Agricultural Technology Years 7–10 Life Skills unit: Vegetable production enterprise

**Unit title: Vegetable production enterprise**

**Description:** This unit involves the planting, growing and harvesting of vegetables and the marketing of vegetable products. Students use a variety of plants, materials and tools in the plant production process. A variety of growing environments may be used such as pots, hydroponics and/or garden plots. Safe and responsible use of materials, tools and techniques by students is essential in the Agriculture Technology course. Teachers should consider this when delivering this unit of work. **Learning activities address selected ‘learn about’ and ‘learn to’ statements within the Life Skills content of the syllabus and may be prioritised and selected to suit the needs of students. The unit provides a range of ways in which students may engage in learning activities and students should participate at a level appropriate to their abilities and interests.**

**Life Skills Outcomes**

A student:

- **LS.1** experiences a range of plant and animal production enterprises
- **LS.2** investigates some environmental factors that affect plant and animal production
- **LS.4** explores how agricultural production contributes to our daily lives
- **LS.5** participates in the production process of an agricultural enterprise
- **LS.6** participates in marketing an agricultural product
- **LS.10** uses information and communication technologies to collect, organise and present information related to an agricultural enterprise
- **LS.12** selects appropriate equipment, materials and tools to meet the requirements of an agricultural enterprise
- **LS.13** demonstrates safe practice in the use of equipment, materials and tools
- **LS.14** maintains and cares for equipment, materials and tools.

**Resources**

**Books**
- Workboot series books and resources Cloverdale. W.A. Kondinin Group

**Tools** such as garden spade, rake, hoe, hose, sprinkler, hand tools

**Materials/Equipment** such as pots, garden bed, soil, potting mix, seeds, seedlings, water, fertiliser, gloves, face masks, pest control products

**Links**

A student:

**Commerce**
- **LS.2** recognises ways in which people obtain goods and services in the local community
- **LS.8** purchases goods and services

**English**
- **ENLS-1A** listens and responds in familiar contexts
- **ENLS-5A** recognises and uses visual texts, media and multimedia for a variety of purposes, audiences and contexts
- **ENLS-6A** reads and responds to a range of written texts in familiar contexts
- **ENLS-8A** writes short texts for everyday purposes.

A student:

**Information and Software Technology**
- **LS.5.3** uses a variety of techniques to present information and software technology solutions

**Mathematics**
- **MALS-25MG** estimates and measures in everyday contexts

**Science**
- **SCLS-17LW** recognises features of living and non-living things

**Visual Arts**
- **LS.6** makes a variety of artworks that reflect experiences, responses or a point of view.

For students working towards Life Skills outcomes in regular classes, teachers may wish to link the activities in this unit with the Stage 5 unit ‘Vegetable Production Enterprise’ in *Agricultural Technology Years 7–10: Advice on Programming and Assessment* (pp 23–30).
### Focus: Vegetable products

**Outcomes:** LS.4, LS.10

<table>
<thead>
<tr>
<th>Students learn about</th>
<th>Students learn to</th>
<th>Integrated learning experiences, instruction and assessment</th>
<th>Evidence of learning (words in italics refer to Life Skills outcomes)</th>
<th>Feedback</th>
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</table>
| agricultural products and their uses | identify the different types of products that are derived from animals or plants | Teacher  
- provides samples of vegetables in their unprocessed and processed states  
- demonstrates how fresh vegetables can be prepared/processed in the context of making a meal, using safe and hygienic practices  
- assists students in recording their involvement at each step of the production process in a folio/workbook. | Experiencing vegetables in their unprocessed and processed states may involve *exploring how agricultural production contributes to our daily lives.* | Oral, visual and/or tangible feedback and prompting by the teacher to guide and affirm students’:
- identification of the relationship between raw and processed vegetables in the context of making a meal
- recording of their involvement in the production process in an appropriate format. |
| organising and presenting data collected | print and display information for an identified purpose | Students  
- experience vegetables in their unprocessed and processed states. This may include:  
  - distinguishing between unprocessed and processed vegetables by viewing, feeling, smelling and/or tasting using safe and hygienic practices  
  - identifying the parts of vegetables that are suitable for eating  
  - preparing/processing vegetables in the context of making a meal using safe and hygienic practices, eg prepare salad ingredients for a BBQ, use vegetable peeler and knife to prepare carrots for eating  
- establish and maintain a folio/workbook of their involvement at each step of the production process. Items in the folio/workbook may include:  
  - photographs and/or other images of their participation at various steps in the production process  
  - descriptions of their activities at each step  
  - personal observations  
  - data and information relevant to the process  
  - personalised step-by-step plan for the process  
  - evaluation of the production process. | Recording their involvement in the production process in a folio/workbook may involve *using information and communication technologies to collect, organise and present information related to an agricultural enterprise.* | |
### Focus: Planning and preparation

