

# Soil interactions – through the looking glass

*Mike Holcombe*

It's interesting to look at conventional composting methods and compare them to the processes that would occur naturally, in the absence of our busy garden husbandry. There is a successful example of the latter in the award-winning gardens at Old Bladbean Stud, Kent.

## ***Conventional approach***

A simplified view of conventional methods involves cutting down perennials in stages between autumn and early spring. The clippings are generally removed to a compost heap or bin. After months of turning, aerating, maybe watering and, eventually, sieving, the debris will turn into some sort of compost (the time to achieve this will vary widely). Unless the pile has been heated it may also contain weed seeds and, potentially, soil diseases.

Often, separately, gardeners will spread mulch on their beds in winter or early spring to improve soil fertility and minimise the germination of wind-blown weed seeds. Depending on the source / content of the mulch and the size of the garden, this can be costly.



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The Mirrored Borders at Old Bladbean Stud Gardens in summer

## ***Alternative approach***

Rather than cutting and removing herbaceous material in autumn, borders can be left to senesce naturally. Some plants will collapse and start decomposing, others will soldier on until early spring

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Shield bugs taking refuge in phlox seed heads

before they can be chopped down and left *in situ*. This may at first seem to defy best practice but there are good reasons to do it. In the wild, plants have evolved to

die back and fall where they were growing.

Many insects and other invertebrates including eggs, larvae, pupae and even adults shelter in dried stems, seedheads and leaf litter. The plant material is recycled by soil fauna including worms, beetles, fungi, bacteria etc, releasing nutrients which are made available to plant roots and mycorrhizae. The mycorrhizal networks that weave among plant roots also make a vital contribution to a plant's resistance to drought. Thus, the layers of litter contribute significantly to the nutrient cycle that sustains plant communities.

There is evidence that plants 'help' each other via mycorrhizal networks by transferring resources to one

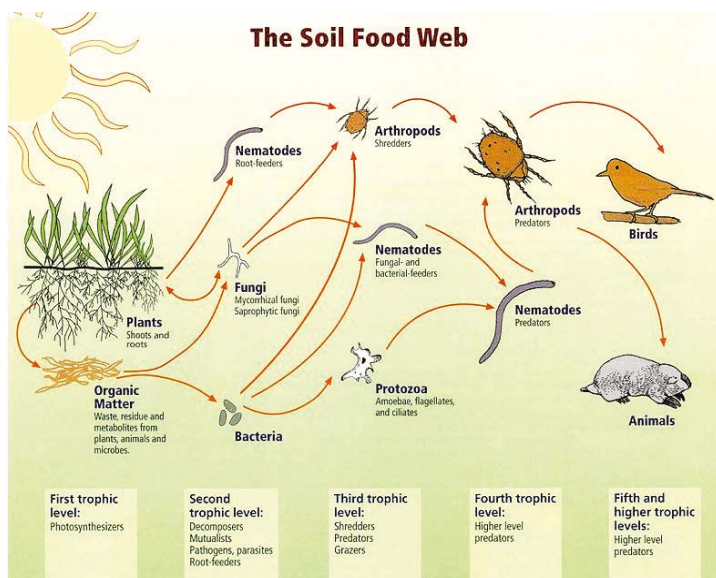
another. A plant that is rich in nutrients can take on the role of donor for one that is poor in nutrients. Research has shown that deciduous trees transfer some nutrient resources to conifers in autumn, and these transfer back in spring<sup>1</sup>.

So, letting our borders 'grow old gracefully' not only benefits the plants, but also the whole ecosystem. Of course, this is not a strategy for doing nothing: there will always be a need for maintenance, whether it is weeding or restoring the balance of plant communities in the garden.

This approach is sometimes referred to as 'chop and drop'. Gardeners may worry that it will encourage slugs and, potentially, unhelpful fungi. But a rich ecology includes natural predators including birds, beetles etc. While seedlings and small plants will always be susceptible to damage, planting out slightly older, bigger plants will allow them to integrate better with the underground ecosystem and establish better defence mechanisms.

An outstanding example of this practice is the gardens at Old Bladbean Stud in Kent. Created from scratch by an inspirational gardener, Carol Bruce, the gardens cover three acres and feature magnificent herbaceous borders and rose gardens. By carefully curating

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Relationship between soil food web, plants, organic matter, and birds and mammals

<sup>1</sup>Sheldrake, M. *Entangled Life: How Fungi Make Our Worlds, Change Our Minds and Shape Our Futures*, Random House, 2020



the varieties of perennials over eight years she has produced an ecologically stable framework where maintenance along the lines described above is such that Carol manages the entire gardens on her own with no help.

She writes: 'The implications of this approach for the gardener are far-reaching: watering, dead-heading, thinning, fertilising, dividing, and protection from the weather are all unnecessary interference. Everything is allowed to set seed and, in November, the old stems are cut down and left where they fall to rot down over winter, returning all the organic matter and seed heads to the soil. The only traditional maintenance jobs are regular weeding through the growing season and tidying up the soil surface in spring by raking, meaning one gardener can happily maintain a much larger area'.<sup>2</sup> 🌱

**Mike Holcombe** is a retired professor of computer science with a lifelong love of gardening. He and his wife Jill garden in the chilly Peak District. More information on Carol Bruce can be found on [www.oldbladbeanstud.co.uk](http://www.oldbladbeanstud.co.uk)



Mirrored Borders in winter showing the plants being allowed to die back in place



The final cut down to 10cm with everything left on the beds

<sup>2</sup>Bruce, C. *Nature's Way to a No Watering Garden*, *The Cottage Gardener*, The Cottage Garden Society, Summer 2023