



Gelliondale Nursery



"A fully integrated, state of the art tree breeding and production facility."

community investment

STATE OF THE ART NURSERY

HVP and its predecessors have operated a nursery at Gelliondale since 1989.

The 280ha site is located 17km west of Yarram in Gippsland, Victoria and until recently has produced all of its plants from bare rooted stock grown in its unique peat soils.

Planning for a new 'state of the art' containerised facility began in 2003. With over \$11M of new investment, the facility has increased its capacity

from 4 million to 10 million plants per year. Importantly, the proportion of container production compared with bare rooted stock has grown from 25% to 75%, ensuring the plants will have a greater likelihood of survival once in the field.

The new facility has substantially enhanced the working conditions on site, increased regional employment, reduced water and chemical usage, improved productivity and ensured the longevity and sustainability of the site as a plantation nursery.



"This nursery is a great symbol of HVP's commitment to the industry and to Gippsland."



GELLIONDALE NURSERY HOTHOUSE

"HVP would like to acknowledge the support provided by Wellington Shire and the Victorian State Government"

The recent investment has generated a number of benefits to employees and industry as well as improving the environment and safety conditions of the site.

Employment	<i>Increased regional employment at Yarram</i>
Employee health	<i>Improved worker comfort, keeping dry and warm</i>
Environment	<i>50% reduction in on site water usage</i>
Safety	<i>Reduced manual handling and bending</i>
Capacity	<i>Increase from 4 million to 10 million plants</i>
Survival	<i>Improved "drought tolerant" planting stock</i>
Environment	<i>Reduced chemical usage</i>
Productivity	<i>Modern technology, efficient infrastructure design</i>
Environment	<i>Utilisation of biomass for heating</i>





A PROJECT TAKING SHAPE

It took 18 months from the time the project was approved in 2008, to the time the first crop of plants rolled off the propagation line.

The project involved all aspects of equipment design and installation as well as the recruitment and training of a large number of staff. It was a complex project that had a pressing deadline – having the plants produced out of the new facility in time to be planted in the winter of 2010.

Training

HVP's nursery staff had to undertake training for the operation of the new facility. The training was provided locally by East Gippsland Tafe who took the staff through a variety of programmes, including a Horticulture Certificate Three. HVP is signatory to the Victorian Government's Skills Pledge which makes public the company's commitment to training. The nursery training programme has resulted in HVP being nominated for a Ministers Award for Excellence.



CONSTRUCTION



STAFF TRAINING



BOARD APPROVAL DAY

"It was a cold and wet day when the Board of HVP came to view the proposed construction site to discuss the concept of a new nursery. They liked what they saw and so a project was born."

Owen Trumper, HVP's General Manager for Gippsland.



Rural Employment

HVP used local contractors and suppliers for much of the construction phase of the new nursery. The watering system, tray filling and seeding line came from Warragul and a Bairnsdale company supplied the sheds.

Now complete, the new facility provides for an additional 11 equivalent full time jobs. During the peak season from April through to September, up to 90 casual staff are employed making HVP a significant local employer for Yarram and the surrounding districts.

"Generally we employ the same people each year. Casual work suits many of our staff who look forward to this regular fixture in the calendar year. It makes for a happy work environment and it suits us to have good quality reliable workers."

Chris Barclay, Nursery Manager.

industry
commitment

A fully integrated tree breeding and production facility

A FULLY INTEGRATED TREE BREEDING FACILITY

Gelliondale is a unique facility, containing within the one site: seed orchards; stool plants; and a plant propagation, growing and dispatch system that is the starting point for the ongoing, sustainable cycle of growth of 163,000 ha of HVP plantation around Victoria.

Gelliondale produces radiata pine from both cuttings and directly from seed (seedlings). Plants are produced in containers and also as 'bare rooted' plants from soil beds. Gelliondale also produces Shining Gum seedlings for the company's eucalypt plantations.



THE NURSERY CYCLE



01

SELECTING THE BEST TREES

Progeny trials are conducted out in the plantations. Trees which show desirable traits such as growth, form, branching and density, are selected for inclusion into our breeding program. Traits from the selection of families used in our radiata pine breeding program score within the top 5% of the Australian breeding population.



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SOWING THE SEEDS INTO "MOTHER" PLANTS

Seed is extracted from the seed orchard, propagated and grown to about 10-12cm in height. A tip cutting is taken and grown in a controlled environment inside a 'hot house'. This process is repeated a number of times allowing a number of parent plants to be generated from a single seed over a 6 month period.



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FILLING THE TRAYS

The first stage of the container nursery is the filling of the trays with either the harvested cuttings from the "mother" plants or seed through the sowing line. The cuttings are placed manually in the trays from April to July. The seeds are sown mechanically into the trays in September-October.



07



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BEING NURTURED IN THE GROWING AREA

The plants are placed in the growing area for up to 10 months and do not move until they are ready for despatch to the forest. The plants are carefully monitored for disease, nutrient balance and moisture content. Fertilizers, fungicides and water is dispensed through the overhead booms to ensure the plants are primed and robust for their ultimate journey to the forest.



