

The average BMPI score across these groups was five out of maximum possible of eight. Individual farm scores ranged from two to seven. This highlights that there are areas where positive practices are already in place on all farms and also areas where improvements can be made.

The target BMPI score for all farms is eight out of eight. With some relatively simple changes in practice, this can be achieved.

How do you score?

1. Hedge management		
	Internal Hedge Height	
	Is the average height of most of your internal hedgerows (above ground level including banks where present) above 1.5 m?	Yes / No
	Flowering Thorn Trees in Hedges	
	IF hedge is escaped (line of tall trees) - does hedge contain mature flowering thorn trees OR IF topped – does hedge contain thorn saplings and trees?	Yes / No
2. Farming Platform Structure		
	Average Field size	
	How many hectares do you own?	
	How many fields (surrounded by permanent diverse boundaries) are there on your owned land	
	What is your average field size?	
	Is your average field size is less than 5 ha:	Yes /No
3. Field Margin management		
	Uncultivated Field Margin	
	When cultivating fields how close do you cultivate to the permanent boundary	
	Do you retain at least 1.5 m uncultivated field margins	Yes / No
	Unsprayed Field Margin	
	Do you avoid spraying within your field margins (except for spot spraying noxious weeds)	Yes / No
4. Watercourse management		
	Fenced Watercourse Banks	
	Are all watercourse banks on your farm fenced?	Yes / No
	Watercourse Margins	
	Is there a fenced watercourse margin of at least 1.5 m on all watercourses?	Yes / No
	Prevention of Drinking Access	
	Do you prevent livestock gaining drinking access to all watercourses?	Yes / No
Number of positive Biodiversity Management Practices (Yes's)		

1.Hedge management

In winter, birds' nests are clearly visible and most are at about eye level. Birds do not nest near the ground where foxes can reach them. Therefore, hedges must be at least 1.5m to be used for bird nesting. Nests too high up are vulnerable to birds of prey.

The fact that there are no birds' nests in hedges cut to a 'short back and sides' has been an argument for allowing such hedges to be cut in the bird nesting season. However, we cannot claim that our farms are good for biodiversity if our 'scalped' hedges are of little use to nesting birds.

Similarly, we cannot claim that our farms are good for bees if there are no flowers in hedges. Bees need flowers. These are present in 'escaped' hedges, where thorn trees have grown up into single mature trees, with a single trunk and full canopy, or where occasional thorn saplings are retained in topped hedges.

Therefore, the management guidelines for hedge cutting are: Side trim with a wide base creating a triangular profile, leaving the peak as high as possible, while still cutting the growing point. Occasionally, leave individual thorn saplings to grow up into mature trees.

2.Farming Platform Structure

As diversity is good for biodiversity, the average field size is the recommended benchmark – not the minimum or maximum size of any individual field. A'dairy prairie' with very large fields and no internal hedges scores poorly for biodiversity.

Farms with a network of internal boundaries, rich in biodiversity, provide movement corridors for birds, bats, bees and mammals. Linear habitats and networks are far more valuable for biodiversity than the equivalent area in a block. The cut-off in this index is 5ha, so farmers with an average field size of less than 5ha are rewarded with a score.

3.Diverse Field Margins

Diverse field margins are valuable habitats for biodiversity. These are distinct and separate from the adjoining hedge, provided that they are more diverse than the adjoining crop in the field. They could be a permanent boundary on their own, separating two fields.

The value of diverse field margins lies in the range of species of grasses and flowering plants, and also in the structure of the vegetation compared to the adjoining crop of grass or tillage. This diversity means they provide food, shelter and nest sites for birds, mammals, bats and invertebrates.

If cultivated and cropped similar to the remainder of the field, their value is removed. Spraying decreases their diversity and value.

4. Watercourse management

In addition to protecting water quality for human use and livestock drinking, watercourses are very rich in biodiversity. The presence of water in a habitat adds an additional range of flora and fauna species.

Watercourse banks include habitats for a specific range of plant species and associated fauna. Fencing banks from livestock protects the biodiversity in the watercourse from sedimentation and nutrient enhancement, and protects the vegetation along the watercourse banks.

Extended fencing to create a watercourse margin further protects the watercourse. It also creates an additional habitat similar to a non-watercourse diverse field margin, but one which is used by birds and mammals associated with watercourses. Preventing livestock drinking access eliminates the direct deposition of nutrients by livestock, disturbance of the watercourse and sedimentation.