

Future Proofing Vegetable Production Milestone 12 Progress Report



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1. Executive Summary

This report describes progress made and deliverables met for **Milestone 12, Project Conclusion of Future Proofing Vegetable Production** completed by 16th June 2021.

A key lesson has been the power of constant co-learning with project growers in Gisborne and Levin. The project only succeeded because growers shared private information with an outside organisation, enabling us to develop knowledge together.

At the start of the project, surveys showed most growers had little if any documentation around their fertiliser plan and nutrient budgeting. We developed the LandWISE Nutrient Budget Templates, which are risk assessment tools that allow growers to target their nitrogen and phosphorous management and place appropriate risk minimisations in place where there is an elevated chance of nutrient loss. This work has been taken onboard by Horticulture NZ and NZ GAP. It has been used in the NZ GAP EMS Farm Plans and proposed as an alternative to an Overseer nutrient budget for growers to demonstrate good management practice to regional councils.

Summer trials run with process crop growers in Gisborne and Hawke's Bay demonstrated the value of using the Nitrate Quick Test to make better nitrogen fertiliser decisions and to reduce the risk of post-harvest nitrogen loss by leaching. The work demonstrated that not all tools are equal, and that further work is required to develop appropriate industry guidelines for tomato nitrogen management.

To wrap up the project, we ran a series of workshops in Levin and Gisborne, had an entire session at the LandWISE conference with four talks on the project, presented at the Horticultural Field Days in Hastings and spoke in Pukekohe at the NZ GAP EMS farm plan workshop. These talks focussed on results of the summer nitrogen trials and key lessons learnt with growers through the project.

The project has enabled us to support the growers make informed nutrient choices on their farms, and that was well represented in feedback given by growers involved in the project. Overall, the growers involved have developed greater nutrient understanding, many have started using the nitrate quick test regularly across the farming operations, and they have changed how they manage their nitrogen applications. There has been a great response to work with growers in Levin and Gisborne, but the impact of the project has stopped here. Further work is required to take the key lessons from Future Proofing Vegetable Production to growers in other regions.

2. Introduction

As we wrap up the Future Proofing Vegetable Production project, we reflect on what we have achieved. At the start of the project, grower surveys showed growers were typically following industry good practice with their nutrient transport, storage and application but few had any documented processes or fertiliser plans.

We tested current tools such as Overseer to estimate nutrient losses from farm systems but found these tools poor for engaging with growers and of limited value for assessing potential nutrient losses. Our solution is the LandWISE Nutrient Budget Template which compares planned fertiliser applications with expected nitrogen use based on a grower's expected yield and a soil nitrogen test. The Budget process allows growers to identify crops that are likely to have a large post-harvest nutrient surplus and to put in place effective mitigations.

The nutrient budgets highlighted doubts about the current industry guidelines for nitrogen use in process tomato crops. A series of trials were setup with growers in Gisborne and Hawke's Bay to compare grower's current practice versus industry good practice based on "*Nutrient management for Vegetable Crops in New Zealand*" (Reid and Morton, 2019).

Summer crop trials with growers in Gisborne and Hawke's Bay evaluated the Nitrate Quick Test as a tool to support nitrogen side-dressing decisions in sweetcorn. We found the Nitrate Quick Test was a valuable tool for growers to make an informed nitrogen application decision and showed that growers could reduce their potential N leaching by targeting nitrogen applications appropriately.

Trials with the four key tomato process growers, compared the guidelines published in "*Nutrient Management for Vegetable Crops in New Zealand*" with a higher rate more aligned with grower practices, and found the higher rates justified. The nutrient guidelines appear inadequate, probably due to assumptions made in the initial modelling. Although this has raised questions, it was helpful with the growers to better understand nitrogen accumulation in their crops.

We have shared lessons from the project through a series of workshops in Levin and Gisborne, as well as helping with a display at the Hort Fieldays on the Hawke's Bay Regional Council stand and taking the key messages to Pukekohe in an NZ GAP EMS workshop. These have been opportunities to communicate with the wider industry and councils as well as growers in other regions. A further aim was to tie all the lessons from different regions together, to give growers and the industry a perspective on what others are doing.

The Levin and Gisborne workshops concluded with Project Team meetings. Feedback from growers was a general appreciation for the project. They had found our support allowed them evolve their own nutrient management systems customised for their growing operations. One on one dialogue was highly prized, rather than just being told what to do.

