

## PIL205A Prepare and store permaculture products

This competency standard covers the process of carrying out routine preparation and storage of products on a permaculture property. It covers the grading, labelling, treatment and storage of harvested products.

The preparation and storage of permaculture products are likely to be carried out under routine supervision with intermittent checking. Responsibility for some roles and coordination within a team may be required.

Element		Performance Criteria	
1	Prepare for working with <b>permaculture products</b>	1.1	Preparation and storage of products to be performed according to <b>enterprise work procedures</b>
		1.2	<b>Materials, tools, equipment and machinery</b> appropriate to the task being undertaken are selected
		1.3	Safety checks are carried out on tools, equipment and machinery according to manufacturers specifications and enterprise work procedures
		1.4	<b>OHS hazards</b> are identified, risks assessed and reported to the supervisor
		1.5	Suitable <b>personal protective equipment (PPE)</b> is selected, used and maintained
2	Transport harvested products	2.1	Safe manual handling techniques are employed when handling containers
		2.2	<b>Field handling practices</b> are conducted in such a way that minimises damage to products
		2.3	Products are transported with due care from the field to the preparation, treatment or storage area
		2.5	Containers are maintained in good working order
3	Grade, label and treat products	3.1	Harvested products are graded and labelled according to enterprise specifications

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	3.2	Products that do not meet enterprise standards are identified and disposed or recycled according to enterprise procedures
	3.3	<b>Treatments</b> are applied to products according to enterprise work procedures
	3.4	Tools, equipment and machinery are cleaned and maintained according to enterprise work procedures

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4	Pack products	4.1	Packaging materials, <b>containers</b> , filling techniques and labelling of products are identified and confirmed according to enterprise work procedures
		4.2	Correct packaging materials and container for specific products are selected
		4.3	Correct filling techniques for specific containers and products are used to fill and arrange products within the containers according to enterprise work procedures

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5	Store products	5.1	Products are transported to and arranged in the storage facility according to enterprise work procedures
		5.2	The condition of stored products are checked with damaged products and containers removed from the storage facility according to enterprise work procedures
		5.3	The storage facility and packing containers are <b>cleaned</b> to a level of hygiene acceptable to enterprise standards

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### Range of Variables

The Range of Variables explains the contexts within which the performance and knowledge requirements of this standard may be assessed. The scope of variables chosen in particular training and assessment requirements may depend on the work situations available.

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What <b>permaculture products</b> may be included in this standard?	<p>Plant products include fruits, vegetables, seeds, herbs, flowers, foliage, grains, bulbs, tubers, nuts, mushrooms, wild harvest plants and oils, firewood, timber, mulch, straw, hay, sawdust, sap.</p> <p>Animal products include meat, eggs, milk, honey, young animals, fish fingerlings, feathers, wool, manure, bones.</p>
What <b>enterprise work procedures</b> may apply to this standard?	<p>Work procedures will be based on sound permaculture principles and practices and may include supervisors oral or written instructions, enterprise specifications, food safety and hygiene; waste treatment, recycling and re-use guidelines; and OHS procedures.</p>
What <b>materials, tools, equipment and machinery</b> may be relevant?	<p>Materials may include preservatives, cleaning agents, packaging materials and containers and labels.</p> <p>Tools, equipment and machinery may include tractors, trailers, light trucks, snips, knives, gloves, containers, packing tools, scales, hand trolleys and lifting aids, preserving machinery/equipment and dedicated storage facilities.</p>
What <b>OHS hazards</b> may be associated with carrying out postharvest operations?	<p>Hazards may include a wet working environment including electricity, solar radiation, dust, pollen, soil-borne micro-organisms, noise, chemicals and hazardous substances, confined spaces, sharp hand tools and equipment, manual handling, slippery or uneven surfaces, and moving equipment, machinery and vehicles, threats from animals and insects.</p>
What <b>PPE</b> may be required when carrying out postharvest operations?	<p>PPE may include hat, boots, overalls, gloves, apron, waterproof clothing, spray clothing, goggles, respirator or face mask, face guard, hearing protection, sunscreen lotion and hard hat.</p>
What <b>field handling practices</b> may be employed to minimise damage to products?	<p>Field handling practices may include observing and identifying harvest readiness of products, most appropriate way of harvesting to ensure future and maximum yields, observing the fill level of containers, lifting rather than dragging containers to avoid contact with dirt, correctly stacking containers to reduce the risk of bruising, squashing or damaging the products, and smoothly transporting the harvested products to the postharvest processing or storage facility, smoking hives, and appropriate animal handling.</p>

