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Food management in museums and historic houses as part of an IPM programme

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Abstract

Managing food is an essential consideration when looking to avoid pests. As museums and cultural heritage sites are populated with people, the accommodation, and often provision, of food is necessary. There is very little in the literature directly dealing with food management in the context of museums and heritage venues (SPNHC, 2014), although there is a lot of relevant literature from the food industry in the context of food storage, processing, and environmental health, from which we can extract some useful information (Rentokil, 2016). This article will outline the Integrated Pest Management (IPM) risks associated with food management, and suggest some measures that can be put in place to mitigate the problems within museums and other cultural institutions.

Keywords: IPM, Integrated Pest Management, pests, food management, housekeeping, rodents, insects, birds

The risk posed to collections by food

The biggest risk posed to collections by food is poor management of both the food and food waste, which will attract pests to the buildings. Rodents will shred valuable paper items for nesting materials; they will gnaw on irreplaceable objects, such as antique furniture, to maintain their teeth, and their urine will contaminate any unprotected food or collections. Insect pests will destroy many organic materials, such as fur, feathers, skins, insects, dried plants, and wool textiles. They will eat these materials, which are found throughout collections. Insect pests will thrive in the nests of birds, so keeping the numbers of birds to a minimum will also reduce the insect pest population. Birds will also damage many cultural building with their guano. In addition, rodents and birds can also carry bacteria and viruses that pose a health risk to humans. Unmanaged problems with rodents can lead to serious damage to the reputation of a museum or cultural heritage site, and would prevent institutions holding popular events, such as 'Dinosnores' (Figure 1), which is an after-hours sleepover event for families hosted by the Natural History Museum, London (NHM).

Figure 1. Dinosnores late events at the NHM risk unwanted encounters with mice and consequent reputational damage. Image © Natural History Museum, London, UK.

The reputational and, ultimately, financial impact of pests can be extremely detrimental to museum business, e.g. the National Gallery incident (Shakespeare, 2015). Food and drink spilt directly onto an object will cause damage; this risk can easily be eliminated by not permitting food and drink into collections areas and covering or separating exhibits from the public. It is essential to understand that cleaning is an important part of IPM, to reduce food sources available for pests (Querner, 2015). Food residues will attract pests.

To effectively contribute to pest control for cultural property, we must work to formulate a 'most good with least harm' action (Strang, 2012). The basic principles of IPM emphasise best practise in conservation based on understanding the biology of the pests, and aim to minimise the use of pesticides. Key behavioural changes can reduce the risk of pest activity significantly. Within a museum or cultural heritage property open to the public there are five key areas:

Staff

Staff will need to eat and take regular breaks, and if they eat at their desks it is difficult to manage the food risk. There are a few measures that can be put in place as part of an IPM programme. The policy and procedure should be:

- Prohibit food and drinks in collection areas.
- Do not allow eating at desks. Where possible, provide designated eating areas, which can be more regularly and efficiently cleaned. This may be met with resistance from staff and can be difficult to implement, but by educating staff as to the risks posed by pests to the collections - and to their health - it can be introduced, and with time will become embedded into staff behaviour.
- Provide only communal bins with lids. This means personal waste bins will not get missed on a daily emptying schedule, leaving rotting food waste for long periods of time. Communal bins could be emptied more regularly, perhaps twice a day or once at the end of the day, so no food waste is left overnight. Lids are essential to reduce the attraction to pests. Regularly-changed bin liners should be used to prevent build-up of food residues inside the bins.
- Provide or encourage the use of sealed plastic containers for personal food storage, e.g. biscuits, fruit, sandwiches, etc. (fig. 2).
- Encourage staff to use the in-house restaurant or staff canteen, where provided, with discounts if possible. This will help to contain the movement and storage of food around the building.
- Provide staff with mugs that have lids, to reduce spillages (Figure 2).

Figure 2. Standard items provided free to NHM Staff to control food residues: insulated cup with lid, and food storage boxes. Image © Natural History Museum, London, UK.