2.1 Nutrient Budgeting Guidelines for Growers

Following completion of LandWISE Nutrient Budgets with growers in Levin, Hawke’s Bay and Gisborne, we created a user document to give clear direction on the LandWISE Nutrient Budget’s function, scope and application. Nutrient budgets should be completed for all crops and can be used as a risk assessment tool to show which crops or fields have a higher risk of nutrient loss. By identifying high risk fields, growers can target nutrient management mitigations more effectively to higher risk areas.

A nutrient budget is not a fertiliser recommendation. A fertiliser recommendation identifies how much fertiliser is required to successfully grow a given crop to meet yield and quality targets. A nutrient budget accounts for nutrient inputs and outputs, and identifies a nutrient surplus or deficit.

We note the appearance of the LandWISE Nutrient Budget Template as a recommended tool in NZ GAP EMS, and its presentation to Commissioners in the Hawke’s Bay Plan Change 9 (TANK) hearings as evidence of Good Farm Practice.

4.3 Nutrient Budget

The **LandWISE** project, Future Proofing Vegetable Production, has developed single page nitrogen and phosphorus budgets that integrate with the nutrient management guide and soil testing –laboratory, quick-N test, and hot water N.

An example is given below. This template provides evidence that a process has been followed that involves reference to the industry guide and does it in a way that documents on a single page the fertiliser plan.

The nutrient budget has both a planning (step 2) and review or assessment of performance (step 3) components.

The planning step documents what may have previously occurred informally between a fertiliser adviser and the grower prior to placing an order.

The crop type, target yield, and soil nitrogen availability prior to planting is used to determine the crop nitrogen requirements. This plus a target surplus at the end of the crop determines the nitrogen fertiliser requirement.

Two key drivers are the guideline crop requirements and the level of risk reflected in the planned nitrogen surplus at the end of the crop. A low surplus assumes very little leaching, which runs a higher risk of crop failure. A high surplus has an elevated leaching potential and possible crop quality issues. The guidelines provide an average, tuned against a range of factors such as soil mineral nitrogen levels, yields, and location. They should however not be used as a maximum, and naturally can not account for seasonal variability.

In the nutrient budget, Step 2- Fertiliser Plan can be used as evidence in the NZGAP FEP (Nutrients: 7C – 1 Plan fertiliser inputs for the crop).

Figure 1 Extract from "Evidence Received: Proposed Plan Change 9 Tutaekuri Ahuriri Ngaruroro Karamu Catchment Area. PART 4 May 2021

2.2 Summer Nitrogen Crop Trials

One reason for summer research trials was to coach sweetcorn and tomato growers in Gisborne and Hastings. We sought to help improve understanding and use of nutrient management tools to make informed nitrogen recommendations and to give growers confidence in using tools that are readily available to them. We have found using these tools with growers in replicated trials has given them further confidence to rely on these tools. They learnt where the tools work and identified situations where caution is advisable. Brief written trial reports are presented in the Appendix.

Twelve sweetcorn trials covered all the medium and large sweetcorn growers in Gisborne and one large grower in Hawke's Bay. We again coached growers and their support parties in use of the Nitrate Quick Test tool and how they could make more informed decisions. The trials showed total nitrogen use could often be reduced by using a Nitrate Quick Test prior to side-dressing and applying only enough nitrogen to grow the crop.

We engaged with both Gisborne tomato growers and the two main tomato growers in Hawke's Bay. Field testing across their properties identified shortcomings in the current industry guidelines but also demonstrated the value of a soil test. We measured nitrogen in the soil and in fruit and leaves. This showed how much nitrogen was required to grow the crop, and how much would be exported in fruit from the paddock. This informs nitrogen management across their whole crop rotation.

2.2.1 Grower-as-Researcher Capability

There is a considerable range of research capability among growers. This depends to some degree of level of formal education and prior scientific process training. Some, especially those with formally trained agronomists on staff, are well able to conduct basic head-to-head trials. The LandWISE/FAR *"How to Run an On Farm Trial"* booklet series supports them in this. Others do not have sufficient knowledge to design trials or complete statistical analyses, so require support for those elements.

All growers have learnt more about gathering representative samples from crop plants or soils. This is essential to gather reliable information for nutrient budgeting and fertiliser planning.

