



Maintain indoor plants

AHCNSY204

By the end of this topic, you should be able to:

- Prepare to maintain indoor plants
- Maintain the growing environment
- Maintain indoor plants
- Complete indoor plant maintenance operation

- Indoor plants have different needs from plants grown outside – they rely on you for everything!
- You need to be mindful of the following needs of indoor plants:
 - Light
 - Nutrient requirements
 - Soil or media
 - Temperature
 - Watering

Preparing to maintain indoor plants

- To prepare to maintain indoor plants, you should familiarise yourself with the following:
 - Task requirements and workplace information (e.g. enterprise guidelines)
 - Apply active listening when receiving instructions
 - Clarify any unclear instructions with your supervisor
 - Work area
 - Identify any WHS hazards (e.g. injuries to your person, spread of pests/disease, environment contamination, chemical reactions, manual lifting injuries)
 - Rectify and/or report hazards to your supervisor within a timely fashion – especially emergency situations

Manual handling

- Workplaces will have procedures in place to prevent manual handling injuries when handling tools, equipment and materials
- For manual handling, you should follow the approach shown below:



Area of the body	How it should be
Neck	Upright
Back	Natural curve
Feet	Flat, facing load
Shoulders	Level
Knees	Bent
Hands	Good grip

Preparing to maintain indoor plants

- To prepare to maintain indoor plants, you should select PPE, tools/equipment and materials
 - **PPE should include:** Gloves, work boots, eye protection
 - **Tools and equipment may include:** Broom, buckets, hose, knife, light meter, moisture meter, secateurs, spade, sprayer, trowel, watering can, wheelbarrow
 - **Materials may include:** Bleach, plant treatments (e.g. fertiliser, herbicide), replacement plants, potting mix
- Ensure they are appropriately prepared and used for the task, following manufacturer recommendations

- To ensure plant quality is maintained, it is important to uphold hygienic practices
- Diseases can be spread in many ways:
 - By workers/visitors' clothing
 - Via other plant material (e.g. diseased plants)
 - Naturally (e.g. in water or on the wind)
 - Via pests

- Hygienic practices include:
 - Wiping down bench surfaces with bleach before commencing work
 - Sterilising pots and equipment
 - Remove soil and soak pots and trays in bleach solution
 - Rinse bleach from pots and trays, using clean water
 - Wash equipment in the same solution and rinse with clean water
 - Not reusing old potting mix
 - Old potting mix should be recycled in compost or disposed of appropriately

- Acclimatisation is the adaptation of a plant to a new environment – it is very important for the health and growth of indoor plants
 - In greenhouses, plants are accustomed to high light, nutrition, water supply, temperatures, and relative humidity – conditions ideal for fast growth
 - Residential homes, with low-light interiors and low relative humidity, will most likely produce a stressful experience for plants

- There are two sides of acclimatisation:
 - Above-ground (light acclimatisation) involves adaptation to low light, which means less growth and less need for nutrients
 - Below-ground (soil acclimatisation) involves reduction of nutrients and water
- Acclimatisation tips:
 - **In the nursery or greenhouse:** Plants are grown for a period of time under low-light levels and with fewer nutrients
 - **At home:** Place newly purchased plants in bright areas for 3-4 weeks and then move them to their final location

- Symptoms of acclimatised plants vs non-acclimatised plants

Acclimatised plants	Non-acclimatised plants
• Medium to dark green leaves • Large leaves • Flat leaves • Thin leaves • Widely spaced leaves	• Yellowish to light green leaves • Small leaves • Partially folded leaves • Thick leaves • Closely spaced leaves
• Long internodes • Thin to medium stems • Horizontal or slightly flexed leaf position	• Short internodes • Thick stems • Upright leaf position
• Few new leaves • Wide branch angles	• Many new leaves • Acute angles

Maintaining the growing environment

- As part of maintaining the growing environment, you are required to take light meter readings:
 - A light meter shows the amount of light where your plant is located
 - Measurements should be taken at leaf level
 - You should take readings at several distances from a light source to determine the best place for the plant
- Ensure the specified parameters are maintained
 - **If too much light:** Reposition plant, shield plant, screen/curtain light
 - **If too little light:** Reposition closer to light or another location, supplement with artificial lighting



- Light tolerance for common indoor plant species

Plant	Low light	More light
Cast Iron Plant (<i>Aspidistra</i> spp.)	✓	
Chinese Happy Plant (<i>Dracaena fragrans</i>)	✓	
Lady Palm (<i>Rhapis</i> spp.)		✓
Mother-in-law's Tongue (<i>Sansevieria trifasciata</i>)	✓	
Peace Lily (<i>Spathiphyllum</i> spp.)	✓	
Staghorn fern (<i>Platycerium bifurcatum</i>)		✓

