 Year 9 summer crop and tractor operation program

During term 4, a summer crop readily grown in your district can be planted by students.

At the commencement of the term, students are involved in the tractor safety training and driving instruction course.

The tractor safety training is at an introductory level, this safety training includes the tractor hydraulic system.

Agronomic practices skills of cultivating, seed bed preparation, sowing, fertilizer use, irrigating, and pest and disease prevention are developed by students.

Students use their tractor driving skills to prepare the ground for the summer crop.

Important to sow the summer crop for example, sweet corn, late in the term so harvesting of the crop will occur in mid-term 1 of the following year.

Students are involved in the production cycle of the summer crop from sowing to harvest and marketing.

The machinery skills include driving the school tractor, cleaning and securely storing the machinery.

Plant and soil skills including biosecurity precautions, weed spraying, identifying and applying fertilizers, soil preparation and establishment of an irrigation system suitable for the summer crop.

Focus areas

* Develop knowledge and skills with farm machinery
* Establish a summer growing crop

Outcomes

5.2.1 Explains the interactions within and between the Agriculture sector and Australian economy, culture and society

5.3.1 Implements responsible production of plant products

5.3.2 Investigates and applies responsible marketing principles and processes

5.3.3 Explains and evaluates the impact of management decisions on plant production enterprises

5.4.1 Evaluates the impact of past and current agricultural practices on agricultural sustainability

5.5.1 Designs, undertakes, analyses and evaluates experiments and investigates problems in agricultural context

5.5.2 Collects and analyses agricultural data and communicates results using a range of technologies

5.6.1 Applies work, health and safety requirements when using, maintaining, and storing chemicals, tools and agricultural machinery

5.6.2 Performs plant management practices safely and in cooperation with others

[Agriculture Technology 7-10 Syllabus](http://www.educationstandards.nsw.edu.au/wps/wcm/connect/44ba8fc9-9519-41ef-b2d8-3259d2f05be4/ag_tech_710_syl.pdf?MOD=AJPERES&CVID=Technology%20(Mandatory)%207-10%20Syllabus%20©%202003%20Copyright%20Board%20of%20Studies%20NSW%20for%20and%20on%20behalf%20of%20the%20Crown%20in%20right%20of%20the%20State%20of%20New%20South%20Wales.) © 2003 [Copyright Board of Studies NSW](http://syllabus.nesa.nsw.edu.au/copyright/) for and on behalf of the Crown in right of the State of New South Wales.

Resources

* Tractor operators manual
* Guide to the safe use of tractors: WorkCover Authority of New South Wales
* Dynamic Agriculture Book 1 page 235
* farmsafe.org.au
* Yates Garden Guide
* Sweet Corn packet, Yates
* Instructor tractor safety booklet
* Student tractor work booklet
* Student tractor operations booklet
* Tractor resource booklet
* Sweet corn resource booklet