Growers received training in specific skills such as equipment calibration and use of the Nitrate Quick Test. They were involved in laying out trials and applying treatments.

2.3 LandWISE Conference

The LandWISE "Working Smarter" Conference had one session focused on "Future Proofing Vegetable Production" and other presentations supporting the ideas of growers making changes. The conference was opened on the topic of future proofing business with a talk by Jamie Blennerhassett titled "Change on the Horizon". This outlined the need to keep meeting consumer expectations to remain competitive and to keep market access.

The "Future Proofing Vegetable Production" session was opened by Jay Clarke from Woodhaven Gardens telling their story of change to manage risks to their business. It was an encouraging message that change is possible and to tell others on what you are doing on your farm. This was followed by Dan Bloomer describing the key lessons from the project and outlining tools created for growers to make informed decisions and simplify their environmental compliance requirements.

Stephen Collins described modelling nitrogen attenuation and introduced the idea that some soils have a lower risk of losing nitrogen to ground water. Luke Posthuma described the summer sweetcorn and tomato nitrogen side-dressing trials in Gisborne and Hawke's Bay. He emphasised the need to measure nitrogen in the root zone and creating an individualised fertiliser recommendation

for each paddock and crop. In this way, the residual mineral nitrogen remaining in the soil following harvest could be reduced considerably.

Presentation summaries and short audio snippets are available on the LandWISE website so that those who missed out this year can hear the key messages from each presenter.

The conference was well attended by a range of sectors and industries, and talks stimulated good discussions between those attending. Feedback from growers (some attending for the first time) highlighted the value of talks that challenge their current practices and show what is happening in different sectors. They found growers in other regions and sectors had solutions to their challenges, including labour supply or environmental management.

2.4 Workshops & Seminars

2.4.1 Hort Fielddays in Hawke's Bay

We attended on two days as guests at the Hawke's Bay Regional Council stand. We shared a poster summarising the Future Proofing Vegetable Production project and stressed the importance of fertiliser equipment calibrations and the value of soil testing to determine fertiliser application rates. We had a Nitrate Quick Test kit on display and demonstrated its use.

2.4.2 Pukekohe Nutrients Workshop with NZGAP EMS Programme

NZ GAP is running an EMS Farm Environment Plan (FEP) workshop series with growers in Pukekohe. Taking the key outputs and lessons from the Future Proofing Vegetable Production project, we ran the nutrient management workshop. The NZ Gap FEP programme works through a risk mitigation process, whereby growers start by establishing risks to their farming operation and then using effective mitigations to reduce the impact of those potential risks.

2.4.3 Gisborne: Future Proofing Vegetable Production Workshop

We ran a morning workshop revisiting the key lessons and outputs of the project, tools further developed through the project available to help growers meet their regulatory requirements through documented nutrient budgets and calibrated equipment.

We reported on the results and lessons from grower research trials in Gisborne and Hastings. There was good feedback and discussion from those attending engaging with the data presented and trying to understand what it meant for themselves. The workshop finished with how to use this information in completing their EMS farm environment plans.

2.4.4 Levin: Managing your Nutrients Workshop

The final workshop we hosted was in Levin and was attended by council staff, industry reps and growers from Levin and Palmerston North. The format was similar to Gisborne and we started by highlighting key lessons from the project.

This was again followed by discussion of the summer trials with the two key messages being "know how nitrogen your crop is going to use" and "measure your soil nitrogen so you know how much to extra N you need to add". Although the trials focused on sweetcorn and process tomato crops, discussion was around measuring soil nitrogen for various leafy crops and also how deep the nitrogen was in the soil profile.

The workshop concluded with a presentation and discussion on cover crops. Whether termed "cover crops", "catch crops", or "green manures", they serve multiple purposes soaking up excess nutrients, holding the soil together and improving soil organic matter. Growers said cost effective crop establishment is critical. Choice of cover crop, crop rotation and how the next crop will be

established will affect adoption of cover crops in an intensive leafy green vegetable production system. The workshop had excellent engagement from the growers and the discussions around on farm implementation were valuable.

2.5 Project Team Meetings

We ran project team meetings following each of the workshops in Levin and Gisborne.

Growers in Gisborne reported a general appreciation for the project. They had found the project helpful in supporting them evolve their own nutrient management system across their growing operations. Gisborne attendees asked us communicate growers' needs to FAR to help get support with the information for Maize crops.

