Producing Pollinators for Improved Orchard Yields

TEACHER GUIDE

YEAR 7-8

This resource has been developed by:

Primary Industries Education Foundation Australia

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STORM & FLOOD INDUSTRY RECOVERY PROGRAM

Contents

PIEFA's SFIRP program is funded by the Australian and NSW Government's Storm and Flood Industry Recovery Program.

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SFIRP
STORM & FLOOD INDUSTRY RECOVERY PROGRAM

LEARNING AREAS

Design and Technologies (Years 7-8)

NSW CURRICULUM CONTENT

STAGE 4: TECHNOLOGY MANDATORY

TE4-1DP designs, communicates and evaluates innovative ideas and creative solutions to authentic problems

TE4-2DP plans and manages the production of designed solutions

TE4-3DP selects and safely applies a broad range of tools, materials and processes in the production of quality projects

TE4-5AG investigates how food and fibre are produced in managed environments

TE4-6FO explains how the characteristics and properties of food determine preparation techniques for healthy eating

TE4-10TS explains how people in technology related professions contribute to society now and into the future

AUSTRALIAN CURRICULUM CONTENT

Analyse how food and fibre are produced in managed environments and how these can become sustainable **(AC9TDE8K04)**

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LESSON OBJECTIVE

Students will learn about the design process to produce a solution in relation to the importance of pollinators for improving orchard yields, human management of bees for orchard pollination and impacts of farm management on the sustainability of a farm enterprise.

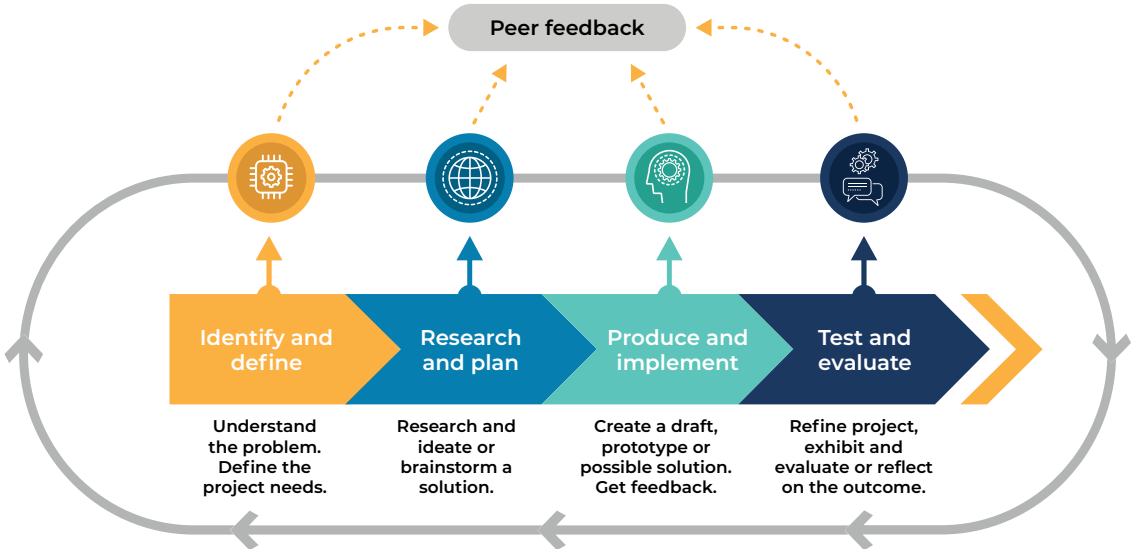
LESSON OVERVIEW

ACTIVITY 1 - Pollinators and Orchard Production (20 mins) - Understanding the Importance of Pollination for Food Production.

ACTIVITY 2.1 - Designing and Evaluating Ideas to Solve a Problem - Pollinators, Insectaries, Habitat and Biosecurity (40 mins) - Research and Designed Solutions.

EXTENSION ACTIVITY 2.2 - I'm an Entomologist! (20 mins) - Survey of Existing Insect Populations.

ACTIVITY 3 - Produce, Implement, Test and Evaluate a Designed Solution to Improve Farm Yields with Biodiversity in Orchard Pollination. Build a Native Pollinator Box.



