 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 | 5.2.15.4.15.6.1 | Importance of farm safetySafety aspects of tractors including ROPS, safety triangle and guards | Students introduced to school tractorSafety aspects of tractor identifiedStudents 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 bookletStudent tractor operations bookletDynamic agriculture book 1Tractor operators manualGuide 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 tractorStudents identify the personal protection equipment (PPE) for use in driving tractorIdentify the safety decals of the tractor, caution, warning and dangerLocating and identifying main parts and controls of a tractorStudents complete the relevant sections in student tractor operations booklet | Instructor tractor safety bookletStudent tractor operations bookletTractor operators manualGuide to the safe use of tractors |  |
| Week 3 | 5.6.1 | Pre start proceduresTractor starting and stopping Function of gears and levers | Students examined on identifying parts and controls of the tractorStudents introduced to starting and stopping tractor. This may include questioning of students’ knowledge of PPE and tractor pre start checksStudents may start and stop the tractor and become familiar with controls Students complete the relevant sections in student tractor operations booklet | Tractors operators manualInstructor tractor safety bookletStudent tractor operations bookletTractor resource bookletGuide to the safe use of tractors |  |
| Week 4 | 5.6.15.6.2 | Examination of students’ knowledge and skills in tractor operation | Tractor driving examinationTractor driving skill test in student tractor operations bookletUse ‘open space’; 50metres x 50metresEnsure departmental protocols are followed for this activityStudents waiting to be examined are to use the tractor resource booklet to assist in completing the student tractor work booklet | Instructor tractor safety bookletStudent tractor operations bookletTractor resource bookletStudent tractor work booklet[www.farmsafe.org.au](http://www.farmsafe.org.au) |  |
| Week 5 | 5.6.15.6.2 | Examination of students’ knowledge and skills in tractor operation | Tractor driving skill test in student tractor operations bookletUse ‘open space’; 50metres x 50metresEnsure departmental protocols are followed for this activityStudents waiting to be examined are to use the tractor resource booklet to assist in completing the student tractor work booklet | Instructor tractor safety bookletStudent tractor operations bookletTractor resource bookletStudent tractor work booklet |  |
| Week 6 | 5.6.15.6.2 | 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 bookletStudent tractor operations bookletTractor resource bookletStudent tractor work booklet |  |
| Week 7 | 5.2.15.3.25.3.35.4.15.5.15.5.2 | 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 bookletSweet Corn resource bookletYates garden GuideSweet corn seed packet label |  |
| Week 8 | 5.3.15.3.25.3.35.4.15.5.15.5.25.6.2 | Preparation for the establishment of the summer cropUse of tractor and cultivator to prepare area for cropForm ‘hills’ in rows | Prepare or have prepared an area for the summer crop using the tractor and rotary tillerComplete 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: 600mmUse tape measure, pegs, string and garden equipment to form the ‘hills’ | Instructor tractor safety bookletSweet Corn resource bookletTractor resource bookletStudent tractor work bookletMeasuring and marking out equipment |  |
| Week 9 | 5.3.15.3.35.4.15.5.15.6.15.6.2 | Fertiliser use and seed sowing  | Deep band the selected fertiliser, 100mm below seedUse a ‘spacer stick’ marked at 300mm intervals for seed sowingSow seeds are recommended depthMark the recommended sowing depth on the end of a trowel handle, using tape to ensure sowing depth | Instructor tractor safety bookletSweet Corn resource bookletSeed packet |  |
| Week 10 | 5.3.15.3.35.4.15.5.15.6.15.6.2 | Irrigation system | Establish an irrigation system applicable to the areaDepending on site location, use an electric fence to restrict animal encroachment onto summer cropHarvesting of the summer crop will occur in mid-term 1 of the following year | Instructor tractor safety bookletSweet Corn resource bookletSeed 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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