**Outcomes:** LS.1, LS.2, LS.5, LS.6, LS.12

<table>
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<tr>
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| reasons for plant production systems | identify the purpose of the plant production enterprise | Teacher
- assists students to determine the nature, location, time frame and planning steps of the production process
- arranges site studies to retail outlets to explore and determine products that may be marketed, eg carrots and/or lettuce to be grown in garden plots and/or tomatoes to be grown hydroponically for use in the school canteen
- assists students to prepare the location for growing vegetables and gather necessary tools, materials and equipment. | Recognising the purpose, time frame and steps to produce and market the vegetable product may indicate participating in the production process of an agricultural enterprise and/or participating in marketing an agricultural product. | Oral, visual and/or tangible feedback and prompting by the teacher to guide and affirm students’: |
| selecting plants in context of project | select appropriate plant species and strain/varieties for the production system | Students
- determine the nature of the enterprise. This may include:
  - visiting retail outlets to explore and determine vegetables that may be grown and marketed
  - surveying and determining a potential market for specific vegetable products in the school community
  - selecting the vegetable product that will be marketed
  - selecting the particular variety of vegetables best suited to the identified market | Selection of an appropriate location for plant germination and growth may indicate investigating environmental factors that affect plant and animal production. | |
| environmental factors that affect plant production | identify significant environmental factors that affect plant production | | | |
| different production systems available | determine the production system to be utilised in the light of available resources | | | |
Focus: Planning and preparation (cont)
Outcomes: LS.1, LS.2, LS.5, LS.6, LS.12

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<tr>
<td>the nature and purpose of a range of tools, equipment and materials</td>
<td>select tools and equipment in relation to an agricultural project</td>
<td>Students</td>
<td>determine and gather/purchase the tools, materials and equipment needed for the production process. This may include:</td>
<td>Determination and selection of items may indicate selecting appropriate tools, equipment and materials to meet the requirements of an agricultural enterprise and/or participating in the production process of an agricultural enterprise.</td>
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<tr>
<td>establishing supply and demand requirements</td>
<td>select materials in relation to an agricultural project</td>
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<td>- growth media, pots, fertiliser</td>
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<td>growing a range of suitable crop plants using a variety of production systems</td>
<td>calculate requirements to meet the demand</td>
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<td>- appropriate numbers of packets of seeds/punnets of seedlings</td>
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<td></td>
<td>participate in a group project to grow a range of suitable crop plants from seed</td>
<td></td>
<td>- the necessary tools, materials and equipment</td>
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*Students determine and gather/purchase the tools, materials and equipment needed for the production process. This may include: – growth media, pots, fertiliser – appropriate numbers of packets of seeds/punnets of seedlings – the necessary tools, materials and equipment

