

Introductory Notes

PLANT COLLECTION

This course consists of lesson notes and assignments.

With most assignments you will be required to prepare plant review sheets, containing a sketch, or photograph, or an online link to a photograph or if you are really keen a picture of a pressed specimen of a plant (see more information on the following pages on pressing plants) - plus a description of that plant. The plant collection for each assignment should include two trees, two shrubs, two native plants, and two other plants of any type (e.g. non natives, climbers or groundcovers). That is, a total of **eight** specimens per lesson. You may include up to two plants on the same page.

Why Plant Reviews?

- To help you to gradually build plant knowledge that is useful when working in any sector of the horticulture industry.
- To improve your ability to identify plants and understand the cultural requirements of a range of plant species.

Plant Reviews should take no longer than 3- 4 hours per lesson (about 1/3rd the total lesson time). If you take longer you may be including too much detail.

How Much to Include?

The amount of effort and detail you put into your plant reviews is entirely up to you. Some students put in a lot of detail so they can refer to it later as a resource others. Others just put in simple short sentences under each heading.

If you want to simplify your reviews the most useful headings would be:

- Plant family
- Genus name
- Species name
- Common name(s)
- Brief description (height, shape, leaves, flowers)
- Cultural requirements (soil type, acid/alkaline, sun/shade, water/fertiliser)
- Propagation (seed, cuttings or grafting)
- Pests and diseases

Another Approach

Find any information about the plants collected, and write it down, for example:

- Height...how high it can grow in your locality?
- Width...how wide can it grow in your locality?
- Flowers...what colour and when does it flower?
- Leaf colour, shape, texture... what colour are leaves when young and mature? Are the leaves round, feathery, lobed or spiky? Are the leaves fine textured or coarse?
- Scent...are the flowers or leaves scented?
- Animal Attraction...does this plant attract birds, butterflies, bees? If so what part of the plant (flower or fruit)?
- Hardiness...is it frost tender? How does the wind affect it?

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- Will it tolerate all types of soils? What soil type is preferred?
- Culture...are there any special things the plant requires? How hard should it be pruned and how often? Does it need good drainage? How often should it be fertilized?
- Pests and Diseases...list any pests or diseases which are particularly bad with this plant.
- Maintenance...are there any maintenance requirements for the plant such as pruning or raking fallen leaves in winter?

Hints

- Sample review sheet in the course (see following pages) are there as a guide – change it to suit; the guide above shows minimum expectations.
- Photos are not mandatory but helpful to you as a later reference.
- There is no penalty for producing short concise plant reviews.
- Some students take too long doing their plant reviews because they can't find the right information. No single book or website will tell you all – use several sources.
- When looking for information online type in the name of the plant then add what you are looking for e.g. English lavender botanical name; English lavender pests and diseases etc.



EXAMPLE OF A PLANT IDENTIFICATION WORKSHEET

Plant No. 1.

Plant Family.....	Sketch Or Photo
Genus.....	
Species.....	
Common Name.....	
How & Where to Plant it.....	

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Height..... Spacing.....	
Hardiness	
Appearance	
Uses	
Culture	
Pest & Disease	
Harvest & Post Harvest	

Plant No. 2.

Plant Family.....	Sketch Or Photo
Genus.....	
Species.....	
Common Name.....	

SAMPLE

How & Where to Plant it.....	
Height..... Spacing.....	
Hardiness	
Appearance	
Uses	
Culture	
Pest & Disease	
Harvest & Post Harvest	

NOTE: This is a sample only! You may change it as needed to suit your situation.

Basic Design Procedures

Lesson Aim

Distinguish between different plants, to enable identification of the plant species.

Understand design elements, principals of design and basic design procedure.

Note: This first lesson sets the stage, for the remainder of the course. Read the material thoroughly and understand what you are reading, but do not get bogged down in trying to remember every detail.

HORTICULTURE AND LANDSCAPING

- **Horticulture** is the culture or growing of plants.
- **Landscaping** is the creation of environments on the surface of areas of land.

Plants are an integral part of almost every landscape, and in many ways the most vulnerable part. If something goes wrong with the plants in a landscape, appearance can change dramatically, and very fast.

Not all landscape professionals recognise the importance of plant knowledge, but without a doubt, the greatest landscapers throughout history have been people who understand every aspect of the landscape and in

particular the plants.

Plants Change

Plants change appearance from time to time and place to place.

If you want to create a particular affect you need to know how a plant is going to look in a particular situation, and from time to time throughout the year.

The way you treat a plant is different from place to place, time to time and according to what you are trying to get from the plant.

Even over relatively small distances things such as rainfall, wind and soil type can vary greatly, and this may result in the same plant cultivar growing into very different shapes and sizes in two locations perhaps no more a dozen properties apart.

A certain type of tree for example, might very well grow twice as tall in the eastern suburbs of a large city as what it grows in the western suburbs of the same city.

In horticulture there are always different ways of tackling a job; and often each one is just as valid as the next.

Never consider that a particular technique is the only way of doing something! You should try to be aware of the advantages and disadvantages of all of the alternatives. They all have their pros and cons, and it is up to your own preferences as to which way you choose to do something.

PLANT NAMES

The first step toward choosing and using plants for landscaping is to learn to identify plants by their scientific names.

Plants are given two different types of names:

a) Common Names

These are English language names usually given to plants by amateur gardeners as a descriptive, easy to remember tag. Many plants have more than one common name, and sometimes the same common name can be given to several quite different plants.

This, along with the fact that there is no real control over common names, makes them inaccurate and unreliable for plant identification.

