# IN BRIEF GLOBAL…

**Issue 409** **26th July 2019**

## AROUND THE NELSON REGION…

### HICANE

Now is the time to prepare for Hicane® application on Hayward kiwifruit. It can be applied anytime from now till around the 20th of August for Hayward.

An application early in August is usually targeting early Kiwistart fruit whereas later application is for mainpack. Water rate (500-600 L/ha) with low drift nozzles to ensure good coverage without any drips will reduce the risk of bud damage. Apply under good weather conditions once the cane is not cold to touch.

Notify neighbours beforehand. It is common to reduce Hicane® rates to 5-5.5% the later in the month an application is applied. ***Steve***

### ADVANCE GOLD

Two reports have been sent out recently by Mainland Kiwifruit on monitoring undertaken by AgFirst on the effectiveness of applying Advance Gold + Activator to Gold3.

Targeting 35 days before natural budbreak is important along with the recommended water rate of 700L/ha.

I expect natural budbreak to be around the 13th of September for Gold3. Applications anytime around the 5th of August should be ok. BreakNSure test will provide more accurate estimate of timing.

Findings from our monitoring showed Advance Gold reduced side flowers by 20% along with a small reduction in King flowers. It didn't appear to influence harvest maturity on any of the blocks sprayed compared to unsprayed control blocks.

These results are from only one years monitoring of what growers had done and I am sure there will be more lessons for us to learn from this product over time.

Manage this risk well! ***Steve***

*Figure 1: Gold3 kiwifruit shoots & flower buds.*

### EM MAPPING

Electro-Magnetic mapping provides insights of the soil's textural composition across the block. It visually reflects this textural variability as a colourful map (Fig 2). The maps need quantifying to provide meaning and objectivity. We can provide this interpretation to help you with important management decisions.

A key value is that the survey identifies management zones. This helps with the following:

- More precise inputs with nutrition & irrigation management.
- Identifies the best position to locate your soil moisture monitoring probes.
- Laying out a new orchard? The map can help with determining block size, location of varieties, selection of rootstocks, irrigation plans, drainage plans, training structure engineering. It can also identify areas to avoid and not plant.
- The map measures elevation across the block, so a contour map can be produced. This can then be used to model water flow across the block and identifies ponding points. This helps with drainage plans & decisions.

**The EM survey equipment will be in the Tasman area mid August**. If you would like your block surveyed call me now to not miss out or you would like more information about it. ***Dean***

**Editors Note.** Justin also has an interesting article on EM Mapping.



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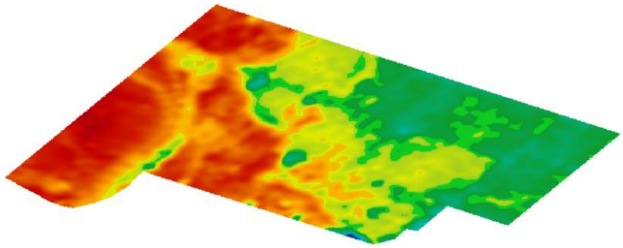


Figure 2: EM Mapping showing textural variability.

## AROUND THE HAWKE'S BAY REGION...

### INTERNATIONAL HORTICULTURE IMMERSION PROGRAM

This packed 2 week trip with 11 uni students was focused on forward thinking ideas, business and industry structures and education systems in the horticulture industry. It spanned from seed potato businesses to touring marketplaces, to education facilities and NZ embassies.

*Figure 3: Leander out and about during her trip.*

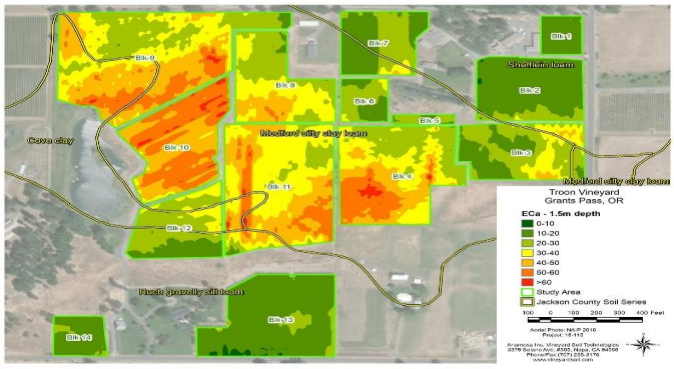
I loved having the opportunity on all those long bus/plane rides, to chat to students about their career ideas and what to expect from working life.
I finally got to see NZ apples being re-packed in Antwerp and oh so painful it was. I felt the intensity of the South Korean market and understood why they need our apples, and they need our help growing their apples. I knew this information before but now I can better understand this information.

I have a new appreciation of NZ's opportunity to preserve our beautiful natural resources but run beautiful business alongside this. I'm presenting about my trip, beers provided, at the AgFirst office, Friday 2nd August 4.30pm start. Please RSVP to me if you'd like to come by Wednesday 31st.
***Leander***

### MAPPING ORCHARD AND VINEYARD VARIABILITY: A WORM'S-EYE VIEW

My last contribution to InBrief I discussed using satellite and drone imagery to visualize and quantify orchard canopy variability. In this issue, I'll discuss Electromagnetic (EM) soil mapping.

Electromagnetic soil mapping is a useful layer of data that can be used to map orchard soil variability. In short, EM measures and maps the variability in apparent electrical conductivity within the soil profile through the use of sensors without any requirement for soil-to-instrument contact. The measured conductivity can then be linked to different soil characteristics such as stone and clay content. This information can then be used to determine other soil




properties including cation exchange capacity (CEC), bulk density, water holding capacity, and salinity.

*Figure 4: Example of EM Soil Map. Source:https://winecampblog.com/journal/2018/3/18/a-first-deeper-look-at-dirt*

This information is being used to design new orchards/vineyards, irrigation systems; vine/tree spacing, scion and rootstock selection; as well as to determine soil preparation practices, soil amendment and fertilizer orograms. In existing orchards/vineyards, the data is being used to adjust irrigation and fertility practices, as well as define canopy management areas and direct harvest sampling and scheduling.

When the "worm's-eye view" (EM mapping) is used alongside the "bird's-eye view" (satellite/drone imagery), growers have a very power suite of tools that can be used to manage orchard variability and ultimately manage fruit quality and yield.Really, these are tools to get excited about and possibilities are endless! Contact me if you have any questions on how to use this technology in your orchard and vineyard (justin.france@agfirst.co.nz). ***Justin***