



crop protection

shelter

soil protection

carbon storage

wood fuel

pollinators

reduce pollution

pest control

shade

The Benefits of Healthy Hedgerows

flood control

people's trust for endangered species

What have hedgerows ever done for us?

We are interested in hedgerows for the habitat and connectivity they provide our landscape. However, they also deliver huge benefits to farmland, beyond that of a field boundary.

Livestock

Shelter - Livestock without shelter have a higher mortality and require more food. Shelter increases lamb survival rates, reducing the effect of wind chill and hypothermia.

Shade - In the summer months, heat stress can reduce milk yield in dairy herds and affect fertility, growth rates and disease resistance. The shelter a hedge provides to a field can extend up to 16x the height of the hedge.

Animal health – Reductions in damp conditions in fields may reduce incidence rates of lameness and liver fluke.

Diet diversity – supplementary browsing on diverse plants can increase gut microbial diversity, improve immune function, and improve feed conversion efficiency.

Biosecurity – Thick, stock-proof hedges can be a barrier to the spread of disease such as bovine TB as it can reduce animal to animal contact by separating flocks/heards between farms and livestock.

Parasitic load – Livestock (including cattle and sheep) have been shown to be able to self-medicate by browsing on common species often found in hedgerows. Browsing leaves with:

- ▶ pharmacological antiparasitic properties
- ▶ rough surfaces that act as a rasping plug
- ▶ those that cause a purging response

These can all interrupt the lifecycle of parasites and reduce the parasitic load.

Crops

Wind damage – Hedgerows provide a wind break, increasing crop yields by reducing the damage that high and cold winds do such as:

- ▶ crop lodging (crops being bent over) which makes them much more difficult to harvest and can dramatically influence yield
- ▶ premature flower and fruit shedding
- ▶ shoot damage
- ▶ chilling injuries

Reduced pesticide use – Hedgerows increase populations of predator species; natural enemies of crop pests. Biological control is provided by species of farmland birds and predatory invertebrates, such as spiders and predatory beetles, as these groups feed on, and therefore limit the populations of, pest species. Rich flora in a hedge base will attract predatory and parasitic species able to tackle crop pests.

Pollinators – Hedgerows help support diverse populations of pollinators, essential for crop pollination and so yields. Hedgerows provide forage to sustain them throughout the year when crops are not in flower.

Soil

Hedgerows reduce soil erosion by:

- ▶ reducing surface wind speeds
- ▶ acting as a barrier to water-borne run-off
- ▶ roots helping to stabilise the soil surface

Tree and shrub roots dig deeper allowing them to access nutrients deeper in the soil profile. These nutrients can be cycled into the topsoil. Shelter creates warmer soils, extending the growing season.

Water and flood control

Flood control

1) Water infiltration Plant roots increase the rate of infiltration and absorption of water in soil. This helps the soil act like a sponge to soak up flood water, rather than allowing it to runoff the surface. Tree and hedgerow roots are deeper, allowing a larger and deeper area of the soil profile to act like a sponge, thus absorbing more water. Essentially, the soil under a hedge will be able to store more water, faster preventing and delaying its movement downstream.

2) Water uptake – tree and shrubs have a high capacity to absorb and transpire water, so they are effective at removing this flood water from soils.

3) Reducing silt in waterways – Silted waterways are more prone to flooding. Much of the silt in our waterways is field runoff; hedges and hedgerow trees can help protect this soil from erosion and stop sediment reaching our streams and rivers.

4) Slowing flood water – Because trees slow water flows, they reduce the impact of flooding. Slowing flood flows allows more time for soil infiltration, and also allows more time to respond to flood warnings.

Ecosystem services

Carbon storage – Hedgerows store carbon above and below ground, so can have a role in reducing the rate of climate change.

Pollution – Hedgerows reduce the amount of fertilisers, pesticides and sediment that reach watercourses. They do this by acting as a physical barrier, increasing infiltration into the ground, and through nutrients being recycled by the trees, shrubs and other plants. They can also improve air quality by capturing pollution particulates.

Other

Sustainable wood fuel – Hedges and hedgerow trees can provide sustainable wood fuel, without losing land from production. This can have a commercial or private use as fuel or timber. Pollarding is a traditional management of trees that can provide both wood fuel and animal fodder.

Privacy – Hedgerows can act as a screen and protect privacy, shielding farm assets and buildings from public sight.

Sense of place – Hedgerows are a defining feature of our countryside, with deep and significant cultural and historical importance. They tell the story of our farming traditions over many centuries and add to regional distinctiveness. They make farms more attractive which may help with farm diversification projects.

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