

**Penang Sangam High School**  
**P.O. Box 44, Rakiraki**  
**Year 12 Agriculture Lesson Notes Week 12**

<b>Strand</b>	<b>AS 12.3 Agronomy</b>
<b>Sub-Strand</b>	<b>AS 12.3.2.3: Ornamental Horticulture</b>
<b>Content Learning Outcome</b>	<b>Deliberate on Ornamental Horticulture by investigating, selecting and practicing appropriate husbandry methods on selected ornamental plants.</b>

**Lesson 11: Potting Mixes**

**Lesson Outcome:** Discuss the role of and ingredients used in potting mixes and prepare appropriate potting mixes for selected plants.

Potting mix – is the medium to grow plants, herbs and vegetables, either in a pot or durable container. (also known as potting soil or potting compost)

The potting mix must provide the plant with:

1. air circulation	2. favorable moisture content	3. nutrient needs	4. anchorage	5. pathogen free medium
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Coir - fiber from the outer husk of the coconut, used for making ropes and matting

Vermiculite - yellow or brown mineral used as a moisture-retentive medium for growing plants

Perlite - a volcanic rock that has been heated and expanded

Below are some ingredients used as growth medium or as ingredients in potting mixes:

1. Tree fern or ‘balabala’ is suitable for plants which need a porous medium which is well aerated e.g. Vanda orchids.

2. Sphagnum peat moss - organic material that holds 15-30 times its weight in water and decomposes very slowly.

3. Wood charcoal- allows air circulation; maintains consistent moisture content; is inert so does not decay; anchors plants; readily available; absorbs and slowly releases nutrients.

4. Coir is a waste product of the coconut industry. It has physical properties much like peat but pH of about 6. It holds up to nine times its weight in water. It can have a high salt content so should be washed in fresh water before use.

5. Vermiculite helps hold water and fertilizer in the potting mix and contains some Ca and Mg. It has a pH near neutral. Vermiculite comes in different grades; medium grade is usually used for starting seeds, a coarse grade may be used for larger plants.

6. Perlite is lightweight, sterile and has a neutral pH. It is used to reduce weight of potting mix and increase its aeration and drainage.

7. Coarse washed sand also called builder's sand is used to add air space to potting mix and increase its weight. It has neutral pH and provides almost no fertility to plants. Sand may be used when added weight is needed for growing tall or top heavy plants that might fall over if grown in a lightweight mix.

8. Limestone is either calcitic (high Ca) or dolomitic (high Mg); both used to increase pH of a mix but dolomite is preferable for supplying both Ca and Mg.

9. Compost is rarely used by itself as a potting medium. Compost alone does not have the optimal water holding characteristics, and soluble salt levels may be higher than optimal for potting mix.

## **Lesson 12: Planting In Pots**

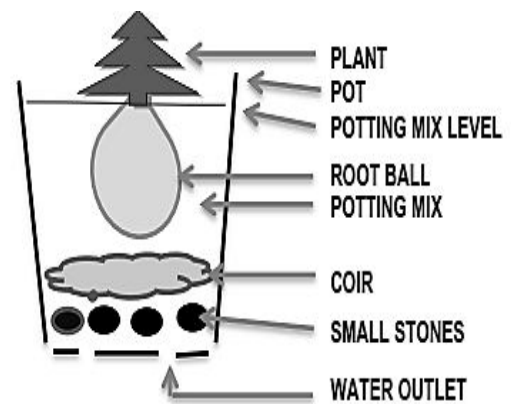
**Lesson Outcome:** At the end of this lesson the student will plant plants into pots.

Potted plants are usually planted using seedlings or vegetative plant parts.

The list below shows basic steps used in potting plants

1. Choose a suitable pot
2. Place thin layer of drainage material at bottom of pot
3. Place thin layer of material to stop soil from being washed out and pests from entering potting mix e.g. coir or dress fabric.
4. Place layer of potting mix over drainage material.
5. Position the planting material.
6. Fill rest of the pot with potting mix to about 5 cm from brim of pot.
7. Mulch with pebbles, marbles or perlite to reduce evaporation and pests.
8. Irrigate the pot to saturation.
9. Place potted plant in shade until plant is established.

Cross section of a potted pine seedling



## **Student Activity**

1. State one advantage of adding wood charcoal to the growing medium of a potted plant.

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2. State one ingredient used as growth medium in potting mixes.

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3. Practice drawing and labeling a potted plant in your note book.