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Progress in the nursery industry

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The demand for ornamental plants in Western Australia is at an unprecedented level, making the nursery industry a relatively prosperous branch of horticulture.

Despite the apparent depression in public spending of recent times, the nursery industry does not appear to be suffering. One reason for the continued demand for nursery lines is probably that people are concerned about the environment—"green survival", as it is often referred to in promotional literature.

Obviously the rapid development in Western Australia of home building and industry has caused a substantial demand for plants, but it is also evident that with increasing leisure time, the average home owner and apartment dweller has become more interested in intensive indoor and outdoor gardening.

As a hobby and to economise on food bills, vegetables, fruit, herbs and spices are often home grown.

Many people also upgrade or re-establish old gardens to improve their environment and to increase the real estate value of their property.

In rural areas, farmers are becoming increasingly aware of the value of planting windbreaks, shade and ornamental trees, while mining companies and the Forests Department are actively engaged in re-afforestation.

As a result the nursery industry is in a healthy situation and can continue to develop in the future. However, because Western Australia is isolated and has a small population, there is a limit to the industry's economic expansion.

The 1973/74 nursery and flower production statistics showed no urgent need for substantial expansion of nursery activities. There are already 138 known nursery establishments which propagate, cultivate and/or grow-on plants for sale. This figure excludes garden centres, shops and other establishments that hold plants for retail only.

People who are considering moving into the nursery business should realise the large capital investments involved in setting up a new and economically viable nursery. For example, the statistics show that 141 hectares of land are occupied for nursery activities, of which 9-6 hectares are covered with shade houses and 6-8 hectares are covered with glass, fibre glass and plastic film houses.

Staff requirements are high and costly for the operation of these nurseries. There were 357 male and 326 female workers employed either permanently or part-time.

Technical aids
Besides the basic land, structural and labour requirements, an extensive range of nursery aids has become essential in a modern technologically developed nursery. Technical aids include:

- equipment for improving soil conditions and handling of soil;
- new types of green and shade houses;
- equipment for environmental control;
- materials or equipment used for handling plants and plant products.

Soil conditioning equipment
Boilers, steam-air mixing plants and applicators or injectors are used to pasteurise soils in an attempt to reduce damping-off and root rotting soil organisms, weed seeds and insects. Soil mixing machines such as paddle bins or concrete mixers are used to blend soils, other growing media and fertilisers. Specially designed trollies are used as working benches for sterilisation, propagation or potting on of plants as well as general transportation. Conveyor belt systems are also often seen in leading wholesale nurseries.

Green and shade houses
The diversity in type and construction of greenhouses and shade houses is complex and varies between nurseries. The type of structure depends upon the specialisation or propagation methods of the nurseryman.
Modern constructions include single-span propagation houses built with a sloping roof covered with glass or fibre glass. The bottom half of the side walls is raised with bricks. These houses are usually equipped with benches, automatically controlled soil heating and misting sprinklers. Large single span houses can be clad with plastic sheeting to act as hot houses in winter or covered with shade cloth in summer.

Igloo or tunnel houses which are about a fifth of the cost of glass-houses are commonly used for growing large numbers of seedlings, pot plants, cut flowers, vegetables etc. They are constructed with water pipe and welded mesh or wire, and can be covered with shade cloth for shade and wind protection in summer or covered with plastic sheeting to act as hot houses in winter.

Other common structures are flat-roofed shade houses either covered with plastic shade cloth or ti-tree branches for protection of shade loving plants or for hardening glass-house-grown seedlings or cuttings.

Environmental control
A wide range of equipment can be installed for environmental control. Some of the more important devices used for cooling include evaporative pad or air conditioning units, fans, and plastic ducting for distributing cool air throughout the glasshouse.

For glasshouse heating the essential equipment includes oil or gas fired boilers, water pipes, air ducts, steam radiators and fans. Carbon dioxide enrichment units are often needed under crowded glasshouse conditions. Extra carbon dioxide allows the plants to grow more vigorously.

Soil mixes
There has been a change from heavy to lightweight soil mixes. Besides being lightweight, and therefore easy to handle and cheaper to transport, these soil mixes have the additional advantage of allowing free drainage, which is important for a relatively low incidence of root diseases.

These lightweight mixes are largely made up of organic matter and are based on the research and recommendations of the University of California (hence the so called U.C. mixes). A mix commonly used in W.A. for a wide range of container-grown trees and shrubs is 75 per cent fresh jarrah sawdust and 25 per cent fine sand. These practically inert and almost completely nutrient deficient mixes need substantial quantities of fertilisers to assure healthy plant growth.

There has been a general up-grading of garden centres. In the past the average nursery propagated plants, grew-on a wide range of plants and sold direct to the public. This type of operation forced the nurseryman to operate his business for seven days a week. Nurserymen have now diversified and concentrated more on specialised plant production and/or plant selling.

Specialised production and selling developed so far in Western Australia includes:
- wholesale production of container-grown shrubs, trees, indoor pot plants and vegetable and flower seedlings;
- production and wholesale of rooted cuttings in plastic or paper propagation tubes;
- specialisation in the growing of one or two specific plant types such as roses, palms or cacti and succulents;
- retailing a wide range of plants and garden accessories from garden centres.
- growing cut flowers and sale of cut-flower plant material such as bulbs and corms.

There are various other areas of plant propagation in which nurserymen specialise, such as production of fruit trees or exotic plants like azaleas and camellias.

Floriculture in all these fields requires much capital and labour. The successful nurseryman must therefore produce large volumes of good quality plants and make full use of technical aids. Nurserymen must also be well informed on pest and disease control measures and have a full knowledge of the nutrient requirements of a wide range of plants.

There is a limit to the expansion of the nursery business in Western Australia because of the State's limited population. However it is likely that further specialisation within the industry will take place in the future.

### NURSERY AND FLOWER PRODUCTION STATISTICS

<table>
<thead>
<tr>
<th>Year</th>
<th>Nursery establishments*</th>
<th>Total area (ha)</th>
<th>Area (ha)</th>
<th>Employment</th>
<th>Total retail sales</th>
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</thead>
<tbody>
<tr>
<td>1971/72</td>
<td>128</td>
<td>143</td>
<td>6.15</td>
<td>2.18</td>
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<td>1972/73</td>
<td>136</td>
<td>134</td>
<td>8.46</td>
<td>3.81</td>
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<tr>
<td>1973/74</td>
<td>138</td>
<td>134</td>
<td>8.62</td>
<td>3.81</td>
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<tr>
<td>1974/75</td>
<td>119</td>
<td>141</td>
<td>8.61</td>
<td>5.16</td>
<td>328</td>
</tr>
</tbody>
</table>

* Excludes retail garden centres and shops, and Government nurseries.