| Sequence | Outcome | Content | Suggested strategies and assessment | Resources | Registration |
| --- | --- | --- | --- | --- | --- |
| Week 1 | 5.2.1  5.4.1  5.6.1 | Importance of farm safety  Safety aspects of tractors including ROPS, safety triangle and guards | Students introduced to school tractor  Safety aspects of tractor identified  Students identify and familiarise parts and controls of the school tractor  Students: Identify make, model, engine capacity, features of the school tractor.  Students complete the relevant sections in student tractor operations booklet | Instructor tractor safety booklet  Student tractor operations booklet  Dynamic agriculture book 1  Tractor operators manual  Guide to the safe use of tractors |  |
| Week 2 | 5.6.1 | Students identify and familiarise parts and controls of school tractor | Students identify the main parts and controls of a tractor  Students identify the personal protection equipment (PPE) for use in driving tractor  Identify the safety decals of the tractor, caution, warning and danger  Locating and identifying main parts and controls of a tractor  Students complete the relevant sections in student tractor operations booklet | Instructor tractor safety booklet  Student tractor operations booklet  Tractor operators manual  Guide to the safe use of tractors |  |
| Week 3 | 5.6.1 | Pre start procedures  Tractor starting and stopping  Function of gears and levers | Students examined on identifying parts and controls of the tractor  Students introduced to starting and stopping tractor. This may include questioning of students’ knowledge of PPE and tractor pre start checks  Students may start and stop the tractor and become familiar with controls  Students complete the relevant sections in student tractor operations booklet | Tractors operators manual  Instructor tractor safety booklet  Student tractor operations booklet  Tractor resource booklet  Guide to the safe use of tractors |  |
| Week 4 | 5.6.1  5.6.2 | Examination of students’ knowledge and skills in tractor operation | Tractor driving examination  Tractor driving skill test in student tractor operations booklet  Use ‘open space’; 50metres x 50metres  Ensure departmental protocols are followed for this activity  Students waiting to be examined are to use the tractor resource booklet to assist in completing the student tractor work booklet | Instructor tractor safety booklet  Student tractor operations booklet  Tractor resource booklet  Student tractor work booklet  [www.farmsafe.org.au](http://www.farmsafe.org.au) |  |
| Week 5 | 5.6.1  5.6.2 | Examination of students’ knowledge and skills in tractor operation | Tractor driving skill test in student tractor operations booklet  Use ‘open space’; 50metres x 50metres  Ensure departmental protocols are followed for this activity  Students waiting to be examined are to use the tractor resource booklet to assist in completing the student tractor work booklet | Instructor tractor safety booklet  Student tractor operations booklet  Tractor resource booklet  Student tractor work booklet |  |
| Week 6 | 5.6.1  5.6.2 | The safe use of tractor implements | Identify the implements owned by the school.  Identify the purpose of each implement and the risks associated with their use.  Students complete tasks to identify the safe operating procedures for each implement. | Instructor tractor safety booklet  Student tractor operations booklet  Tractor resource booklet  Student tractor work booklet |  |
| Week 7 | 5.2.1  5.3.2  5.3.3  5.4.1  5.5.1  5.5.2 | Select a summer crop to be planted | Research aspects of the summer crop enterprise including, soil preparation, fertiliser application, planting information, irrigation methods used, anatomy of the crop and marketing. | Instructor tractor safety booklet  Sweet Corn resource booklet  Yates garden Guide  Sweet corn seed packet label |  |
| Week 8 | 5.3.1  5.3.2  5.3.3  5.4.1  5.5.1  5.5.2  5.6.2 | Preparation for the establishment of the summer crop  Use of tractor and cultivator to prepare area for crop  Form ‘hills’ in rows | Prepare or have prepared an area for the summer crop using the tractor and rotary tiller  Complete a pH test of the soil and add lime fertiliser if required  Example: Form x4 ‘Hills’: 300mm high x 400mm wide x 20metres  Row spacing: 600mm  Use tape measure, pegs, string and garden equipment to form the ‘hills’ | Instructor tractor safety booklet  Sweet Corn resource booklet  Tractor resource booklet  Student tractor work booklet  Measuring and marking out equipment |  |
| Week 9 | 5.3.1  5.3.3  5.4.1  5.5.1  5.6.1  5.6.2 | Fertiliser use and seed sowing | Deep band the selected fertiliser, 100mm below seed  Use a ‘spacer stick’ marked at 300mm intervals for seed sowing  Sow seeds are recommended depth  Mark the recommended sowing depth on the end of a trowel handle, using tape to ensure sowing depth | Instructor tractor safety booklet  Sweet Corn resource booklet  Seed packet |  |
| Week 10 | 5.3.1  5.3.3  5.4.1  5.5.1  5.6.1  5.6.2 | Irrigation system | Establish an irrigation system applicable to the area  Depending on site location, use an electric fence to restrict animal encroachment onto summer crop  Harvesting of the summer crop will occur in mid-term 1 of the following year | Instructor tractor safety booklet  Sweet Corn resource booklet  Seed packet |  |

All outcomes referred to in this unit come from [Agriculture Technology Syllabus](http://www.educationstandards.nsw.edu.au/wps/wcm/connect/44ba8fc9-9519-41ef-b2d8-3259d2f05be4/ag_tech_710_syl.pdf?MOD=AJPERES&CVID=) (syllabus page 12)  
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