



Technology taking property planning to the next level

The use of technology to take property planning to the next level was the topic of a recent Hort360 information session held on the Sunshine Coast. Speakers gave an informative overview of how different technologies could be used on-farm saving time and money.

Owner of GES Property Mapping and northern New South Wales macadamia farmer, Bob Howard, discussed how LIDAR technology could be used in conjunction with an erosion management plan to minimise erosion and soil loss from farms and allow growers to manage their properties more effectively.

"In a farm situation if you have a uniform ground cover across the property the LIDAR mapping will essentially be mapping out erosion hot spots and showing you the areas of most concern for loosing soil," Bob said.

Bob explained that because erosion is mainly caused by water, mapping out the water flow lines allows you to see where the water will flow.

"You can use the LIDAR mapping to work out where the water is coming from, what the water is doing, and how it is flowing within the farm," Bob said.

"This allows the farmer to put in place appropriate management tools, be that living mulch, diversion strategies or drains."

CEO of Queensland Drones, Tony Gilbert spoke about the use of NDVI for identifying plant stress levels.

"With NDVI what we are trying to do is identify the plants that are suffering stress," Tony said.

"The end result we are looking for is to help farmers grow more using the same land but with less inputs which means less money spent."

In addition to identifying crop stress levels, Tony also spoke about the other uses for NDVI such as:

- quantifying the impact of drought on crops
- insect and pest identification
- yield mapping
- quantifying storm damage for insurance claims.

"We are continuing to work with Growcom to advance our knowledge of what is possible," Tony said.

"One particular area we are focusing on at the moment is the use of NDVI for yield prediction. We are focusing on the research coming out of Hort Innovation's National Tree Project and how we can apply those results to the imagery we do and use the same techniques to benefit growers directly."

Coochin Creek Fruitgrowers Cooperative Agronomist, Jade King, introduced growers to the concept of electromagnetic (EM) surveying to understand soil composition and the work she has been doing with the Department of Agriculture and Fisheries.

"The EM survey signals down into the ground between 0.5 and 1 meter and returns either a high reading, indicating clay or high moisture areas, or a low reading, indicating sandy soil," Jade said.

Jade also spoke about the opportunity for Coochin Creek Fruitgrowers Cooperative to help farmers understand their layer maps.

"In the future we are looking to offer the service whereby the farmer brings their device with their maps loaded on and we show them how to use those maps effectively for pest scouting and tracking, chemical spraying, erosion control and being able to track all of those details over time," Jade said.

Project Director at Growth Agriculture / Innovative Ag, Nick Watts introduced growers to a new alternative chemical currently being trialled with macadamia farmers.

Growth Agriculture was formed to import and manufacture alternative fertilisers and specialty products. While to-date

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the company's main focus has been in the cotton industry, Nick said they are now branching out into other agricultural industries with their new product, SeroX.

"Growth Agriculture was originally involved in a research project looking at Butterfly Pea which has incredible pest defence mechanisms where effectively nothing will touch it," he said.

Researchers discovered the plant contained a type of peptide called Cyclotides.

Nick explained one of the key selling points of SeroX was the fact it had zero impact on pollinators and predatory insects.

"We have no impact what-so-ever and the reason is the plant itself," Nick said. "The plant has evolved over millennia so it can protect itself, there is no evolutionarily benefit for the plant to kill a pollinator or a predatory insect."

SeroX currently has active constituent approval. While product registration for use in macadamias has not been submitted yet, Nick said they have secured a Research and Supply Permit to allow the company to conduct trials within horticultural crops.

"So far we have had success against fruit spotting bug with anecdotal evidence against other crop pests," Nick said.

Growcom's Hort360 program, the best management practice program for horticulture, is designed to give growers a 360 degree view of their farm business operations, identifying potential risks, capitalising on business opportunities and highlighting unnecessary farm expenses.

The soil management and water quality modules are currently being delivered in south east Queensland and all horticultural growers in the Lockyer, Bremer, mid-Brisbane or Pumicestone sub-catchments are invited to take part in identifying areas of high risk in soil and water quality management. As part of this process a free property map will be provided.



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Irrigation management

New rural irrigation standards and codes of practice now available

The Australian irrigation industry now has a nationally recognised standard and code of practice for irrigation system design, installation, maintenance, management and performance.

Irrigation Australia Limited (IAL) has been working to develop a national set of irrigation standards and codes of practice (ISCOP). This has been achieved with the help of the Queensland Government, who has provided funding through the Department of Natural Resources and Mines to develop a set of rural standards and codes of practice as part of its Rural Water Use Efficiency for Irrigation Futures program (RWUE-IF).

Why do we need standards and codes of practice?

Irrigated horticulture, agriculture and landscape industries in Australia are currently under economic stress as a result of restricted water availability and rising production and energy costs.

It would come as a surprise to few in the industry that the Australian Government has identified that the biggest causes of water waste or loss on-farm are inappropriate, inefficient or inadequate irrigation systems and poor irrigation management. This has

a profound and measurable impact on both the viability of water resources and the financial sustainability of many irrigation enterprises and their rural communities.

Another aspect of irrigation efficiency that is becoming more significant is the energy costs of pumping and operating irrigation systems. In general, the lower the capital cost of a design for a given system type, the higher the pumping (energy) costs. These costs are significant, but are too often neglected during the design process. In this context, the industry has recognised that agreed standards and codes have an important role to play in improving irrigation operation and management.

Through delivery of the RWUE-IF program, Growcom's Land and Water team will promote these standards and codes contributing to a more efficient horticultural irrigation sector by establishing standards and improving the professionalism of the service sector.

The standards document can be viewed online via Irrigation Australia's website: <http://bit.ly/2fXyeSQ>

RWUE-IF will be delivered in the Lockyer Valley in 2017. Horticultural growers are invited to take part.

FOR FURTHER INFORMATION PLEASE CONTACT:

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Growcom's RWUE-IF program for horticulture is part of the Rural Water use Efficiency Initiative funded by the Queensland Department of Natural Resources and Mines.

The sediment and nutrient management program is conducted in collaboration with the Queensland Department of Environment and Heritage Protection.