Source: NSW Department of Education (2023)

Resources and Equipment

ACTIVITY 1 - Pollinators and Orchard Production (Identify and Define Activity)

1. Whiteboard and marker pen or Smart board/computer/digital device access.
2. **Worksheet 1a - I'm Speaking the Lingo!** (Vocabulary builder activity).
3. **Worksheet 1b - How Can We Feed the World?** (Brainstorm activity).
4. **Hort Innovation | Powerful pollinators guide** (horticulture.com.au)

ACTIVITY 2.1 - Designing and Evaluating Ideas to Solve a Problem (Research and Planning Activity)

1. Computer/digital device access for teacher presentation.
2. **Worksheet 2 - Understanding the Agriculture Industry, Pollination Problems and Innovative Solutions.**
   a. **Where would we bee without them - YouTube (4:05)**
   b. **Biosecurity Code of Practice (nsw.gov.au)**
   c. **Horticulture – grow your career: Entomologist / IPM (Olivia De La Mare, Green Camel) (7:02)**
   d. **UN Biodiversity Conference (COP 15) (unep.org)**
   e. **Attract-Bees.pdf (mrccc.org.au)**

ACTIVITY 2.2 - I'm an Entomologist! Survey of Existing Insect Populations (Extension Activity)

1. **Sticky Trap and Drop Sheet Resources.**
   a. Bright yellow cardboard.
   b. Vaseline
   c. Sticky tape.
   d. String.
   e. Permanent marker pen for labels.
   f. Stapler.
   g. Paddle Pop sticks.
   h. A4 or A3 white printer paper.
2. **MFG 2016: How to Make Sticky Traps & Using Vinegar to Stop Garden Pests: Seed Starting Help!** (4:29)
3. **Macadamia plant protection guide 2022–23 (nsw.gov.au) Trap Crop - an overview | ScienceDirect Topics**

ACTIVITY 3 - Produce and Implement an Alternative Pollination Solution (Produce, Implement, Test and Evaluate Activity)

1. **Worksheet 3 - Produce and Implement an Alternative Pollination Solution (Native pollinator habitat box).**
2. **Practical:** Build a pollinator habitat box.

   Example Design and Equipment: (student empowered designs are encouraged).

   a. 3 × 250mm × 90mm Hardwood Fence Panels.
   b. 1 × 80mm × 90mm Base Hardwood Fence Panel.
   c. 1 × 150mm × 90mm Roof Hardwood Fence Panel.
   d. 1 × Sturdy Metal Angle Bracket.
   e. 10 × 32mm Countersunk, Self Tapping Wood Screws.
   f. Tape Measure/Ruler and Carpenters Square Edge Ruler.
   g. Drill or Bench Press and Vice.
   h. A selection of Drill Bits and Drill Stops.
      i. 8mm Pilot Hole Drill Bit with 30mm Drill Stop.
      ii. 3mm Drill Bit with 70mm Drill Stop.
      iii. 5mm Drill Bit with 120mm Drill Stop (most commonly used).
      iv. 6.5mm Drill Bit with 150mm Drill Stop (most commonly used).
      v. 9.5mm Drill Bit with 150mm Drill Stop.
      vi. 13mm Drill Bit with 150mm Drill Stop.

3. **Extension: Analyse Insect Occupation Over Time and Plant a Supporting Insectary Crop**
   Insectory-blended-seed-packs (primezone.edu.au)

ADDITIONAL READING/RESOURCES

Systems thinking helps students think about interactions between systems.

Lesson Guide

ACTIVITY 1 - Brainstorming Pollinators and Orchard Production (20 Min)

Students will build their vocabulary and share existing knowledge on pollinators for food production.

Background Information

A **mind map** is a diagram for representing tasks, words, concepts, or items linked to and arranged around a central concept or subject using a non-linear graphical layout that allows the user to build an intuitive framework around a central concept (mindmapping.com, 2022).

