

41288**Use precision agriculture data and technology to carry out an arable farming activity**

Kaupae Level	3
Whiwhinga Credit	15
Whāinga Purpose	This skill standard is intended for people working in an arable farming system. They will be able to use precision agriculture data to manage variability and apply precision agriculture technology to carry out and evaluate an arable farming activity, under limited supervision. This skill standard aligns to the New Zealand Certificate in Arable Farming (Level 3) [Ref: 5679].

Hua o te ako me Paearu aromatawai | Learning outcomes and assessment criteria

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
1. Determine how precision agriculture data is used to manage variability in an arable activity.	a. Identify sources of precision agriculture data relevant to the activity.
	b. Determine how field variability influences site-specific management decisions for an arable activity.
2. Use precision agriculture technology to carry out an arable farming activity.	a. Plan activity according to field conditions and job specification.
	b. Use precision agriculture technology to carry out the activity.
	c. Monitor and interpret real-time data from the activity.
	d. Adjust input application or machine operation in response to data.
3. Record and evaluate outcomes of precision agriculture technology use.	a. Record data and outcomes from the activity.
	b. Compare planned and actual outcomes using precision agriculture data.
	c. Report findings using field data and in accordance with job specifications.

Pārongo aromatawai me te taumata paearu | Assessment information and grade criteria***Assessment specifications:***

All activities must be carried out in accordance with workplace health and safety requirements, workplace procedures, and manufacturer's specifications.

Providers must give due consideration to embedding ngā kaupapa (principles) o Te Tiriti o Waitangi when designing delivery activities relevant to this standard. These principles are outlined in [Guidelines for Providers: Embedding Tirohanga Māori](#).

Providers must give due consideration to the needs and values of Pacific peoples and other cultural groups when designing delivery activities relevant to this standard, ensuring practices are inclusive and equitable.

Ākonga/learners should be assessed against this standard in a real-life context using naturally occurring evidence. A verifier's checklist with appropriate comments confirming competency is acceptable if accompanied by evidence that includes examples from the learner's performance.

Range

For the purposes of assessment for this skill standard, precision agriculture technology may include but is not limited to – drones, fertiliser spreaders, mowers, sprayers, seed drills and variable rate irrigators, yield maps, and combine harvesters.

Definitions

Precision agriculture refers to the use of data and technology to guide site-specific management decisions in crop production and resource use.

Variability refers to differences within or between areas of a field, including soil, crop, pest, yield, elevation, soil moisture, and nutrient conditions.

Ngā momo whiwhinga | Grades available

Achieved

Ihirangi waitohu | Indicative content**Precision agriculture data and management of variability**

- sources of precision agriculture data relevant to the activity e.g. yield maps, NDVI mapping, Electro-magnetic (EM) mapping, grid soil sampling, GPS data, machine-generated application data
- variability within and between field zones e.g. soil type, soil mapping, nutrient status, crop performance, pest or weed pressure, topography
- use of precision agriculture information to support management decisions e.g. variable rate application, inter-row management, prescription mapping, targeting inputs to field conditions.

Precision agriculture technology in arable activities

- planning the activity in relation to field conditions, job specification, and selected equipment
- equipment setup and settings appropriate to the activity, including calibration where required
- use of precision agriculture technology appropriate to the activity e.g. GPS guidance, variable rate control, section control, mapping tools, sensors
- monitoring and interpreting real-time data during the activity

- adjusting application or machine operation in response to data or field conditions
- performance checks appropriate to the equipment and activity
- ground-truthing or checking data against field observations.

Recording and evaluating outcomes

- recording activity data and outcomes
- comparing planned and actual outcomes using precision agriculture data
- identifying factors affecting results
- reporting findings in accordance with workplace procedures and job specification.

Rauemi | Resources

- [Health and Safety at Work Act 2015](#).
- Manufacturer's specifications.
- Farm-specific Standard Operating Procedures.

Pārongo Whakaū Kouna | Quality assurance information

Ngā rōpū whakatau-paerewa Standard Setting Body	Food and Fibre Industry Skills Board
Whakaritenga Rārangi Paetae Aromatawai DASS classification	Agriculture, Forestry and Fisheries > Agriculture > Agricultural Vehicles and Machinery
Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga CMR	0052

Hātepe Process	Putanga Version	Rā whakaputa Review Date	Rā whakamutunga mō te aromatawai Last date for assessment
Rēhitatanga Registration	1	30 July 2026	N/A
Kōrero whakakapinga Replacement information	N/A		
Rā arotake Planned review date	31 December 2031		

Please contact the Food and Fibre Industry Skills Board at info@foodandfibreisb.nz to suggest changes to the content of this skill standard.