*Students determine the steps to produce and market the vegetable product in an appropriate timeframe. This may involve: – including a personalised step-by-step plan of the production process in their folio/workbook – following through each step of the plan, recognising the activities at each step.*
<table>
<thead>
<tr>
<th>Focus: Safe use of equipment, materials and tools</th>
<th>Outcomes: LS.13, LS. 14</th>
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<td><strong>Students learn about</strong></td>
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| • the application of Occupational Health and Safety practices | • use a mask and gloves when handling potting mix, fertilisers, pesticides and herbicides | **Teacher**  
  • explicitly teaches, demonstrates and supervises the safe use and handling of tools, potting mix, agricultural chemicals, and the use of personal protective equipment in the context of the project  
  • explicitly teaches routines to maintain and care for tools, materials and equipment.  
  **Students**  
  • use tools and personal protective equipment safely in the context of the production process. This may involve:  
  – putting on safety equipment, eg gloves and face masks when using potting mix and/or agricultural chemicals  
  – recognising rules for the safe use of tools and equipment  
  – carrying and using materials, tools and equipment appropriately, safely, under supervision and in accordance with instructions, eg mixing nutrient solutions in the correct ratios for a hydroponic system  
  • apply routines to appropriately maintain and care for materials, tools and equipment during the production process. This may include:  
  – returning equipment, materials and tools to their storage space after use  
  – carrying out routines for the cleaning of materials, tools and equipment after use  
  – tidying the work environment  
  – reporting unsafe equipment and/or dangerous situations. | **Evidence of learning** (words in italics refer to Life Skills outcomes) |
| • maintenance routines for care of equipment, materials and tools | • undertake regular maintenance  
  • store materials, tools and equipment appropriately  
  • regularly clean materials, tools and equipment after use  
  • keep work environments clean and clean | **Feedback**  
  Oral, visual and/or tangible feedback and prompting by the teacher to guide and affirm students’:  
  • demonstration of the safe use of tools and personal protective equipment  
  • demonstration of routines for the care and maintenance of equipment, materials and tools. | |
<table>
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<th>Focus: Planting and caring for vegetable plants</th>
<th>Outcomes: LS.5, LS.10, LS.13</th>
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<tr>
<td>Students learn about</td>
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<tr>
<td>requirements for seed germination</td>
<td>plant seeds or seedlings using appropriate techniques</td>
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<td>conditions for effective growth and production</td>
<td>maintain vegetable plants</td>
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<td>processes for transplanting plants</td>
<td>transplant seedlings when necessary using appropriate techniques</td>
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<tr>
<td>the application of Occupational Health and Safety practices</td>
<td>use a mask and gloves when handling potting mix, fertilisers, pesticides and herbicides</td>
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<td>using measuring devices to collect data</td>
<td>measure an aspect of a plant or animal production system in relation to yield or growth</td>
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<td>organising and presenting data collection</td>
<td>print and display information for an identified purpose</td>
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| • harvesting methods for particular plant species | • harvest crop using appropriate techniques | **Teacher**  
- demonstrates, assists and supervises the harvesting, storage and processing of vegetable produce.  
**Students**  
- harvest vegetables appropriately | Use of harvesting techniques may indicate participating in the production process of an agricultural enterprise. | Oral, visual and/or tangible feedback and prompting by the teacher to guide and affirm students':  
- demonstration of appropriate and safe techniques for harvesting vegetables  
- demonstration of appropriate techniques for processing and storing vegetables. |
| • techniques used to control ripening and preservation post-harvesting | • use strategies to control ripening processes and preserve crop post-harvest | • store and/or process vegetables appropriately. This may involve:  
- storing vegetables to control the ripening process and preserve quality, eg in the fridge or in a dark cupboard  
- processing vegetables for finished product, eg washing, sorting  
- dividing vegetables into bundles or placing in bags, according to weight, size or number  
- preparing, packaging and labelling products. | Storage and processing of produce may indicate participating in the production process of an agricultural enterprise. |
Focus: Marketing vegetable products
*Outcomes:* LS.6

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| • marketing strategies to meet supply, demand and consumer preferences | • market product in the context of the purpose of the project | Teacher  
- provides examples of marketing brochures and opportunities for site studies to assist students to determine ways to market vegetable products in the school community  
- assists students to develop an order form, take orders and distribute the vegetable products.  
**Students**  
- produce, display and distribute promotional material to potential customers in the school community. This may involve:  
  - visiting local retail outlets or markets to explore promotional material, product presentation and pricing  
  - selecting appropriate advertising material  
  - creating posters from magazine cuttings, brochures, seed packets and photographs taken during the enterprise  
  - creating video/audio/multimedia advertisements  
  - arranging tastings of vegetable products  
- take orders for vegetable products in the school community. This may involve:  
  - developing an appropriate order form  
  - distributing order forms  
  - recording orders  
- distribute products to customers in the school community. This may involve:  
  - collecting payments  
  - recording payments. | Production of advertising material may indicate participating in marketing an agricultural product. | Oral, visual and/or tangible feedback and prompting by the teacher to guide and affirm students’:
- selection and use of information, images and techniques to create effective marketing materials  
- design of an order form and demonstration of skills in taking orders for vegetable products  
- demonstration of skills in distributing vegetable products to customers. |
**Focus:** Evaluating the vegetable production process  
*Outcomes:* LS.5, LS.10

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| • techniques for reviewing project processes in relation to yield and quality | • review the project in terms of yield and quality | **Teacher**  
- facilitates students sharing their experiences of the enterprise with others.  
**Students**  
- evaluate the vegetable production enterprise in terms of quality and yield. This may involve:  
  - completing a teacher-designed questionnaire on their involvement to be included in the folio/workbook  
  - including photographs in their folio/workbook of their participation in various steps of the process  
  - recording, in the folio/workbook, the reactions of customers to the product  
  - making suggestions in their folio/workbook about how the production process could be improved or replicated  
  - responding to questioning such as, ‘What were the advantages and disadvantages of the garden site we chose?’ ‘How were we able to control for pests?’ ‘What could be changed to improve the quality and yield?’  
- share their experiences of the production process with others. This may involve:  
  - displaying the folio/workbook in a prominent place in the school  
  - developing a multimedia presentation. | Participation in the evaluation of the enterprise may indicate participating in the production process of an agricultural enterprise and/or using information and communication technologies to collect, organise and present information related to an agricultural enterprise. | Oral, visual and/or tangible feedback and prompts by the teacher to guide and affirm students’:  
- evaluation of the success of the enterprise |
| • organising and presenting data collected | • print and display information for an identified purpose |  |  |  |