What <b>treatments</b> may apply to this standard?	Treatments may include removal of dirt and foreign material, stripping excess leaves and/or trimming, brushing, washing/hydration, drying, dehydrating and preserving, observing quarantine requirements and storing in an appropriate environment.
What types of <b>containers</b> may be used when packing products?	Containers may include boxes, cartons, trays, crates, calico and net bags, customised packaging and bulk bins, jars and bottles, film canisters, “yowie” canisters, paper and plastic envelopes.
How are storage facilities and containers <b>cleaned</b> ?	Cleaning may involve sweeping, dusting, washing or scalding, cleaning storage facilities to ensure dust, pests, diseases and waste material are removed. Cleaning should ensure a level of hygiene that protects the quality and health status of the stored products.

## Evidence Guide

### What evidence is required to demonstrate competence for this standard as a whole?

Competence in carrying out preparation and storage of products on a permaculture property requires evidence that a person can pick, preserve, transport, grade, treat, pack and store harvested products according to enterprise standards.

The skills and knowledge required to prepare and store products must be **transferable** to a different work environment. For example, this could include different crops, products, treatments, and enterprise standards.

<b>What specific knowledge is needed to achieve the performance criteria?</b>	<p>Knowledge and understanding are essential to apply this standard in the workplace, to transfer the skills to other contexts and to deal with unplanned events. The knowledge requirements for this competency standard are listed below:</p> <ul style="list-style-type: none"> <li>• Permaculture principles and ethics</li> <li>• Range of products grown in permaculture enterprises.</li> <li>• Correct handling, preparation and treatment techniques for a range of products</li> <li>• Observation and identification of harvest readiness and appropriate ways of harvesting to ensure future and maximum yields</li> <li>• Storage methods for different products</li> </ul>
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- Hygiene issues in the handling and storage of plant products
- Options for treatment, re-use or recycling of waste materials
- Options for adding value to products such as dehydrating and preserving, making other products from the raw product, adapting waste to new uses.

**What specific skills are needed to achieve the performance criteria?**

To achieve the performance criteria, appropriate literacy and numeracy levels as well as some complementary skills are required. These include the ability to:

- Prepare for working with permaculture products
- Transport harvested products
- Grade, label and treat products
- Pack products
- Store products.

**What processes should be applied to this competency standard?**

There are a number of processes that are learnt throughout work and life which are required in all jobs. They are fundamental processes and generally transferable to other work functions. Some of these are covered by the **key competencies**, although others may be added. The questions below highlight how these processes are applied in this competency standard. Following each question a number in brackets indicates the level to which the key competency needs to be demonstrated where 0 = not required, 1 = perform the process, 2 = perform and administer the process and 3 = perform, administer and design the process.

1. How can <b>communication of ideas and information (1)</b> be applied?	Ideas and information relating to problems encountered should be discussed with other members of the work team and the supervisor.
2. How can <b>information be collected, analysed and organised (1)</b> ?	Enterprise work procedures should be consulted, interpreted and applied to tasks with further clarification sought from the supervisor where necessary.
3. How are <b>activities planned and organised (1)</b> ?	Equipment, materials and work procedures will need to be arranged before and between work periods and there may be some responsibility for coordinating work with others.
4. How can <b>team work (1)</b> be applied?	Coordination and participation with other members of a team will often be required to complete specified tasks and quality requirements.

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| 5. How can the use of <b>mathematical ideas and techniques (1)</b> be applied? | Mathematical concepts will be required to count and tally quantities and to calculate volumes and weights for packing.                                |
| 6. How can <b>problem solving skills (1)</b> be applied?                       | Problems relating to daily work activities will need to be identified, reported and discussed with other members of the work team and the supervisor. |
| 7. How can the <b>use of technology (1)</b> be applied?                        | Technology may be applied in the preparation, use and maintenance of tools, equipment and machinery.  |
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**Are there other competency standards that could be assessed with this one?**

This competency standard can be assessed on its own or in combination with other competencies relevant to the job function.

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For information about assessing this competency standard for consistent performance and where and how it may be assessed, refer to the **Permaculture International Ltd Course Documentation**.

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