

Which site is best?

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Horticulture New Zealand has a target of \$10 billion dollars in exports from the horticultural sector by 2020. We currently do about \$5 billion. Quite a big jump. Setting aside questions of staff and capital it seems clear that we will need to need to expand the land we use to produce this crop. History has shown how short term an industry can be if you get it wrong. For example, the apple industry in Auckland. Only time will tell whether it is wise to grow avocados in the Bay of Plenty. At this stage it doesn't look good.

I was recently involved in a project looking into the viability from a climatic viewpoint of Central Hawkes Bay. At first glance it seems easy but can be very hard in practice. Getting hold of the data you need can be your first big challenge. Apart from buying your own weather station and installing it, the chance of getting the data you need are fairly remote. Luckily, NIWA have made their climate database available to the public for free. Go to: <http://cliflo.niwa.co.nz/> for a look. This site includes information from over 6500 sites scattered around New Zealand. Unfortunately, this site will do anything else for you apart from providing raw data. We have started including data from NIWA in the HortPlus MetWatch Online system. From here you can analyse data from a horticultural perspective. An example of the potential output is shown in figure 1.

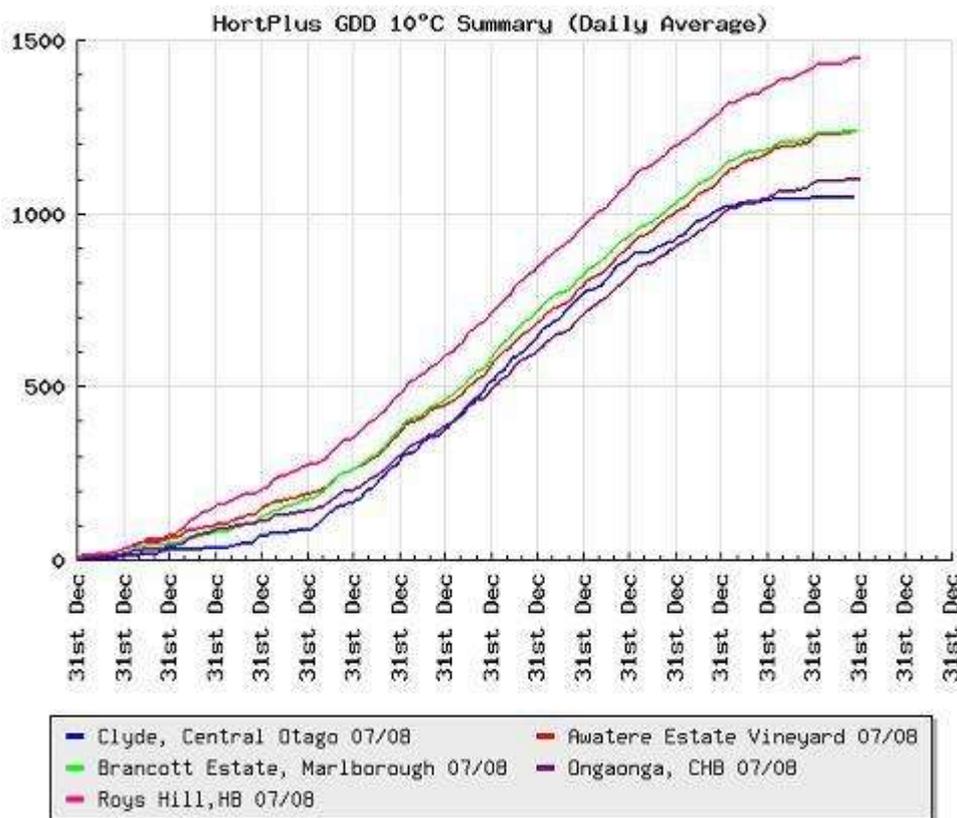


Figure 1

This figure compares Ongaonga in Central Hawkes Bay with four of the sites around the country during the 2007 season. From this graph, it looks as though Central Hawkes Bay is very similar to Clyde and quite a long way behind Roys Hill in the Hawkes Bay. This comparison can be very useful if

you wish to purchase a property in Central Hawkes Bay. It should help guide to you to what crops should grow well for that particular area.

