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| <b>Title</b> | <b>Demonstrate knowledge of the role of bees in arable crop, orchard and pasture pollination</b> |                |          |
| <b>Level</b> | <b>4</b>   | <b>Credits</b> | <b>3</b> |

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| <b>Purpose</b> | People credited with this unit standard are able to: demonstrate knowledge of the contribution of bees to pollination of arable crop, orchard and pasture production; describe factors affecting the numbers of beehives required for crop or orchard pollination; and describe bees for pollination and their management. |
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| <b>Classification</b> | Agriculture > Apiculture |
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| <b>Available grade</b> | Achieved |
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### Guidance Information

- 1 Legislation and standards relevant to this unit standard includes but is not limited to:
  - Agricultural Compounds and Veterinary Medicines Act 1997;
  - Animal Products Act 1999;
  - Biosecurity Act 1993;
  - Biosecurity (National American Foulbrood Pest Management Plan) Order 1998;
  - Food Act 2014;
  - Food Standards Code and Food Standard: Tutin in Honey 2016;
  - Health and Safety at Work Act 2015;
  - and any subsequent amendments.
- 2 Reference  
Morrison, Andrew, *Practical Beekeeping in New Zealand*, (Auckland, New Zealand) 5<sup>th</sup> Edition, April 2018, ISBN13 978177559362.

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### Outcomes and performance criteria

#### Outcome 1

Demonstrate knowledge of the contribution of bees to pollination of arable crop, orchard, and pasture production.

#### Performance criteria

- 1.1 Compare the contribution of bees to arable crop and orchard pollination between North and South Island regions in terms of current pollination methods.  
  
Range evidence of three significant plant species is required.

- 1.2 Describe the contribution of bees to pasture pollination in terms of their effect on meat and dairy production.

### Outcome 2

Describe factors affecting the numbers of beehives required for crop or orchard pollination.

#### Performance criteria

- 2.1 Describe the relationship between foraging strength and beehive size, the number of beehives required to pollinate a specified crop or orchard, and beehive location.
- 2.2 Describe the factors determining the number of beehives required per hectare of crop or orchard for a specified location.
- Range evidence of four factors is required.
- 2.3 Describe the factors determining the arrangement of beehives in a specific location.
- Range evidence of three factors is required.

### Outcome 3

Describe bees for pollination and their management.

Range alkali bee, bumble bees, lucerne leaf cutting bee.

#### Performance criteria

- 3.1 Describe the attributes which make bees good pollinators, and the crops they typically pollinate.
- 3.2 Describe factors limiting bee populations.
- Range evidence of two factors is required.
- 3.3 Describe management requirements for enhancing bee populations.
- Range evidence of two management requirements is required.
- 3.4 Describe factors which limit bees' usefulness.
- Range evidence of two factors is required.

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| <b>Planned review date</b> | 31 December 2025 |
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**Status information and last date for assessment for superseded versions**

| Process      | Version | Date              | Last Date for Assessment |
|--------------|---------|-------------------|--------------------------|
| Registration | 1       | 22 October 2003   | 31 December 2019         |
| Review       | 2       | 21 August 2009    | 31 December 2019         |
| Review       | 3       | 14 December 2017  | 31 December 2022         |
| Review       | 4       | 24 September 2020 | N/A                      |

**Consent and Moderation Requirements (CMR) reference**

0052

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

**Comments on this unit standard**

Please contact the Primary Industry Training Organisation [standards@primaryito.ac.nz](mailto:standards@primaryito.ac.nz) if you wish to suggest changes to the content of this unit standard.