In Levin, growers had found the project very valuable but were keen to see further support to continue developing innovative solutions. Due to narrow margins and tight cost structures, growers have little incentive to be early movers. Support to trial new technology on their farms would be required if growers are to make step changes. They wanted funding to enable ongoing support for growers to change their systems or technology. This will be followed up in a planned meeting with HortNZ and VR&I.

A discussion was had around data collection by growers to meet both council regulatory requirements as well as support financial decisions. The common challenge is every intensive vegetable grower works under a slightly different system and it is hard to make a one size fits all solution.

3. References and Resources

Reid, J. B & Morton, J. D. (2019). *"Nutrient Management for Vegetable Crops in New Zealand"*. Horticulture New Zealand on behalf of Vegetables Research and Innovation Board and Fertiliser Association of New Zealand, Wellington.

4. Appendices

4.1 Trial Reports

4.1.1 Sweetcorn Side-dressing Nitrogen Rate Trial

Background

Trial Question: “Does the Nitrate Quick Test allow growers to determine the optimum nitrogen rate to be applied at side-dressing?”

The trials assessed the FAR Nitrate Mass Balance calculator. There has been grower pushback against pre-side-dress nitrate (PSNT) testing due to the time it takes for the soil test results to return from the lab, and not knowing what to do with the soil test results they receive. A replicated trial assessed the suitability of the Nitrate Quick Test and the associated calculations to give growers a timely fertiliser recommendation.

Results

In three of twelve cases comparing the Nitrate Quick Test and FAR Nitrate Mass Balance calculator with the grower’s current management practice, growers lost yield because when soil testing recommending insufficient nitrogen. In three trials, the PSNT recommended more fertiliser than usual practice, and the crop yield increased in one of the those trials.

Where the PSNT rate of fertiliser did not reduce crop yield, using PSNT to determine side-dressing application rate there was an average reduction of 33% in the amount of residual mineral nitrogen in the soil following harvest. This was a decrease from an average of 132 kg N/ha to an average of 88 kg N/ha in the upper 90cm of the soil profile.

In three cases, yields were reduced due to inaccuracies in the soil test results. Case 3 had a high potentially available N test even though the paddock had a long history of cropping. In this case, a Hot Water Nitrogen Test was found to give a more accurate measure of nitrogen able to be mineralised in the soil profile. In Cases 4 and 5 – shallow, the soils were saturated when sampled and the Nitrate Quick Test showed significantly more nitrogen than was actually present in the soil. In these crops, crop leaf mid-rib yellowing was observed, and total N uptake was reduced (refer to Table 1).

Determining fertiliser application rates requires knowledge of how much nitrogen a crop is going to use and how much nitrogen is in the soil today.

These trials demonstrated that while late-season sweetcorn crops grown in a dry-land situation used significantly less nitrogen than main-season sweetcorn crops, the nitrogen was evenly distributed between the cobs harvested from the paddock and the crop residues returned to the soil.

Table 1. Sweetcorn Trial Results

Field	N Treatment	Soil Nitrate (90cm)			Applied N Fertiliser		Sweetcorn Yield			N Uptake	
		Planting	PSNT	Harvest	Planting	Side-dressing	Marketable	Harvest Index		Cob	Total
		<i>kg N/ha</i>			<i>kg N/ha</i>		<i>t/ha</i>	<i>**</i>	<i>%</i>	<i>kg N/ha</i>	
1	Grower practice	113	212	215	38	115	17.2	-	45	81	161
	PSNT			62		0	18.0	-	44	81	166
2	Grower practice	120	143	203	38	115	13.9	-	46	89	152
	PSNT			98		0	13.6	-	46	80	127
3	Grower practice	12	29	93	38	143	22.0	x	36	112	224
	PSNT			38		69	18.8	x	35	69	166
4	Grower practice	54	490*	171	38	184	19.6	x	52	73	128
	PSNT			66		0	11.2	x	41	41	67
5 - shallow	Grower practice	82	331*	247	36	138	19.4	x	33	83	166
	PSNT			119		0	14.8	x	26	52	162
5 - deep	Grower practice	82	643*	177	36	138	19.6	-	30	77	159
	PSNT			54		0	20.4	-	31	83	170
6	Grower practice	33	194	149	55	129	18.1	-	40	70	175
	PSNT			55		0	17.0	-	39	73	180
7	Grower practice	43	94	158	43	69	14.5	-	45	66	126
	PSNT			76		35	13.5	-	43	61	102
8	Grower practice	11	67	57	43	0	7.4	x	37	36	64
	PSNT			140		60	10.2	x	40	35	77
9	Grower practice	11	67	84	43	0	12.3	-	39	52	110
	PSNT			156		60	14.0	-	41	61	114
10	Grower practice	80	99	10	43	0	15.8	-	56	55	117
	PSNT			68		40	15.9	-	53	61	116
11	Grower practice	42	95	93	45	92	13.7	-	46	54	92
	PSNT			60		46	14.7	-	44	58	120
12	Grower practice	39	239	180	36	69	20.5	-	39	83	197
	PSNT			113		0	21.3	-	37	89	200