Common name: Oregano



b) Scientific Names

These are based on the Latin language. These names often seem more complex than common names at first glance; however they have a system to them which can make plant identification much easier. The system of scientific naming is strictly controlled and co-ordinated by botanists throughout the world. Scientific names should always be used in preference to common names.

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With the scientific system, plants are classified by dividing them into groups which have similar characteristics. These groups are then divided into smaller groups with similar characteristics. These are divided again and so the division of group to sub group and sub group to further sub groups goes on, until you finally have only one type of plant in each group. There are many different levels of division, although the main ones which we use are just a couple at the bottom end of the scale.

Plant names which you see in books or on plant labels in a nursery will usually consist of two words:

- The first word is the **genus** name of the plant.
- The second word is the **species** name of the plant.

Scientific plant names are usually underlined or *italicised* but mostly the latter.

The main levels of division are as follows:

- All plants are divided into PHYLA
- Phyla are divided into CLASSES
- Classes are divided into ORDERS
- Orders are divided into FAMILIES
- Families are divided into GENERA (singular: Genus)
- Genera are divided into SPECIES
- Species are sometimes divided into VARIETIES.

Scientific name: *Origanum vulgare*



The main plant phyla we are concerned with in horticulture are:

ANTHOPHYTA (i.e. Angiosperms)

This group includes all of the plants which produce flowers (e.g. Eucalypts, Roses, Chrysanthemums, Lettuce, Grasses).

CONIFEROPHYTA (i.e. Conifers)

This includes plants which produce cones (e.g. Pines, Cypress, Junipers).

PTEROPHYTA

These are slightly more primitive plants than conifers, including the Ferns.

Other phyla include mosses, fungi, bacteria and algae.

Anthophyta is divided into two classes:

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a) DICOTYLEDONAE

For these plants, the first leaves to appear from a germinating seed are in a pair (two leaves appear at once). The veins in the leaves are not parallel in these plants (e.g. peas, Eucalypts).

b) MONOCOTYLEDONAE

For these plants, the first leaf to appear when a seed germinates is a single leaf. Veins in the leaves are parallel to each other (e.g. grasses, Iris, orchids).

It can be seen above that you can distinguish between dicotyledons and monocotyledons by a couple of very simple characteristics. In the same way, we can usually distinguish which family a plant belongs to by a few basic characteristics:

Examples of Families

Lamiaceae: foliage is perfumed and flowers have two distinct lips; the stems are square shaped, e.g. Mint, Lavender.

Araceae: leaves are usually heart-shaped and originate in tropical areas e.g. Philodendron.

Asteraceae: have daisy-type flowers e.g. Chrysanthemum, Calendula

Calendula officinalis (Asteraceae)



Apiaceae: flowers occur in an umbrella-like head on a single stalk eg. Parsley.

Orchidaceae: leaves have parallel veins, flowers have 5 petals, and three different shapes to the petals (two larger ones the same, two smaller ones the same as each other, and one which is different to the others in shape).

It's Easy to Avoid Confusion

Students have sometimes called the family name a genus. Note that a genus name virtually never ends in the letters "aceae".

e.g. *Betula pendula*

Here, *Betula* is the genus, and *pendula* the species.

The genus name begins with a capital letter. The species name is usually written beginning with a lower case letter.

Sometimes a third word (and perhaps a fourth) is added to follow the species. These words would refer to the variety of that particular species.

e.g. *Acer palmatum dissectum atropurpurea*:

- *Acer* is the genus
- *palmatum* is the species
- *dissectum* tells us that this is a variety of *Acer palmatum* which has dissected leaves
- *purpureum* tells us that this variety of *Acer palmatum* has purple foliage

You should be able to tell a family name from other types of names by the fact that it will end with "ACEAE". You may occasionally get confused by the difference between hybrid and variety.

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Activity 1

Visit two local gardens or parks and observe the principles and elements used in landscape design to develop different design concepts.

Activity 2

Find a site within easy reach of your home which could be landscaped. This site need not be very big. It may be a friend's or relative's property, it could be a home garden, a small section of a local park or a redevelopment of an older garden.

Develop a general checklist for recording pre-planning information for the site. For example, you may wish to include: Climate, aspect, soil, existing features to retain, site dimensions, and client preferences.

Activity 3

Find a site that has been landscaped professionally. Consider how the principles and elements have been used to satisfy the client's brief/wishes for the site. The client could be the local council (public park or garden), an individual (private garden), or a business (with landscaped gardens). If you are unaware of the client's wishes for the site you can probably make a good guess what they wanted based on the existing landscape.

Congratulations on finishing the Lesson

[Now do the SAT on the next page](#)

Assignment 1

Question 1

Briefly explain the application of three different design elements (e.g. line, form, mass, space, texture, colour, tone) using examples from a garden or park you visited in your first set task. You may submit photos or sketches to illustrate the items that exhibit these elements.

Write no more than 500 words or 1 page of notes (not including photos or sketches).

Question 2

Briefly explain the application of three different design principles (e.g. unity, balance, proportion, harmony, contrast and rhythm) using examples from a garden or park you visited in your first set task. You may submit photos or sketches to illustrate how these particular principles have been achieved.

Write no more than 500 words or 1 page of notes (not including photos or sketches).

Question 3

Visit your chosen landscape site from your second set task. Measure the area and list the preplanning information in accordance with your checklist.

Consider how landscape principles can be used to obtain the required specifications.

Write up to 1 page.

Question 4

Write a brief report based on your third set task. Write about half a page or 250 words (you can include photos if you wish).

DON'T FORGET THE PLANT REVIEWS FOR THIS LESSON.

Congratulations on finishing this section.

[Now start the next section on the next page](#)