

## Describe physical characteristics of bees and their behaviour

**Level** 2

**Credits** 3

**Purpose** People credited with this unit standard are able to: describe the physical features of bees; the caste system of bees; and the development, behaviour, and function of bees in a beehive.

**Subfield** Agriculture

**Domain** Apiculture

**Status** Registered

**Status date** 21 August 2009

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**Entry information** Open.

**Accreditation** Evaluation of documentation by NZQA and industry.

**Standard setting body (SSB)** Agriculture Industry Training Organisation

**Accreditation and Moderation Action Plan (AMAP) reference** 0052

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

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### Special notes

None.

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### Elements and performance criteria

#### Element 1

Describe the physical features of bees.

#### Performance criteria

1.1 Bee anatomy is described in relation to insect classification.

1.2 Anatomical features of bees are described in terms of their functions.

Range bees – queen, drone, worker;  
functions include but are not limited to – nectar gathering, pollen gathering, wax secretion, propolis gathering, defence.

## Element 2

Describe the caste system of bees.

### Performance criteria

2.1 Castes are described in terms of physical, behavioural, and developmental similarities and differences.

Range queen, drone, worker.

2.2 Caste determination of queens and workers is described in terms of nutrition received in the larval stage.

2.3 Drone determination is described in terms of genetic makeup.

## Element 3

Describe development, behaviour, and function of bees in a beehive.

### Performance criteria

3.1 The life cycle stages of pre-adult bees from egg to adult emergence are described in terms of metamorphosis, development time, and nutrition.

Range queen, drone, worker.

3.2 The life cycle stage of adult worker bees is described in terms of the changes to bee physiology and the subsequent effect on the division of labour in a hive.

Range cleaning, feeding, wax secretion and comb building, fanning, scenting, guarding, foraging.

3.3 Adult bees are described in terms of their behaviour patterns.

Range behaviour – dance, defensive, foraging, pheromones (communication), nectar exchange (food), sensory organs (sensory), orientation flights.

3.4 The colony queen is described in terms of queen rearing impulses and the process of reproduction by swarming.

3.5 The function of the drone is described in terms of mating.

### **Please note**

Providers must be accredited by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

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### **Comments on this unit standard**

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