



Provide information on plants and their culture

AHPCCM302

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

- Identify the issue
- Decide on preferred solution
- Provide the preferred solution

- Throughout your work, you may be required to provide information to a range of parties, such as:
 - Customers from retail or industry
 - Staff members
 - Suppliers, consultants and contractors
- Information that you may provide can be wide and varied, such as:
 - Expert knowledge about plants and their culture
 - Recommendations for garden designs
 - Advice on treatments of pests, weeds and diseases

- The way in which you interact with clients will vary depending on the workplace set up and your role.
- Your workplace will have its own guidelines for dealing with clients.
For example:
 - Approach every client as quickly as possible
 - Approach only those clients who appear to require assistance
 - Wait for clients to initiate contact themselves
 - Requirements for the staff to client ratio
 - Rules on how long staff can spend with a client

- Communicate with the client at a suitable time and listen effectively – concentrate on what is being said
 - Pay attention
 - Make eye contact with the person speaking
 - Ask questions if you need clarification
 - Provide feedback
 - Repeat what you have heard to ensure clarity
 - Ensure that you have gathered all the relevant information to define the issue
 - Clients may have insufficient knowledge to use the correct terms or understand what points are relevant
 - Take notes if the information is complex or exact details are required

- Consider the following scenario:
A client shows you a sample from an unhealthy plant
- Determine what they need:
 - Do they want you to identify the disease and suggest a treatment?
 - Do they want you to replace the plant with another of the same species?
 - Have they come to complain about a plant or product you have previously supplied?

You must understand the type of issue before you start thinking about possible solutions

- When identifying plant treatments, be sure to define the issue/s as closely as possible from the information gathered from the client
- Useful information may include:
 - Affected plant species
 - Pest and disease symptoms
 - Weed description
 - Environment of the plant (climate, aspect, watering regime, treatments already applied, nearby flora and fauna)

Plant pests

- Examples of pests include:



African Black Beetles



Cowpea aphids



Cutworm



Fire ants



Fruit fly



Mealybugs



Rutherglen bug



Snails

Some pests are of such concern that you are legally required to report sightings to the Government

- The presence of pests can be seen in various ways:
 - Pests are visibly seen on plants (e.g. caterpillars)
 - Damage to plants
 - Curled or wilted leaves
 - Fruit have sting marks
 - Leaves are eaten
 - White covering on leaves and stems

- Insects interact with plants in varying ways.
- Observing the damage caused to a plant gives clues as the kind of pest that has caused the damage.

Pest	Use of mouth
Aphids, assassin bugs, mosquitos	Piercing and sucking
Dragonflies, grasshoppers, beetles	Chewing
Housefly	Sponging
Moths and butterflies	Siphoning

- Weeds are a major threat to the natural environment
 - They compete with plants for space, light, nutrients and water
- Weeds may have varying lifecycles:

Annual	Live for one year Produce by seed
Biennial	Live up to two years Produce by seed
Perennial	Live for two years or more Produce by seed or vegetative propagules

Weed infestations

- Weeds affect a range of areas, including commercial crops, gardens, turf and natural areas.
- Some examples include:



Prickly acacia
Acacia pulchella

Affects natural areas



Nutgrass
Cyperus rotundus

Affects gardens and
turf



Barnyard grass
Echinochloa colona

Affects commercial
crops



Lantana
Lantana camara

Affects natural areas

Weed infestations

- Weeds affect a range of areas, including commercial crops, gardens, turf and natural areas.
- Some examples include:



Onion weed

*Nothoscordum
inodorum*

Affects gardens



Milk thistle

Silybum marianum

Affects natural areas



Bindii

Soliva sessilis

Affects gardens and
turf



Common sowthistle

Sonchus oleraceus

Affects commercial
crops

- Diseases in plants can be caused by micro-organisms, such as:

Bacteria	Fungi	Viruses	Nematodes
Causing: • Blights: Chlorosis, browning and death of plant tissues (e.g. leaves, branches, twigs or flowers) • Canker: Appearance of dead tissue • Galls: Swollen masses of abnormal tissue • Wilting: Loss of rigidity of non-woody parts of plants • Fruit rotting	Causing: • Canker: Appearance of dead tissue • Galls: Swollen masses of abnormal tissue • Ink spot: Causes blackening of leaves and flower stems • Mould/Mildew: White powdery spots • Rot: Decay roots, stems, wood flowers, and fruit • Rust: Brown pustules on the underside of leaves with yellow speckling on the upper leaf • Wilting: Loss of rigidity of non-woody parts of plants	Causing: • Canker: Appearance of dead tissue • Distortion: Irregularly shaped lesions • Scaling • Yellowing	Causing: • Visible nodules on plant roots May transmit and acquire viruses by feeding on infected roots

