



Australian Government

Department of Education, Employment and Workplace Relations

RTE5525A Manage trial and/or research material

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This competency standard covers the process of managing a trial and/or research materials as part of a designated research project. It requires the ability to define the purpose of the trial and the scope and extent of the work, oversee management of trial/research materials, collate data, and complete reports. Managing trial and/or research materials requires knowledge of scheduling and programming work within timelines, data collection and reporting, research procedures and best practice techniques, and enterprise work team management guidelines. It will also require specialist knowledge related to the area of research.

Application of the Unit

Not applicable.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

Elements and Performance Criteria

Element	Performance Criteria
1 Identify scope and extent of work	1.1 Trial/research hypothesis and parameters are identified according to researchers requirements. 1.2 Trial/research is planned to meet research objectives. 1.3 Data relevant to managing trial/research materials is assessed according to research parameters. 1.4 Data relevant to managing trial/research materials is assessed according to enterprise policy. 1.5 OHS hazards associated with managing trial/research materials are identified, risks assessed, and controls developed according to enterprise guidelines, costed and documented in the survey design. 1.6 Tools, equipment and machinery required for managing trial/research materials are identified, costed, and availability confirmed with suppliers, contractors and appropriate personnel. 1.7 Research design is determined according to the trial/research plan.
2 Oversee management of trial/research materials	2.1 Trial/research is prepared, maintained and monitored according to project parameters. 2.2 Field work is conducted to verify and collect data according to the trial/research design and research parameters. 2.3 Work activities are monitored for accuracy, validity and compliance to the parameters of the trial/research design. 2.4 Staged data collection is undertaken according to trial/research design, scheduling and access requirements. 2.5 Monitoring and data is recorded faithfully, promptly and accurately according to the

specifications of the trial/research design.

3 Prepare reports on work completed

- 3.1 Collected data is recorded according to trial/research requirements and guidelines
- 3.2 Data is statistically analysed to determine significance of research results.
- 3.3 Hypothesis is accepted or rejected based on data collected.
- 3.4 Reports are produced which conform to the structure and content required by the researcher.

Required Skills and Knowledge

Not applicable.

Evidence Guide

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

Competence in managing trial/research materials requires evidence that a person is able to identify, manage and monitor materials for a research project, and collect appropriate data requirements to research project requirements.

The skills and knowledge required to manage trial/research materials must be **transferable** to a different work environment. For example, this could include different research projects and objectives, biological components, data collection methods and reporting requirements.

What specific knowledge is needed to achieve the performance criteria?

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:

scheduling and programming work within timelines

ecological principles and terminology

data collection and reporting, research procedures and best practice techniques

enterprise work team management guidelines

data analysis techniques

research planning and design

research methodologies.

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:

communicate and negotiate orally and in writing with the researcher, enterprise staff, managers and consultants

identify scope and extent of work

calculate the cost requirements of managing trial/research materials

produce written reports

oversee management of trial/research materials

comply with legislative requirements.

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.

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| 1. How can communication of ideas and information (3) be applied? | Oral and written communication with the researcher, enterprise staff, senior management, consultants, or industry contacts will be required. |
| 2. How can information be collected, analysed and organised (3)? | Information will be collected and collated according to research project guidelines. |
| 3. How are activities planned and organised (3)? | The project design should reflect the activities required to effectively manage materials and accurately obtain objective data. |
| 4. How can team work (3) be applied? | Other members of a team will assist in managing materials. |
| 5. How can the use of mathematical ideas and techniques (3) be applied? | Mathematical concepts will be required to measure quantities, distances and times, calculate areas, resources, costs, and prepare reports. |
| 6. How can problem-solving skills (3) be applied? | System breakdowns and failures will require problem-solving skills. |
| 7. How can the use of technology (3) be applied? | Technology will be required to record, store and communicate ideas and information consistently, reliably and accurately. It will also be used to research relevant information, collect and process data to produce the report. |

Are there other competency standards that could be assessed with this one?

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

There is essential information about **assessing this competency standard for consistent performance and where and how it may be assessed**, in the Assessment Guidelines for this Training Package. All users of these competency standards must have **access** to the **Assessment Guidelines**. Further advice may also be sought from the relevant **sector booklet**.

Range Statement

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 training and assessment requirements may depend on the work situations available

What **objectives** may be specified for the trial/research project?

Research objectives may relate to the full range of research questions investigated by agricultural and horticultural researchers. More common areas will include monitoring and assessing the performance or characteristics of plants or animals, although work may also involve allied areas such as soil, chemical and irrigation research.

What **constraints** may affect the survey?

Constraints may be financial, time, scheduling, labour availability, seasonal, and government legislation and regulations.

What **ethical issues** should be considered in the conduct of the research?

Ethical issues may include those relating to animal welfare, ethical practice in informing other parties of the research in process, or be concerned with intellectual property.

Who may be referred to as a **client**?

Clients may include the enterprises management or a private individual, company, community group, government agency, or a combination of these entities.

What **data** may be assessed?

Data may include written or oral records, existing studies, and local and State government policy. Data may also relate to human intervention (such as clearance, cultivation, grazing, settlements, revegetation), landscape degradation (such as salinity, accelerated wind and water erosion, edge die-back, species depletion), pest plant populations, pest animal activity, and animal and plant production.

What processes for **data collection** may be relevant?

Processes may include the employment of staged visual assessments and checklists, photo points, aerial photography, plant/animal sampling, transect plant or associated animal counts, surveys and questionnaires, and examination of aerial or other existing photographs.

What **OHS hazards** may be associated with conducting a biological survey?

Hazards may include solar radiation, air-, soil- and water-borne micro-organisms, chemicals and hazardous substances, sharp hand tools and equipment, manual handling, slippery and uneven surfaces, and moving vehicles.

What **controls** may be introduced to minimise the risk of **OHS hazards**?

Controls should be introduced according to enterprise OHS policies and procedures and may include identifying hazards; assessing and reporting risks; cleaning, maintaining and storing tools, equipment and machinery; appropriate use of personal protective equipment including sun protection; safe operation of tools, equipment and machinery; safe handling, use and storage of chemicals and hazardous substances; correct manual handling; basic first aid available on site; personal hygiene, and reporting problems to managers.

What **tools, equipment and machinery** may be required to conduct a biological survey?

Tools, equipment and machinery may include computers and appropriate software, photographic equipment, potentiometer, tape measure, flagging tape, site or district maps, compass, recording implements, survey point markers and drivers, Global Positioning System (GPS), specimen bags, secateurs, leaf tissue collection equipment, field testing reagents and tools, and binoculars.

For more information on contexts, environmental implications and variables for training and assessment, refer to the Sector Booklet.

Unit Sector(s)

Not applicable.