

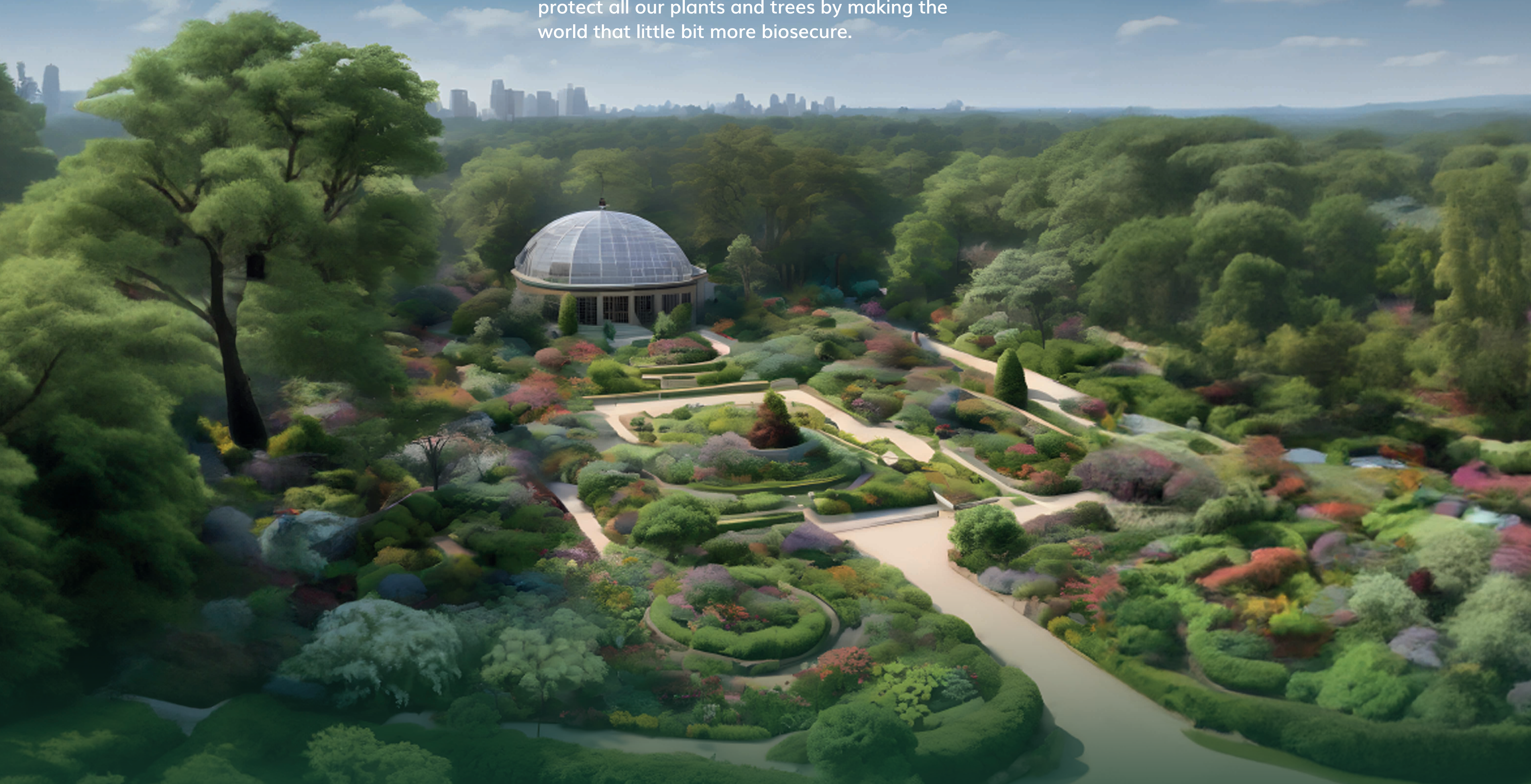


Basic Biosecurity Guidance for Botanic Gardens and Arboreta

Botanic gardens and arboreta are wonderful resources and attract visitors from across the globe. Curation and conservation activities mean regular movement of plant material, often between countries, resulting in fantastic collections that are often rare, valuable and need protecting.

Biosecurity measures are proactive, precautionary steps aimed at disrupting pathways of pest and disease introduction and reducing the risk of outbreaks and their impacts. This poster and associated resource signposting aim to give botanic gardens and arboreta a helping hand to simplify implementing their own robust, site-specific biosecurity practices and ultimately protect all our plants and trees by making the world that little bit more biosecure.

Plants and people traveling around the world could bring hitchhikers with them, such as plant pest and diseases (P&D). When introduced to a new area, without their natural predators and control from their native region, they have the potential to cause substantial damage within collections and even spread, threatening susceptible plant species nationally.



People

All staff, volunteers and visitors add up to a lot of footfall across, in and out of the site. This footfall can potentially bring pest and disease hitchhikers along with them.

- Draw up a biosecurity policy outlining your organisations intentions and commitment. Display it publicly and include in staff and volunteer training and inductions.
- Make hygiene a priority e.g. boot washing with water, brushes, disinfectant...to remove dirt and plant material on arrival and leaving will reduce risk significantly.