1. Ask students to use **Worksheet 1a: I'm Speaking the Lingo!** (Vocabulary Builder Activity) to define the key terms.
2. Construct a mind map on the whiteboard that resembles the student **Worksheet 1b: How Can We Feed the World?** (Brainstorm Activity). Ask students to copy their class responses to the questions below onto their worksheet.
3. Ask students the following questions and use the stimulus material to develop a mind map of existing student knowledge.
   a. How do we improve crop yields to feed the increasing populations of the world?
   b. What are some problems with pollinating crops in horticulture?
   c. Ask students to view page 4 of the **Powerful Pollinators Guide** and add a list of different types of pollinators to the mind map. **Hort Innovation | Powerful pollinators guide (horticulture.com.au)**

Suggested answers page 19

ACTIVITY 2.1 - Researching Pollinators, Insectaries, Habitat and Biosecurity (40 Min)

Students will learn about pollination services in agriculture and develop ideas to solve existing problems.

1. Provide students with a printed copy or online access to **Worksheet 2 - Understanding the Agriculture Industry, Pollination Problems and Innovative Solutions (Research and Design Activity).**
2. Access the following resources as a class and have students answer **Questions 1 to 3** individually on the worksheet.
   a. **Where would we bee without them - YouTube (4:05)**
   b. **Biosecurity Code of Practice (nsw.gov.au)**
   c. **Horticulture – grow your career: Entomologist / IPM (Olivia De La Mare, Green Camel) (7:02)**
   d. **UN Biodiversity Conference (COP 15) (unep.org)**

Suggested answers page 20

3. Divide students into groups of four to view the supporting information **Attract Bees (mrccc.org.au)**. Students answer **Question 4** of the worksheet and plan their group's habitat box design by identifying the following factors and submitting their design for teacher feedback and approval:
   a. Materials selected.
   b. Tools required.
   c. Fixtures and equipment.
   d. Diagrammatic design.

Suggested answers page 21

Suggested Formative Assessment Rubric:

Each aspect = mark _____/5, Total mark = 20.

- **Teamwork**- participation, engagement, communication.
- **Safety** - movement, use of materials and space, behaviour.
- **Respect** - for self and others.
- **Innovation** - creativity, use of existing knowledge, new ideas with evidence/justification of reason.

ACTIVITY 2.2 - I'm an Entomologist! Survey of Existing Insect Populations. (Extension Activity - 20 Min)

Suggested Extension or Adjustment/Differentiation Strategy

1. Conduct a survey evaluation of existing pollinator populations (Entomology).
   a. Make a sticky trap for an orchard crop.
      MFG 2016: How to Make Sticky Traps & Using Vinegar to Stop Garden Pests: Seed Starting Help!
   b. Make a drop sheet trap/**beat sheet** using a piece of A4 white paper and collect insects falling from a branch in a school orchard or native food garden. Refer to pages 27-29: **Macadamia plant protection guide 2022–23 (nsw.gov.au)** **Trap Crop - an overview | ScienceDirect Topics**
   c. Extend student's knowledge by directing them to create a research summary on macadamias and entomology by using pages 15-20 of the same source material.

ACTIVITY 3 - Produce and Implement an Alternative Pollination Solution (Native Pollinator Habitat Box)

N.B: adjust the timing and modify the resource to suit your school's programming.

Students will learn about the design, materials, tools and processes used to produce a pollinator habitat box.

1. **Class Whiteboard/Smartboard Activity (10 min)**:
   Conduct a SWOT analysis on the board using aspects of each group's designed solution using the following suggestions or add your own from your class research: Students use SWOT table to copy the work on the board in **Worksheet 3: Produce and Implement an Alternative Pollination Solution.**

   a. **Strengths** = Biodiversity for pollinators and habitat for predatory beneficial insects such as wasps for IPM farm management.
   b. **Weaknesses** = Native bees may not pollinate European food crops.
   c. **Opportunities** = Improved farm yields and sustainable agribusiness.
   d. **Threats** = Insect restaurants for predators, e.g. birds, geckoes and predatory wasps of bees.

Suggested answers page 22

2. Students review their completed design section in **Worksheet 2 - Understanding the Agriculture Industry, Pollination Problems and Innovative Solutions** and check their plan to proceed to the next phase of **Worksheet 3: Produce and Implement an Alternative Pollination Solution.**

3. Students undertake a "Take 5" Toolbox talk or Safe Work Instruction (SWI) using **Worksheet 3: Produce and Implement an Alternative Pollination Solution** and the secondary sources **Safe work instructions - Workshop safety - Occupational Health & Safety (monash.edu)** and **Instruction and training | SafeWork NSW**. Students conduct a SWI with their group to ensure they are aware of the roles, responsibilities and safety considerations for each individual completing the task.