Maintaining the growing environment

- As part of maintaining the growing environment, you are required to check the condition of the media (e.g. moisture content):
 - Insert your finger into the media up to your first knuckle
 - Use a trowel to check dampness to the root zone
 - Use a soil moisture meter
- Addressing soil media:
 - Water plants – only when they need it, not on a set schedule. Often too much water is more dangerous than not enough.
 - Adjust media mix to meet the plant's requirements.



Maintaining the growing environment

- Watering preferences for common indoor plant species

Plant	Less water	More water
Cast Iron Plant (<i>Aspidistra</i> spp.)	✓	
Chinese Happy Plant (<i>Dracaena fragrans</i>)	✓	
Lady Palm (<i>Rhapis</i> spp.)		✓
Mother-in-law's Tongue (<i>Sansevieria trifasciata</i>)	✓	
Peace Lily (<i>Spathiphyllum</i> spp.)		✓
Staghorn fern (<i>Platycerium bifurcatum</i>)		✓

It is important to note, however, that during cooler months *most* indoor plants require less water

- As part of maintaining the growing environment, you are required to monitor and maintain irrigation systems:
 - Daily checks for leaks and clogged/blocked nozzles
 - Checking performance to ensure optimum results
 - Water output and distribution can be measured to determine efficiency
 - Servicing components
 - The following can be repaired/replaced: Drip line tapes, emitters, filters, outlets, pump screens, sprinklers, strainers
 - The following should be reported, rather than repaired by yourself: Faulty pumps, valves, electrical components or computer systems
 - Record your observations and servicing in the maintenance book

- A key part of maintaining indoor plants is to apply water
 - Be sure to apply water in the quantity and method specified by your supervisor
 - More plants are killed by over-watering than under-watering
 - If the tips of leaves are browning, chances are its being over watered.
 - Never let your plant sit in a saucer of water as it can kill the plant
- Watering tips:
 - Determine a watering regime suited to the plant and growing medium
 - Pour water evenly across the surface of the soil
 - Use room temperature water

- Nutrient deficiencies are a common problem with plants

Nutrient	Deficiency
Nitrogen	• General chlorosis of older leaves (i.e. entire leaf changing from green to yellow) • Plant is stunted and wilts in normal weather
Magnesium	• Interveinal chlorosis, veins remain green • Dropping of old leaves • Smaller, woodier fruits of poor colour
Potassium (Potash)	• Deformed, stunted leaves • Weak stems • Fruits drop prematurely • Poorly developed roots • Older leaves become a lighter green colour with scorched edges • Young leaves show interveinal chlorosis (i.e. yellowing between veins)
Iron	• Leaves may turn pale yellow or white

Fertiliser can rectify such deficiencies, but ensure that the correct rate is applied and away from the plant's stem

- Common pests affecting indoor plants

Pest	Appearance	Signs	Treatment
Mealy bug		• White cotton tufts • Plant looks wilted and dehydrated • Plant may lose leaves rapidly • Presence of sticky honeydew	• Poke bugs or spray them with water • Dab with a cotton swap dipped in rubbing alcohol • Soapy warm water spray, rinse after five minutes • Use products containing natural fatty acids or a surfactant
Scale		• Tiny brown inanimate lumps • Presence of sticky honeydew	• If only a few are present, they can be scratched off • Dab individual scales with alcohol to dissolve them • Soapy warm water spray, rinse after five minutes then wipe them away with a damp cloth • Use horticultural oil, if appropriate

- As you recognise common problems with indoor plants, aim to rectify the problem or report the issue to your supervisor
- Endeavour to apply treatments to optimise the plants' health and appearance
 - However, plants should be replaced when they are no longer at optimum health and appearance

Completing maintenance operations

- As part of completing indoor plant maintenance activities, you are required to complete the following practices:
 - Maintain, clean and store tools and equipment according to manufacturer's specifications
 - Report faults that are discovered
 - Dispose of materials that cannot be reused or recycled
 - Remove rubbish, litter and decaying material from plants, pots and surrounds
 - Ensure that you follow the organisation's requirements and Safety Data Sheets (SDS) for handling and disposing of waste
 - Record workplace information on appropriate paperwork
 - Ensure you clearly record your findings, being mindful of people's varying backgrounds and abilities