

Historic homes look good when decorated with flowers and plants at any time of the year and they are often used for special events, exhibitions, or just to create interior landscapes. However there are hazards of using plants indoors, whether these are fresh or dried plant materials and they could help introduce or provide a food source for heritage pests.

Hidden dangers

1. Woodworm and other timber attacking beetles can be introduced in wood, wicker, or bamboo baskets. (The same is true for logs to be burned in fires).
2. Beetles can use dried flowers as a food source and adult carpet beetles *Anthrenus* and *Attagenus* feed on pollen and can be transported into the property on flowers. Mould spores can also be present.
3. Dropped leaves and petals can stick to surfaces or become a food source for insects. Pollen can stain surfaces.
4. Many cut flowers sold in the UK are imported. This carries the added potential of importing exotic pests, raising the risk of pest infestation. Even if the insects are dead, they could attract other insects and pests that feed on them.
5. In order to avoid insects, growers and dealers may spray with insecticides and other chemicals that may be harmful to artifacts or humans.



Guidelines for using live plants in artifacts display areas

- Inspection:** Flowers should only be bought from reputable outlets and should be in excellent condition. Inspect plants thoroughly before placing them on display. Inspect the underside of leaves and inside flowers. Gently shake the plants by running your hands through them and at the same time, remove loose leaves and petals.
- Quarantine:** If incoming plants are potted in soil or compost, try to have the plants delivered at least two weeks prior to displaying them. Quarantine the plants and monitor for pest activity in the soil and throughout the flowers and foliage. Likewise, if there are potted plants in office areas that are showing signs of pest activity, remove to a quarantine location, monitor, and treat as needed.
- Preparation:** Thoroughly clean vases should be used to avoid bacteria which kills flowers and makes them prone to pest infestation. Remove stamens from flowering plants such as lillies in order to avoid staining from pollen. Other problem species could include peonies, which easily shed petals, and snapdragons, which drip sap. Stems should be kept damp during transit. Make a slit in the bottom end of stems (e.g. tulips) to encourage water loss and discourage growth.
- Presentation:** Place protective sheets underneath all potted plants. Use ceramic or plastic containers, as basket and wicker may harbour insects and metal containers may corrode and stain objects. Leaking flower pots or tipping vases may spill water over a valuable artifact and polished wooden floors. Avoid narrow-based vases that may easily tip over. If

necessary, use a weight in the bottom of the vase to stabilize it. Avoid shallow bowls which will allow the flowers to fall over the sides and touch the furniture surface. Place plants away from wall hangings or draperies.

Maintenance: Water plants in an area away from collections. Lukewarm water should be used, except for spring bulb flowers. Water evaporation from several vases could easily offset a room's relative humidity balance; mould growth or metal corrosion may result. Dry the pots before transferring them into their final place. Avoid misting or spraying of flowers while on display. Cut flower food should be used to keep bacteria at bay. Faded flowers should be removed. Leaves below the water line should be removed to avoid polluting the water.

Treatment: Since some insects such as fungus gnats or sciarid flies live within the upper layer of compost, drying out the top soil layer will inhibit their presence. Remove dead flower heads and leaves. Treatment could involve spraying an insecticidal soap. Adequately dried plant material can be treated with low temperature or anoxia. Fumigation is not an option to anything living, including plants as the fumigation process will kill live plants. Likewise heat and low temperature treatments are not an option for anything living. Foraged/found material should be discouraged or must be treated prior to use.

Disposal: Remove plants and flowers from the building within 24 hours after they are no longer needed. If plants or floral landscapes become infested, disposal may be the best option. Cut and bag the items at the point of display and avoid carrying display materials through the building as these may shed leaves and other materials. Remove any infested materials as far away from the building as possible or destroy.

A special word about Christmas

For many, December means celebrating Christmas and a central part of that is a tree or wreath. The Christmas traditions we know today in the UK were shaped by the Victorians, when the first Christmas tree was brought from Germany to the British royal household by Prince Albert in the 1840s. These days, around 7 million real trees are sold each year in the UK, but with real trees can come real creatures. Before bringing the tree or natural decoration indoors, give a vigorous shake to dislodge any insects that might be clinging on. Leave in a clean quarantine space so that any possible pests can be identified and consider spraying with an insecticide such as Constrain® to kill any insects that may be lurking. Allow to dry thoroughly before relocating to the final display position.

Other actions to minimise risk:

Office areas: Create a policy that includes no plants or flowers in office or general work spaces, and have a procedure in place for when floral arrangements are delivered to staff.

Alternatives: If possible, substitute live plants with artificial flowers. This will provide the lowest risk. Alternatively, use succulents or air plants in arrangement. Terrariums could be a good alternative to a floral display. If the property is considering introducing plants or cut flowers, try to avoid vases with standing water. Use dry foam floral bricks.