Recommendations

The sweetcorn trials helped growers gain confidence in the Nitrate Quick Test, but also found areas where caution is advised.

Lessons from the trial included:

1. Routine use of PSNT soil tests enables growers to better manage soil mineral nitrogen levels remaining after the crop is harvested and reduces the potential for nitrogen loss through the winter period.
2. The Hot Water Nitrogen Test was more accurate than the more common Potentially Available N Test.
3. The Nitrate Quick Test with the FAR “Mass Balance Calculator” tool allowed growers to customise their side-dressing fertiliser rates based on predicted yield.
4. After rainfall, growers should wait until the soil reaches field capacity before doing soil sampling. In the case of saturated soils, there is an increased risk of error results when soil nitrogen is being measured with the nitrate quick test strip.

4.1.2 Tomato Nitrogen Application Trials

Background

Trial Question: “Are the *Nutrient Management for Vegetable Crops in New Zealand Guidelines* valid for New Zealand process tomato crops?”

The guidelines published in the *Nutrient Management for Vegetable Crops in New Zealand* are considerably lower than growers are currently applying. Grower rates based on trial work completed by Plant and Food Research in the early 2000’s are no longer considered good practice. Trials across six tomato blocks compared each grower’s current practice with the published nutrient guidelines and compared crop yields and the soil nitrogen levels following harvest.

Results

Yield was lost in three of the six trials due to insufficient nitrogen. Yields varied from 42.3 t/ha on a flooded out trial to 156t/ha on a field out of three years in pasture.

Trial Fields 1 and 2 had been winter fallowed. They had large quantities of nitrate through the top 90cm of the soil profile at planting and no yield was lost due to reduced nitrogen applications.

However, Field 3, 4 and 6 had all been in pasture prior to planting and there was little mineral nitrogen in the soil profile at the time of planting.

Where the fertiliser recommendation relied solely on the potentially available N (AMN) test, there was insufficient nitrogen in the soil profile to maximise crop growth in a high yielding environment.

Table 2. Tomato Trial Results

Field	N Treatment	AMN (15cm)	Soil Nitrate (90cm)		Applied N Fertiliser		Tomato Yield			N Uptake	
		Planting	Planting	Harvest	Planting	Side-dressing	Total Fruit	Harvest Index	Fruit	Total	
		kg N/ha	kg N/ha	kg N/ha	kg N/ha	kg N/ha	t/ha	**	%	kg N/ha	kg N/ha
1	Grower practice	63	181	166	56	81	92.7	-	88	166	203
	Industry Guide			33	56	0	93.0	-	88	115	142
2	Grower practice	48	175	227	56	138	45.0	-	83	74	101
	Industry Guide			125	56	0	42.3	-	81	80	107
3	Grower practice	140	10	100	56	138	155.9	x	91	213	283
	Industry Guide			46	56	0	130.2	x	90	159	222
4	Grower practice	80	0	143	56	138	118.7	x	88	125	172
	Industry Guide			56	56	0	65.6	x	84	60	89
5	Grower practice	108	72	51	50	72	100.7	-	88	144	200
	Industry Guide			33	0	36	98.9	-	89	123	174
6	Grower practice	60	56	107	32	56	125.8	x	87	167	220
	Industry Guide			85	16	31	113.3	x	86	140	210

Recommendations

These results indicate the current industry guidelines recommend nitrogen rates insufficient for high production. Further work is required to clearly identify good practice. Lessons from this trial include:

1. Growers should not be surprised if yield loss is experienced in high yielding fields where they follow the industry good practice guidelines
2. Nitrogen recommendations should take into account all soil nitrogen in the root zone and expected nitrogen uptake.
3. Further work is recommended to update the industry nitrogen recommendations and include mineral and potentially mineralisable nitrogen in the fertiliser guidelines.