- It is important to note the following points about pests and diseases:
 - Disease can be spread in many ways:
 - On plant material
 - On the boots and clothing of workers or visitors
 - On tools, equipment, vehicles and machinery
 - In water
 - Via wind
 - Seeds can be affected by diseases – choose those certified as disease free
 - Not all excess plant material should be turned into mulch, as the mulching process does not eradicate pests and/or diseases
 - Pests and diseases can carry over from one season to the next

- When researching plant treatments for pests, weeds and/or diseases, you should identify the tolerable levels of infestation by referring to:
 - **Your client**
 - Pests/weeds/diseases may exceed the client's aesthetic threshold (i.e. lower the appearance of the area)
 - For example: Nut grass present on a manicured turf area; Sow thistle in garden beds
 - **The market**
 - Pests/weeds/diseases should be treated when they exceed the economic threshold level [E.T.L.] and enters economic injury level [E.I.L.] (i.e. interfere with the utilisation of the area)
 - For example: Cobblers peg; Lantana
 - **Environmental requirements**
 - Pests/weeds/diseases should be treated when they exceed the environmental threshold (i.e. threaten the native plant population)
 - For example: Rubber vine on trees; Mother of millions; Water hyacinth
 - **Integrated Pest Management (IPM) requirements**

- Integrated Pest Management (IPM) involves a range of methods to stop pests, weeds and diseases.
- Integrated Pest Management involves using more than one method to control a particular problem
 - The aim is to lower long term risks to the environment (e.g. chemical resistance)
 - Well considered IPM is generally more cost-effective in the long run as well

Control measures need to be selected in full consideration of
WHS and environmental implications

Researching solutions – plant treatments

- When selecting plant treatments for pests, weeds and/or diseases, consider a variety of methods:

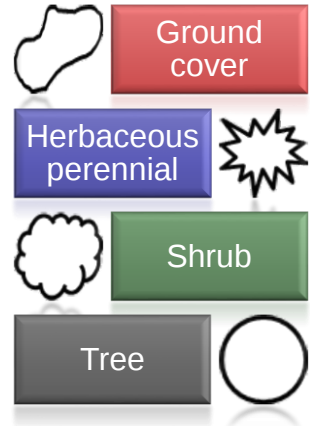
Treatment method	Definition
Biological	Makes use of the weed's naturally occurring enemies
Chemical	Includes: • Fungicides: Destroys fungus • Herbicides: Used to kill unwanted plants • Insecticides: Used for killing insects • Pesticides: Used to attract and then destroy/mitigate pests
Cultural	Involves manipulating farming practices to suppress weed growth and production, while promoting plant development
Mechanical	Uses physical barriers and traps to stop pests from reaching plants
Physical	Includes hand weeding, slashing, burning, cutting, ripping

- For each proposed plant treatment, you should write up an information sheet that includes the following information:
 - Name of plant
 - Pest/disease name
 - Description of signs and symptoms
 - Treatment/Product name
 - Application method
 - Required equipment
 - Chemical application rate (if applicable)
 - Time of application

Identifying issues – plant selection

- When selecting plants, be sure to define the issue/s as closely as possible from the information gathered from the client
- Useful information may include:
 - Characteristics of the environment (e.g. climate, location, soil)
 - Site designs and ground plans to determine:
 - Layout of the planting site
 - Location of main features (e.g. ponds, paths)
 - Drainage

The following symbols may be found on a planting plan



- Points to consider when selecting plants:
 - Growth requirements
 - Water quality and quantity
 - Fertiliser
 - Type
 - Frequency of fertilisation
 - Pruning
 - Frequency of pruning
 - Equipment requirements
 - Soil requirements (pH, sand, clay, loam, alkaline or acidic)
 - Where will the plant be located (e.g. coast, hills, desert)?
 - How deep is the area?

- Points to consider when selecting plants:
 - Problems
 - Dropping limbs, bark and fruits
 - Where will drop occur?
 - How often will plants drop?
 - Root systems
 - Where will roots grow (drains, sewers)?
 - Why are roots growing (competing for water, nutrients or suckering)?
 - Irritants
 - What causes the irritation (pollen, foliage, thorns, spines)?
 - When do the irritants occur?
 - Pests and diseases
 - What types of treatment are needed and how often?

- Points to consider when selecting plants:
 - Features
 - Is the plant evergreen, deciduous or herbacious?
 - Does the plant flower?
 - How fast will it grow?
 - What conditions does it suit?

- Points to consider when selecting plants:
 - Maximising growth
 - Climate
 - Is the plant sensitive to frost, heat or dry climate?
 - Aspect
 - Where does the plant need to be positioned (out of the wind, in sun, in shade)?
 - Buildings
 - What nearby buildings may affect growth, by blocking sun and/or water run-off?
 - Competing plants/weeds

- Points to consider when selecting plants:
 - Uses
 - What is the garden design?
 - What are the existing plants and trees?
 - Where will the new plants be positioned?
 - What is the purpose of the planting (e.g. erosion control, regeneration)?
 - What environmental elements need to be taken into account (e.g. endangered fauna and flora)?