10



GRAFTING INTO THE SEED ORCHARD

Grafting is one way in which a tree showing desirable traits can be replicated. A shoot (scion) from the selected tree is grafted onto root stock using a cleft graft. Grafted root stocks are then planted out in seed orchards.



POLLINATION

Once the trees in the seed orchard are producing flowers and pollen, a process of controlled pollination occurs from mid-June until mid-August. Bags are placed over the flowers to restrict their exposure to 'wild' pollen and pollen from selected trees is injected into the bags. Seed orchard trees are pruned regularly to encourage stimulation of branches and consequently flowers, and to maintain trees at a manageable height.

PRODUCING CUTTINGS FOR THE NURSERY

Stool plants are established in individual beds to maintain their family identity and are kept in production for four years. Plants are cut low and 'hedged' each year to encourage good quality shoot production. Cuttings from the stool plants are taken between April and July and used in the nursery. The stool plant technique allows for rapid development of the best breeding stock.

“The large glass house has an eerie atmosphere as it creaks and groans. Fans and mist start up, the large air vents open and close automatically according to air temperature and humidity.”

CALLUSING/GERMINATING IN THE GLASSHOUSE

Once the trays are filled, they move into the glasshouse where the cuttings begin to develop root calluses or the seeds begin to germinate. The new plants remain in the glass house for 2 to 3 weeks in preparation for the move to the outside world.



HARDENING UP IN THE SHADEHOUSE

The new plants leave the glasshouse to the shade house where they are protected from the wind and extreme sun for a period of 2 to 3 weeks. It is here where the lush new plants begin to “harden up” in preparation for movement out into the exposed on-growing area. This stage is critical to minimise plant mortality during the hot summer months.

DESPATCHING

Once the wet weather arrives in the autumn, the trays are moved to the despatch area. Here the trays are automatically “deplugged” and the plants either despatched in their trays, or removed from the trays and placed in boxes for the journey to the forest. Up to 175,000 plants can be despatched per day.



PLANTING IN THE FIELD

The new plants arrive on the planting site ready for planting. All 10 Million plants are planted by hand with the tree planters carrying either boxes of plants or full trays directly from the nursery. The planter uses a planting shovel to prepare the ground and places the plant in the ground. This is tough work and only for the fit!!!

NURSERY FEATURES

01

Keeping it in the family

The containerised nursery uses sterilised potting mix derived from pine bark residue left over from timber and paper manufacturing processes. This means reduced pressure on the natural and unique peat soils at the site and reduces the incidence of weeds and diseases within the nursery.

02

Choosing the right container

In partnership with Transplant Systems, HVP developed a new plant tray specifically designed to accommodate pine cuttings whilst ensuring the ergonomic needs of planting crews were considered. Each cell is designed with a combination of air gaps and ridgelines to restrict roots from spiralling. When ready for planting, each tree is primed for prolific lateral root growth.

04

Saving precious water

The new nursery facility has reduced water usage on site by over 50% due to the use of overhead booms. The nursery utilises bore water and this application method provides the opportunity to produce an improved overall environment for the plants.

05

Keeping healthy

The nursery is fitted with roller benches which significantly reduces manual handling and provides a more comfortable work station for nursery staff who can now operate at waist high without the need for constant bending over during their working day.

“Made of glass and steel, the hothouse is a surprisingly beautiful structure.”



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Staying alive in the field

Trials have shown that container stock can tolerate difficult growing conditions such as drought better than bare rooted stock. Plantations are not irrigated and therefore HVP relies upon natural rainfall for plants to survive in the field.

06

Controlling the environment

The climate within the glasshouse is controlled via computer. Hot water is circulated to maintain temperature in the glass house. Waste bi-products of sawmilling and paper making are used to fuel the furnace.

keeping healthy



ABOUT HVP

HVP is one of the largest plantation companies in Australia and one of the largest private land managers in Victoria. HVP is owned jointly by Australian and US superannuation and investment funds. The Hancock Timber Resource Group (HTRG) based in Boston acts as overseeing manager.

HVP manages around 245,000 ha, approximately 163,000 ha of which is plantation, predominantly Radiata Pine distributed around Victoria. HVP is also custodian of close to 50,000 ha of native forest which it protects.

HVP employs 130 full time staff and through our harvesting, haulage and silviculture contractors, employ a further 450 people. The company supplies 3 million tonnes of softwood and 300,000 tonnes of hardwood to manufacturing industries in Australia and overseas.

HVP has a long standing commitment to work with a wide variety of community members and a track record of 'best practice' forest management. Sound stewardship of our land is a cornerstone of our business. HVP Plantations was the first company in Australia to hold both FSC and AFS accreditations. Our forest practices are independently audited to ensure that high quality forest practices are achieved. Stewardship is an integral part of the role of all field staff supported by a number of fulltime staff devoted to stewardship and community interactions.

HOW TO CONTACT US

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CONTROL PANEL



STROBILI (FEMALE PINE FLOWERS)



STAFF LUNCH AT GELLIONDALE



PEFC/21-23-14



AFS/01-21-13541



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