Public & staff restaurants/canteens

Food provision for the public is regulated for human health reasons, but we can use this to our advantage, as IPM and human health work towards the same end within the setting of museum food outlets. Restaurants and canteens need to be regulated to British health and safety and environmental hygiene law, following the Food Standards Act 1999. There should therefore be a high level of cleanliness and tidiness with regard to food preparation, storage, and waste management. However, it is useful for the facilities manager and or the IPM coordinator to include these areas on their regular tours and inspections of a site. It is also important to manage and monitor the storage and delivery of food.

Functions/events

Functions are increasingly important for income generation, accessibility, and promotion of a museum. However, these 'out of hours' events, or events involving food being served in spaces which were not designed or constructed for that purpose, can pose a considerable risk to the collections. This is because they are often delivered by external caterers, security, and cleaning staff. The small team of internal functions staff members will manage these and run the event, but they will be the only people on site with a good knowledge of IPM and the potential risks such events can pose. Measures should be put in place to mitigate these risks:

- A robust accreditation process of suppliers, which

should include a section on IPM awareness, not only for caterers but for all companies bringing crew on site. During the accreditation process, ask that IPM procedures are added to their staff handbook, to be read and signed by each staff member.

- Restrict areas where food and drink are allowed, or segregate areas with vulnerable objects.
- Restrict the options of food and drinks available, such as red wine, to prevent staining of building materials or objects if spilt.
- Clean the venue immediately after the event. Never leave it until the morning. The additional cost of cleaning staff can be incurred by the caterers if built into their contract.
- Ensure the waste is properly removed from the site after the event.
- Housekeeping staff should be working throughout the event to clear and remove any unwanted food, empty glasses, and plates.
- All agency staff should be given an IPM briefing before starting.
- The events staff need to be provided with a designated rest room for breaks and for eating in. This space also needs to be cleaned and all waste removed at the end of the event.
- If an accident or spillage has occurred, this should be reported to the appropriate facilities manager or conservator immediately, or first thing the next morning if these people are not available.

The public

This group are more difficult to restrict or manage, as we invite these visitors into our space, but there are some measures that can implemented to assist IPM:

- Place signage in public areas to make the public aware of the vulnerability of the objects that make up the exhibits, including practical tips on how they could modify their behaviour to protect the collections.
- Provide picnic areas to contain the food consumption, and provide increased housekeeping within these areas to manage the food waste.
- Housekeeping teams should patrol the public areas at all times, allowing them to respond to cleaning issues as they arise, rather than leaving them until the evening or the next morning to be dealt with.
- Public areas should be cleaned at the end of the day, rather than in the morning, to reduce the risk of attracting rodents overnight.
- Empower front of house staff to approach daytime visitors seen eating and to explain the risks, and direct visitors to designated eating areas.

Outside the building, gardens and surrounding space: What happens in the grounds of a building and the surrounding areas will have a direct impact on the IPM within your building. A few suggested procedures that can reduce pest ingress are:

- Fill holes in walls and check ventilation grills to ensure that they are not broken or loose.
- Make sure sewers are securely closed so that they do not allow the entry of rodents into the building. This is also an essential Estates management task, for health and safety reasons.
- Collect all discarded litter and waste.
- Make sure that all waste is properly sealed, stored, and collected regularly, so that it does not attract pests. Ideally, the waste should not be stored directly against the building. If it can be placed some distance from the building, this will further reduce the pest risk.
- Discourage feeding of birds by staff and visitors near the building, as the residual bird food will encourage rodents.
- Regular patrols by ground staff with a good knowledge of IPM can help to keep the outside space clean and well maintained.

Conclusion

Pests seek habitats that satisfy basic needs such as food, water, and shelter. Successful IPM depends on staff working together to establish an environment that limits harbourage areas, points of entry, and conditions that attract pests (UCLA, 2006). All catering and food handling for public, staff, and schools on the site must be to an agreed high standard of hygiene to minimise risks from insects, rodents, and birds.

There are simple, practical measures that, with a little IPM awareness training and implementation of best practices, can have an enormous impact on mitigating the risk of pests. The measures described in this article can be met will little, if any, financial implications. The importance of cleaning has been highlighted, but the level of cleaning does not necessarily have to be increased; it just needs to be more focused in areas where there is likely to be high footfall and food residue (e.g. canteens, common rooms). It is important to work

with the housekeeping staff and the contract managers to ensure that that the service provided suits the needs of the institution.

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