Some people also install small temperature loggers at the site they are looking to purchase. HortPlus sells a range of these loggers very cheaply, together with environmental shields that help protect from direct sunlight. Frequently these data sets are incomplete for a site and will have gaps in the data. This can be frustrating when you are trying to do a seasonal comparison. In the past, we have found that comparing your logger against a logger in a region of interest is very useful and overcomes the problem of incomplete data. An example of this is shown in figure 2.

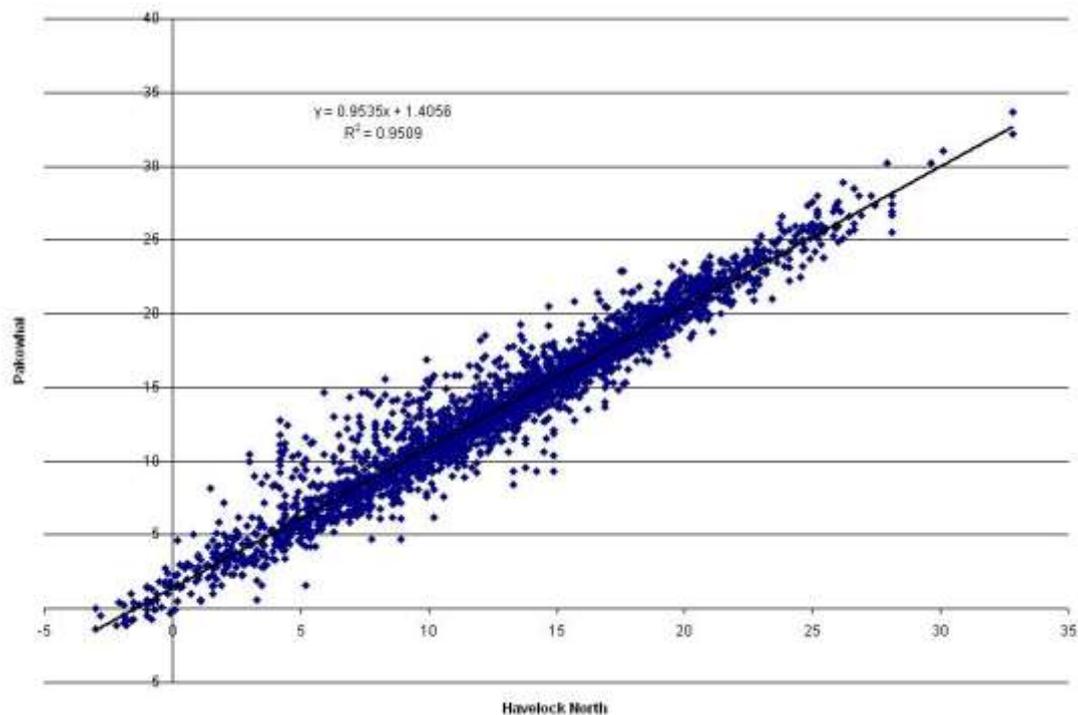


Figure 2

In this figure we are comparing temperatures at Havelock North and Pakowhai weather stations. We just need to plot the individual hourly temperatures against each other. We have found in the past a close correlation between how warm it is at one place compared to another. In this example, focus on the zero degrees at Havelock North. It shows that the temperature at Pakowhai will be about 1.5 degrees celcius. From this we can say that the Pakowhai site should be less frosty than Havelock North.

We can also look at the temperatures above 20 degrees. It seems that the Havelock North site is about the same as the Pakowhai site. Therefore, we can expect mid summer peak temperatures to be about the same. Be careful with this though because it does change during the year and how close you are to the sea will affect the results. During mid summer we can expect peak temperatures to be lower in sites closer to the sea. This is mainly mediated by mid day sea breezes.

If you are looking at a site, it also pays to talk to the local people. They will have a good idea of the weather of the Region. Central Hawkes Bay for example can experience a frost as late as Christmas Day. By pouring over long term records you would see this but, it does take some time. Much better to have a talk with a local farmer about the weather. I am sure they will always oblige. Farmers and the weather seem like good partners.

As always, if you need more help you can always email us. We would be glad to help. Our email addresses are:

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