

## The Importance of Plant Collections

In an era where biodiversity faces unprecedented challenges, plant collections play a crucial role in conserving the rich tapestry of life on Earth. Worth Park, with its National Collection of *Achillea millefolium* and *Achillea filipendulina*, exemplifies how such efforts can contribute to global biodiversity preservation within the plant world.

While *Achillea* cultivars are primarily admired for their ornamental beauty in gardens, their role extends far beyond aesthetics. They contribute meaningfully to biodiversity and environmental health in several ways:



- 🐝 **Supporting Pollinators:** *Achillea* flowers are a magnet for a variety of pollinators, including bees, butterflies, and hoverflies. By providing a source of nectar and pollen, they help sustain pollinator populations, which are essential for the reproduction of countless wild and cultivated plants.
- 🐝 **Preserving Genetic Diversity:** Even cultivated plants like *Achillea* retain genetic variations that might hold valuable traits, such as disease resistance or tolerance to changing environmental conditions. These traits can be critical for future plant breeding and conservation efforts.
- 🐝 **Creating Microhabitats:** In gardens and managed landscapes, *Achillea* can play a role in creating microhabitats for small organisms. Their dense, feathery foliage provides shelter for insects, while their flowers support the ecosystem dynamics in managed green spaces.
- 🐝 **Educational and Inspirational Value:** Cultivars in collections, like those at Worth Park, inspire people to learn about plant species and their ecological roles. They serve as ambassadors for biodiversity, encouraging gardeners and visitors to adopt sustainable practices in their own spaces.
- 🐝 **Promoting Resilient Landscapes:** *Achillea* cultivars are often hardy and adaptable, making them excellent choices for sustainable gardening. By reducing the need for water, fertilizers, and pesticides, they demonstrate how gardens can contribute to a more environmentally friendly future.

*Achillea* species, including *Achillea millefolium* (yarrow), are remarkably adaptable and resilient, making them well-suited to cope with the challenges posed by climate change. Here's what research and observations reveal about their adaptability:

- **Drought Tolerance:** *Achillea* plants are known for their ability to thrive in arid and semi-arid environments. Their deep root systems allow them to access water from deeper soil layers, while their fine, hairy leaves reduce water loss by trapping moisture and minimizing transpiration.
- **Wide Habitat Range:** *Achillea* species are native to diverse regions across the Northern Hemisphere, from meadows and grasslands to roadsides and disturbed areas. This adaptability to various soil types and climates demonstrates their resilience to environmental changes.

- **Allelopathic Properties:** Some studies suggest that *Achillea* may release chemicals into the soil that influence the growth of nearby plants. These allelopathic effects can either inhibit or promote the growth of certain species, depending on the context. This trait can help them establish dominance in changing ecosystems, particularly where invasive species might otherwise take over.
- **Genetic Adaptability:** Studies on *Achillea* species in alpine regions have shown that they can adapt to different environmental pressures, such as changes in precipitation and snowmelt patterns. This genetic flexibility suggests that they have the potential to respond to climate-induced shifts in their habitats.
- **Erosion Control and Soil Health:** *Achillea*'s rhizomatous growth helps stabilize soil and prevent erosion, which is increasingly important in areas affected by extreme weather events. Their presence can also improve soil health, supporting broader ecosystem resilience.



These traits make *Achillea* not only a hardy garden plant but also a valuable ally in ecological restoration and sustainable landscaping efforts. Their adaptability underscores their importance in mitigating the impacts of climate change on plant communities and ecosystems.

So even as "garden plants," *Achillea* cultivars are integral threads in the fabric of biodiversity conservation. Their importance reminds us that every plant, whether wild or cultivated, plays a role in supporting life on Earth.

## Summery

Plant collections act as living repositories of genetic diversity. By maintaining a wide variety of species and cultivars, they safeguard genetic traits that might otherwise be lost to habitat destruction, climate change, or disease. These genetic resources are invaluable, not only for scientific research but also for breeding programs that develop resilient plants capable of thriving in changing environments.

And thus, by maintaining the largest *Achillea* cultivar collection in the UK, we are acting as a living repository for genetic diversity. Each cultivar we preserve contributes valuable traits—such as drought tolerance, pest resistance, or adaptability—that might be critical in helping plant communities adapt to changing environments. This ensures that future generations of plants, wildlife, and even agricultural crops can benefit from these traits.