Bio-security in the working Environment

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What is Bio-security ?

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Keep out Native, Regulated, Quarantine and non native pests and Diseases

Its not about endless paperwork……..

……..otherwise it won't get done.

What can I do?

Does not have to be over the top

But it does have to work

If we want formalise it then we can follow the HACCP Risk Assessment Principles:

THE HAZARD ANALYSIS AND CRITICAL CONTROL POINT (HACCP) SYSTEM

1. Identify pathways
2. Try to eliminate that pathway
3. Reduce exposure of the chances of it happening
4. Engineer it out
5. Plans in place to deal with the occurrence

Identify Pathways of Entry

What are they?

Identify Pathways of Entry

- Plants / cuttings/ Seeds / Bulbs
- People: Clothing/ Footwear
- Machinery
- Other Equipment: Secateurs
- Pallets
- Soil imports
- Delivery lorries
- Wind
- Water
- Organic matter

- Anything almost that comes on site
- What is the risk of each ?

SOURCING PLANTS - Origin

Plant origin

- Wherever possible, seek to purchase plants that have been propagated and produced within the country
- Minimises distance travelled
- Reduces chances of introducing an alien pest or disease

For example:

- ➢ Citrus longhorn beetle arrived on cheap, traded *Acers* from China
- ➢ Chalara ash dieback arrived on ash saplings from Continental Europe

SOURCING PLANTS - Suppliers

Use known suppliers

- Use “approved” suppliers
- Use nurseries and garden centres that have been have a proven track record
- Clients should visit them and check them out. Don’t be afraid to ask searching questions
- Specify exact requirements on purchase order forms
- If there is a specific need for plants from a doubtful supplier, then they should go through ‘quarantine’ on arrival.

SOURCING PLANTS – Plant type

Plant type

- Wherever possible, avoid large, ready-made trees; often produced on the Continent
- Large, instant specimen trees pose a very high risk of introducing pests and diseases

For example,

- ➢ Oak processionary moth (*Thaumetopoea processionea*) suspected to have arrived into West London on large oaks from the Netherlands.
- ➢ 8cm Girth at 1.2m max

QUARANTINE - Where Delivered to

QUARANTINE – holding period

- Hold plants in a “quarantine area”
  - Separate - away from other trees and plants.
  - Secure – restrict staff, visitors and animals.
  - Hygiene – clean footwear, tools
  - Separate tools
- Hold for 6 weeks if possible
- Monitor regularly for pests and diseases.

MANAGEMENT - Hygiene

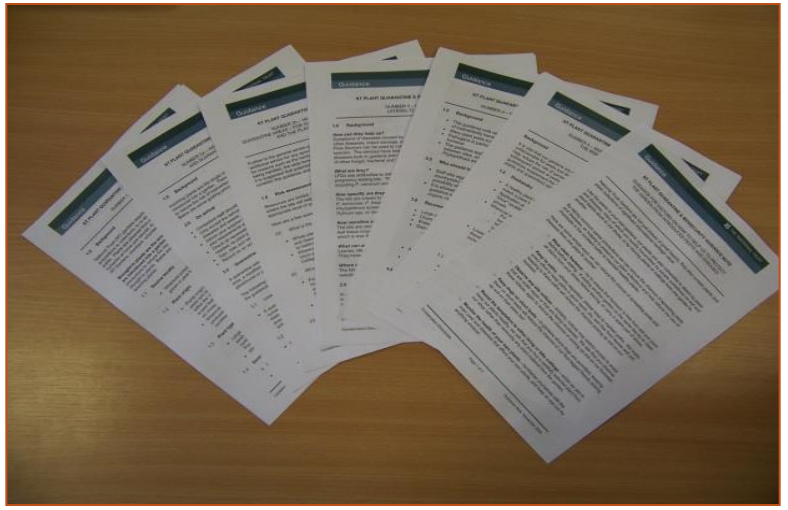
MANAGEMENT - Infrastructure

MANAGEMENT - Plant culture

MANAGEMENT - Water

MANAGEMENT - Waste

TRAINING & MONITORING



Have you got a Biosecurity Protocol?

- Every site / collection should have one
- Doesn't have to be huge
- List of things to be done to prevent

- Things will go wrong
- Do you know who your local PHSI is?

- Many forms already out there
- National Trust happy for people to use their plans

https://plantnetwork.org/links/plant-health-links/national-trust-plant-quarantine-biosecurity-guidance-notes

Biosecurity Kit List

Kit for cleansing and disinfection

- Plastic storage box
- Supply of clean water (approx. 5L)
- Boot tray or bucket
- Hard brush and boot tread scraper
- Approved disinfectant
- Water tight/air tight container for disinfectant storage as per manufacturer recommendations
- Personal Protection Equipment (i.e. Eye protection and gloves)
- Means of applying disinfectant, for example brush or a portable sprayer
- Hand sanitiser / wipes and paper towels
- Selection of resealable bags (for samples)
- Plastic bags (for clothing or PPE to be taken offsite for cleaning or disposal)
- COSHH data sheet relevant to the chemicals used.