LandWISE 21 Working Smarter
INCORPORATED Register at www.landwise.org.nz



Day 1 Wednesday 19 May

08:00 – 09:00 REGISTRATION

9:00 – 10:30 Session 1: Best Practice and Beyond (Chair, Dan Bloomer)

09:00 Introductions
09:10 Platinum Sponsor – Hawke’s Bay Regional Council
09:20 Change on the Horizon (Jamie Blennerhassett – Ballance AgriNutrients)
9:50 Making spatial data useful and accessible (Tim Neale - DataFarming)
10:20 Sixty Second Sponsor Slots

10:30 – 11:00 Apatu Farms Morning Tea

11:00 – 12:30 Session 2: Future Proofing Vegetable Production

11:00 Growers Making Changes (Jay Clarke – Woodhaven Gardens)
11:20 Simple Smart Tools – N-Budget, P-Budget, FertPlace, IRRIGS (Dan Bloomer – LandWISE)
11:40 Nitrogen Attenuation (Stephen Collins – Horizons Regional Council)
12:00 Making the right fertiliser decision (Luke Posthuma – LandWISE)

12:30 – 13:30 Eagle Technology Esri Lunch

13:30 – 15:00 Session 3: Carbon and Water

13:30 Growing Soil Carbon (Phillip Schofield – HB Future Farming Trust)
13:50 Water Security: more than dams (Tom Skerman – Hawke’s Bay Regional Council)
14:10 Tools to Manage Water & Crops (Aaron Furrer – CropX)
14:30 LandWISE AGM

15:00 – 15:30 Biostart Afternoon Tea

15:30 – 17:00 Session 4: Technology for Permanent Crops

15:30 Smart tools for orchard drainage (Luke Posthuma – LandWISE)
15:40 Counting and mapping flowers and fruit (David Manktelow – Applied Research and Technologies)
15:50 Empowering Decision Makers with Size Data (Matty Blomfield – Hectre)
16:00 Matching work and workers (Genevieve Griffin-George – picmi)
16:10 Unlocking the Value of Maps (Matt Flowerday – Landkind)
16:20 Panel Discussion (Chaired by Brendan O’Connell – AgritechNZ)
17:00 Session Wrap-up

18:00 – 18:30 WaterForce Pre-Dinner Drinks

18:30 – 21:30 Potatoes New Zealand Conference Dinner

Platinum Sponsors



Updated 2021-05-17 - 07:30

LandWISE 21 Working Smarter

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Day 2 Thursday 20 May

08:30 – 08:45 REGISTRATION

8:55 – 10:30 Session 5: Managing Herbicide Resistance

- 8:55 Introductions
- 9:00 Platinum Sponsor – BASF
- 9:10 Herbicide Resistance in New Zealand (Trevor James – AgResearch)
- 9:30 Genetic Markers of Herbicide Resistance (Andrew Griffiths – AgResearch)
- 9:50 Non-Herbicide Options (Dan Bloomer – Page Bloomer Associates)
- 10:10 Developing an Electric Weeder (Hamish Penny – Wedatech)

10:30 – 11:00 Ballance Morning Tea

11:00 – 12:30 Session 6: New Zealand Agritech

- 11:00 New Zealand's Place in the World (Nick Fitzpatrick – Callaghan Innovation)
- 11:20 Agritech in Hawke's Bay (David France – Hi-Tech Hawke's Bay)
- 11:40 Mechanising Produce Handling (Rob Elstone – Hortworx)
- 12:00 Knowledge from Weather and Modelling (Mike Barley – HortPlus)
- 12:20 Wrap up of Conference Sessions

12:30 – 13:15 Lunch

13:15 – 16:00 Session 7: Horizons Regional Council Practical Sessions

- 13:15 Bus Leaves Conference Venue
- 13:30 Demonstrations
- 13:45 Equipment Displays
- 15:45 Bus returns to Conference Venue

16:00 CONFERENCE FINISH

Gold Sponsors



Conference Supporters



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