- Think about the different people who access the site and risks they pose. Training, education and procedures on good biosecurity practice, day-to-day hygiene and pest and diseases can then be targeted for maximum impact.
- Ensure key staff are familiar with the signs and symptoms of pests and diseases of concern. Restrict access to high-risk areas to key staff only.
- Visitors tend to stick to pathways, so introduction of hard pathways in key areas could help to reduce risk.
- Dogs also carry hitchhikers, so keeping them on leads is a good idea.
- Leaflets, posters, interpretation and social media are all engaging ways to alert your visitors to the challenges faced and empower them in helping you address them e.g. don't take cuttings home as you may be taking unwanted hitchhikers with them.

Plants

Bringing plants on to site is the main way to move pests and diseases between premises. Therefore, integrating good biosecurity practice is essential to keep them out.

- Ideally, source plants from the UK where possible to reduce the risk of importing P&D with them.
- Ensure plants are from reputable suppliers of healthy stock, ideally with independently audited accreditation like Plant Healthy.
- Only accept deliveries of healthy stock with the necessary, compliant paperwork eg. Phytosanitary Certificate, Plant Passport.
- Keep new arrivals in a quarantine area for at least 2-6 weeks and monitor health regularly before introducing to the wider site.



- Keep clear records of stock for traceability in case there is a problem later. Include dates, locations, treatments, paperwork and plant passporting details of suppliers in the chain.
- Think twice about accepting plant gifts. Although well intentioned, you cannot be sure they come from healthy stock or have been grown in a disease-free environment.
- Regular monitoring for pest and diseases is the best way to spot any problems early, so build it into your routines and procedures.
- Maintain good communications with your local Plant or Tree Health Officer and let them know if you find anything you're concerned about.

Plant Products

Plant products include seeds, soil, compost, woodchip, wreaths, Christmas trees etc. and can all harbour pests and diseases and introduce them to your site.

- Compost heaps and waste plant materials can be home to pests and pathogens and must be safely disposed of externally, incinerated or composted.
- Composting at temperatures for long enough periods to be effective is hard to achieve, so removal to a commercial composting facility is often the best option.



- Contaminated compost, soil, mulch etc. can be spread over large areas, accelerating movement of P&D around the site with footfall, standing or moving water, wind and rain splash.
- Think about where you store clean incoming supplies to keep them clean and ensure spent compost, burning and waste piles are on hard standing, away from plants and other plant products.
- Think about potential risks before recycling compost, stakes, woodchip etc. and keep anything waiting for disposal covered or contained.
- Communicating risks to staff in working areas with clear signage and simple policies and procedures can remove or significantly reduce risk.

Wood, Bark & Wood Packaging Material

Wooden pallets arriving with deliveries can be as risky as the plants, posts or compost they carry, so it's important to take a holistic approach.

- It's not just plants. Think about the other things you have on site such as wooden pallets, tree stakes and cable drums.
- Do risk assessments for each one to identify potential issues. Check pallets have the ISPM 15 IPPC stamp to show they have been treated; store them on hard standing away from plants and plant products.



- Wood products such as posts, planters, stakes etc. can host pests and diseases if not treated.
- Training staff on the key pests and diseases of concern will familiarise them with the sorts of things to look out for, be it on pallets, plants or compost.



Vehicles, Machinery & Equipment (VME)

Vehicles, machinery and equipment often move off and on to site carrying pests and diseases with them.

- Consider the location and impact of visitor and staff carparks on biosecurity of your site.
- Maintain surfaces and clean leaves and debris away that can harbour pests and diseases.



- Keeping parking off-site where possible will help to lower risk. Tractors, mowers, gators, chainsaws, secateurs etc. need regular cleaning and sterilisation to break the chain of contamination.
- Dedicated vehicles, machinery, equipment and tools for specific working areas will reduce the risk of spread from one area to another.
- Zoning and/or colour coding of areas for specific working groups and tools can help you to identify when something is out of place.
- Set up a VME wash station in a low-risk area of hard standing. Think about and manage splash and drainage from washing. Larger machinery often compact and churn up the ground allowing water and plant material to collect and harbour pathogens.
- Try restricting VME use to hard standing areas and restore surfaces before they fill up with water and debris.

Natural Conditions

Although we can't control the weather, there are things you can do to mitigate against the impact.

- Strong winds, rain, natural watercourses, floods and animals can all help pests and diseases travel long distances in short spaces of time.
- Maintain good general hygiene across site, avoid storage of timber and arisings near water and install windbreaks to reduce wind speed and impact.
- Water stored in tanks can harbour pathogens that transfer to stock when watering. Covering tanks, chemical treatments, UV filters and regular testing will reduce risk and give an early alert.
- Surface water in puddles or flood water can also harbour pathogens. Regular maintenance to prevent puddles and good hygiene practices such as removing soil, leaves and other debris should also help minimize risks.



- Plants under stress are more likely to harbour pests and diseases. Keep them healthy with good planting and management practices.
- Rising temperatures and more extreme weather conditions due to climate change will mean plants may no longer be suited to their growing conditions. Think carefully about choosing the right plant for the right place to match changing conditions for the long term.