Help and Support

Observatree
monitoring tree health

TURNING OVER A CLEAN LEAF

How to protect your nursery or garden centre from pest and disease invaders

1 Plants coming in: is the main method by which many pests and diseases move between premises!
What can you do?
- Source plants from suppliers with a good record of supplying disease-free stock
- Check whether your supplier belongs to an official accreditation scheme
- Nurseries - if possible, propagate from your own stock plants

2 Plants on arrival need careful inspection.
Remember to:
- Check for compliance with purchase order and any plant passport or phytosanitary certificate required
- Keep accurate records of all bought-in material
- Only accept delivery if you are sure that the plants are healthy
- If there are any problems, inform your supplier immediately

3 Quarantine areas should be isolated from production and retail areas.
What more can you do?
- Restrict access to the area
- Be scrupulous about hygiene
- Use dedicated tools
- Hold new arrivals for an appropriate period and monitor frequently

4 Clear Information helps keep customers and visitors informed and aware. **How can this be done?**
- Display a notice to site visitors about the risks of introducing pests or diseases
- Clearly identify quarantine areas to prevent visitors entering
- Increase consumer confidence by informing them of the methods used to minimise pest and disease risk
- Consider providing information on pests and diseases, e.g. at help desks.

5 Day-to-day hygiene: It's all too easy to spread pests and diseases through poor hygiene!
It's important to:
- Regularly clean and disinfect tools, machinery, clothes and boots
- Protect hands from contamination
- Use new pots and trays wherever possible
- Cover items (e.g. pots, compost storage areas) that could be contaminated by plant or soil debris
- Have regular 'clean-ups' of standing areas
- Bag up pest or disease-affected plants before removal
- Cover skips & other disposal areas and locate them downwind from production/retail areas
- Practice scrupulous hygiene in propagation areas

6 Good plant husbandry also matters.
What can you do?
- Avoid plant stress caused by nutrient deficiency or under/over watering
- Handle plants with care at all times
- Avoid prolonged leaf wetness or very high humidity:
  - Use sub-irrigation if possible
  - Don't overhead irrigate late in the day
  - Ventilate greenhouses & polytunnels
  - Space plants well
- Protect aerial parts from soil or compost splash

7 Good water management should help to prevent the spread of plant pathogens, such as *Phytophthora* species.
How can this be done?
- Recycled water should be treated before use
- Regularly test recycled water for pathogens
- Cover water storage tanks
- Regularly clean and disinfect storage tanks & irrigation lines
- Keep paths & standing areas in good order to prevent puddles forming
- Improve drainage of soil-grown crops where waterlogging is a problem

8 Organic waste can harbour pests and pathogens.
What should be done with it?
- All dead plants, prunings, etc., must be collected and disposed of safely
- Options for disposal include:
  - Composting according to FERA's Code of Practice for Horticultural Waste
  - Anaerobic digestion
  - Landfill
  - Burning
- Ensure that you are fully aware of the regulations surrounding waste disposal and treatment

9 Regular monitoring helps you spot problems early and take prompt remedial action. **What can you do?**
- Use trained staff to monitor stock at regular intervals for pests and diseases
- Get any unknown problems identified
- Include the site boundaries (e.g. hedgerows) in the monitoring schedule
- Notify suspect findings of quarantine pests or diseases to the relevant plant health authority.

TURNING OVER A CLEAN LEAF

How to protect trees from pests and diseases when working in woodlands and forests

1 Nursery stock should be clean and free from pests and diseases
- Get to know your supplier. Specify in your plant order, provenance, size, age of plant and where it will be grown
- On arrival, check that the young trees are healthy and free from pests and diseases
- Check any documentation carefully and keep accurate records of everything you have bought and planted

Avoid spreading pests or diseases from site to site

2 People
- When leaving the site remove plant material and soil from boots – use disinfectant if you have visited a high risk site
- Carry a simple 'hygiene' kit for this purpose (water, container, brush and disinfectant)

3 Vehicles and equipment
- Whenever possible stick to well-made tracks whilst driving through the forest
- Where possible clean soil and plant material from forest vehicles and equipment before leaving the site and visiting other woodlands
- Clean and disinfect equipment such as chainsaws, harvester heads, sample probes and spades

4 Timber
- Only move timber if it's free from pests and diseases and if required, has been issued with an appropriate movement licence
- Clear loose plant debris and soil from timber prior to leaving site

5 Site
- Keep forest roads and tracks in a good condition
- Operations near watercourses may risk moving diseases downstream, so take care to avoid vehicles, timber, soil and branches entering streams

6 Regular monitoring helps you spot problems early and take prompt remedial action
- Ensure all those that work in the forest recognise pests and diseases
- If you have a concern or see an unknown problem, report it to the relevant plant health service
- Share information with your neighbouring woodland owners

7 Clear information keep all forest workers and users informed and aware
- Provide clear, visible biosecurity information, also within contract agreements
- Clearly sign areas of restricted access and provide information as to the reason why
- Make all contractors and staff aware of their responsibility for hygiene and tree health

8 Woodland Management good husbandry can increase resilience to impacts of pests and diseases
- Diversify the forest structure with an aim to increase resilience to pest and disease and to climate change
- In the event of a serious outbreak, comply with any plant health statutory requirements and produce an outbreak management plan

QPaD

OPAL

Animal & Plant Health Agency

Base Maintenance

Don’t panic! An outbreak is not the end of the World!