

Where tradition meets technology



Fertigation at Ellerslie



Australian hop growing is not all about Tasmania; nestled amongst the valleys of North Eastern Victoria you will find a hop industry dating back to the 1890s. Ellerslie Hop Estate has been part of this industry since the 1930s and is now managed by the third generation of the Croke family.

by **Philip Tudor**
Ellerslie Hop Estate

It has grown to establish itself as one of Australia's largest hop growers and processors.

Ideal weather conditions together with good winter and spring rainfalls helped to contribute to above

average yields and alphas for our principle crops of Pride of Ringwood, Super Prides and Clusters along with several aroma varieties currently been developed by Ellerslie. The hop gardens in 2010, as a whole, yielded higher than the forecasted production, with the established gardens yielding approximately 15% higher than the long term average. Favourable weather conditions and changes to Ellerslie's practices contributed to these improved yields.

As part of our continuous improvement programme a number of key farming strategies have been instigated since 2006 to minimise our impact on the environment. With increasing pressure on water availability and the need for responsible use of existing resources, Ellerslie has formulated a policy to ensure the long term

viability of our farms. It is with this in mind we have undertaken a program of converting hop gardens away from traditional overhead sprays to a more conservative drip irrigation system.

Further development of the drip irrigation system has led to improvements in the fertiliser programme by employing a number of 'fertigation' techniques where liquid fertilizer is distributed through the drip irrigation lines. In theory the fertiliser is directed to the hop root system thereby minimising wastage and reducing the leaching of fertilisers into the water table.

Fertigation has led to improved yields through tailored and precise technology. Two new pumping stations were custom designed and built, each pumping station irrigates approximately 80 acres of hops. The hop gardens under the pumping



Nestled amongst the valleys of North Eastern Victoria lies the Ellerslie Hop gardens.



Ellerslie enjoys continuing success within the Australian Hop industry and has brought some new ideas to a well established industry.



hop gardens under the pumping system are broken up into approximately 10 acres lots. The pumping station controls the irrigation timings, the fertiliser dosing systems along with housing the main filtration systems. From the pumping station the farm managers can control the irrigation and fertigation systems to meet each garden's precise needs using moisture meters, weather stations, soil and leaf analysis.

Through the use of drip irrigation and the advances in technology the farm managers can now deliver a tailored approach to farming. Further improvements to our processes have involved our farm management team working closely with our agronomists to balance the microbial profile of the soil which we have identified as an essential tool for 'unlocking' the nutrients in the soil and hence less fertiliser is required.

The 2010 harvest demonstrated that Ellerslie's improvement

program has had a positive result on the yields as demonstrated in the chart. Overall, the total quantity by weight was also slightly higher for the drip, as we fine tune the fertigation program it is expected that this gap will widen. Ellerslie's commitment to reducing its environmental impact will see the continued rollout of the drip irrigation system over the next five years. Ellerslie enjoys continuing

success within the Australian Hop industry and has brought some new ideas to a well established industry with some great results and expects to see yield improvements over the coming years whilst improving environmental impact. ■



This exposed hop rhizome was planted late in the season, it demonstrates the rigorous growth of the root structure that was achieved through drip irrigation and using microbial 'boosters'.