- When selecting plants, consider plant classification/habits (i.e. life cycle and growth pattern) and how this influences their uses
- For example:

Habit	Use	Habit	Use
Annual	Hanging baskets	Ground cover	Restrict weeds
Bulbs	Spring colour	Shrubs	Hedges
Climbers	Screening	Trees	Windbreak

- There are a range of plant classifications:

Classification	Description
Annual	Plants which grow, flower, seed and die in one year or part of a year.
Biennial	Plants which require 2 years to grow, flower, seed and die.
Climber	Plants with stems too weak to support them in an erect position.
Deciduous	Trees and shrubs which are leafless during a portion of the year.
Evergreen	Plants that have leaves all year round.
Groundcover	Plants other than grasses that are used to satisfactorily cover the ground.
Herbaceous	Plants that have no persistent woody stem above ground. New growth develops from living tissues remaining on or under the ground.
Perennial	Plants which live more than 2 years.
Shrub	Wood plants that remain low and produce shoots from the base. Does not have a single or distinct trunk.
Trees	Woody plant that has a single main trunk with a distinct and elevated head.

- After establishing a category of plant, you should identify specific plants that suit the client's environment, providing their proper botanical name
 - A number of plants may have the same common name, however each plant has a unique scientific name
- The scientific name of a plant consists of the following parts:

FAMILY NAME

Family name is written in capital letters.

The modern FAMILY NAME always ends in ACEAE

Genus name

Genus: A group of related plants.

Latin word written in italics, starts with capital letter.

species name

Species: One kind of plant within the genus

Latin word written in lower case and italics.

- For each proposed plant, you should write up an information sheet that includes the following information:
 - Category
 - Common name
 - Botanical name
 - Height and width at maturity
 - Special features (e.g. leaf type, flowers, fruit)
 - Cultural requirements (e.g. aspect, climate, soil, water)
 - Maintenance requirements (e.g. fertilising, pruning, weed control, mowing)

- When identifying and developing options/strategies to address the issue/s, refer to a range of sources:
 - In-house and online reference material
 - Product information
 - Product labels for active constituent details and application information
 - Safety Data Sheets (SDS) for hazard/risks and safe usage information (e.g. handling, transport, disposal, emergency and spill requirements)

- When identifying and developing options/strategies to address the issue/s, refer to a range of sources:
 - Your own experiences
 - Collective workplace knowledge
 - Including team members and supervisors
 - Expert advice
 - Suppliers or contractors (e.g. to identify availability of proposed solutions)
 - Consultants (e.g. horticulturalist, herbarium or weed spotter)

Advise the client if additional expert advice is required to help them with their issue/s

Deciding on the preferred solution

- To determine the optimal solution, you should identify the advantages and disadvantages of each possible solution
 - Collecting and organising the gathered information in a consistent way will allow you to compare the alternatives
- Compare the following factors across your possible solutions:
 - Effectiveness
 - Addresses the issue
 - Minimal safety concerns and environmental implications
 - Cost
 - Availability
 - Stock from supplier
 - Contractors to provide services
 - Client preference

- When advising the client of the recommended solution, you must provide details about:
 - Plants, materials, treatments and labour required
 - Procedures required to implement the solution
 - Probable outcomes to result from the solution
 - Costs involved
- You may also be required to provide details regarding:
 - Garden design
 - Selection of appropriate growing media
 - Limitations of different soil types or climatic conditions
 - Safe use of treatments, including withholding times
 - Local horticultural services

- Effective verbal communication consists of the following:
 - Speaking clearly
 - Ensure the message is clear, concise and professional
 - Considering the message recipient
 - Be mindful of their background and/or abilities (e.g. culture, age, education, language, beliefs)
 - Cultural differences can affect the way that a message is interpreted, especially body language
 - Ask questions of those listening to you to ensure they understand your message
 - A smile does not always mean that a person understands the message – they may be too ashamed to ask questions out of fear
 - Where possible, support your message with audio-visual/multimedia materials, literature, and demonstrations

- You may be asked further questions if:
 - The client cannot understand some of the information
 - The client needs you to reinforce the information by repeating it
 - The client wants to raise another issue
- Like when establishing the issue, be sure to use attentive listening and questioning techniques

- Under the *Competition and Consumer Act 2010* (Cth), it is illegal for a business to make statements to their customers that are not correct
 - This Act replaces the *Trade Practices Act 1974* (Cth) and *Fair Trading Act 1989* (Qld)
- Be sure to research any advice and recommendations you provide to ensure such information is provided with due care and skill!
 - It does not matter whether a false or misleading statement was intentional or not – a business that misleads its customers is breaking the law.