Suggested answers page 22

4. Students gather materials, tools and equipment appropriate to their own designs.

5. Groups construct their habitat boxes following teacher instructions and classroom processes to ensure a safe working environment.

6. **Collaborate and Manage:** Students test their design by placement in an approved location in the school. They should consider the height, aspect and attachment of the hive. If schools have existing populations of insects and habitat then check the hives within two-four weeks but be aware this may vary due to seasonal conditions (In winter or cooler southern areas of NSW, some species are dormant).

7. Discuss with students the merit of a **Digital A.I Rules** Based (If-then) Computer Program with a wildlife camera to monitor hive activity. Consider supporting the hive with an insectary planting. An example resource has been provided to teachers engaging with PIEFA's SFIRP program. **Insectory-blended-seed-packs (primezone.edu.au)**

   › Please share a photo with PIEFA to communicate your success with this activity for our social media pages. **SFIRP (piefa.edu.au)**.

8. **Evaluation:** Teachers discuss the school-based evidence of any successful student solutions after using the hives for a season to increase pollination for improved orchard yields.

WORKSHEET 1A:

I'm Speaking the Lingo!

Use the following terms to match them with the image and definitions in the table below.

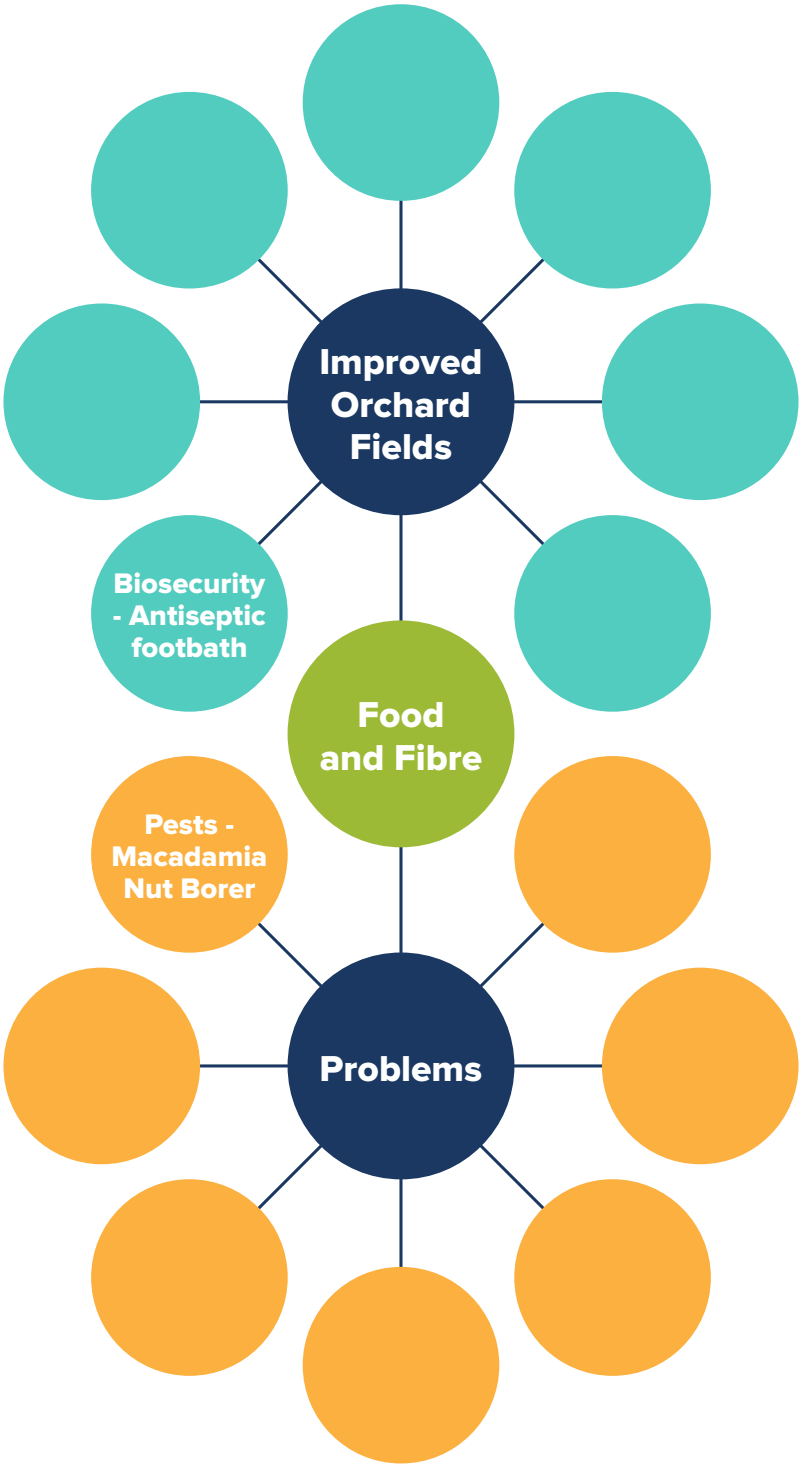
Word bank:

Pollination, Yield, Horticulture, Insectary, Biosecurity, Entomologist.

		*A group of plants that produce flowers or habitats for the survival of insects.*
		*A measure of the amount of crop harvested - weight of crop per unit of area* *e.g. The average amount of macadamias harvested per hectare is 3.5 tonnes on the Northern Rivers, NSW.*
		*A farm enterprise growing plants for production or amenity (ornamental reasons) e.g. Macadamias, blueberries and avocados.* *This image is a selection of edible native Australian fruits.*
		*A practice to control the spread of pests and disease.* *Source: NSW DPI (2022)*
		*A type of scientist who studies insects.* *Source: NSW DPI (2022)*
		*The transfer of pollen from one flower to another to fertilise an egg/seed and produce a fruit or nut.*

WORKSHEET 1B:

Mind Map - How Can We Feed the World?



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WORKSHEET 2:

Understanding the Agriculture Industry, Pollination Problems and Innovative Solutions

1. Watch the video and answer the questions below: **Where would we bee without them - YouTube (4:05)**

   a. List two different types of pollinators used to support the pollination of horticulture crops.

   b. List two food crops that rely on bees for pollination.

   c. Identify the name of the habitat used to support the survival of a bee.

   d. Identify the name of the mite that is a pest for bees.

   e. View the page **Biosecurity Code of Practice (nsw.gov.au)** and answer the question:
   Is this mite in Australia? If so, when was it introduced?

   f. Explain how a Code of Practice can protect the bee industry.

2. Watch the video **Horticulture – grow your career: Entomologist / IPM (Olivia De La Mare, Green Camel) (from 0:00- 1:40)** and answer the questions below:

   a. Describe Integrated Pest Management (IPM).

   b. Identify two strategies used in IPM to control pests.

   c. Describe the difference between beneficial and pest insects.

3. Visit the secondary source and read the first paragraph **UN Biodiversity Conference (COP 15) (unep.org)**

   a. Explain how governments across the world value the ethics of biodiversity in the environment.

4. **Group research: (Team activity)** Use the website **Attract Bees (mrccc.org.au)** to develop some innovative ideas to create habitats and environments to support pollinators in horticulture.

   a. Other than the European Honey Bee, name three other species of pollinators from the article (page 5).

   b. Insectaries include different plants that support pollinators in a managed farm environment. Identify two examples of suitable plants.

   c. Are macadamias attractive to pollinators? Describe any problems that are associated with macadamia pollination (page 14).

   d. Do you think a pollinator habitat box is a possible solution to improving farm yields in an orchard? Explain how they achieve this.

e. Using page 19 of the source material and the supporting images above:
Investigate the components you would need to create your own bee wall.

i. List as many materials and equipment that you could use to build a pollinator box (page 21).

ii. Identify the range of sizes of hives, fixtures, diameters and depths required to support a bee habitat (page 21).

iii. View designs from pages 22-24.
Sketch a design below that your group can construct below with as much labelled detail as possible (measurements, materials, annotations of features). Show your design to your teacher for feedback.

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WORKSHEET 3:

Produce and Implement an Alternative Pollination Solution

1. Complete the SWOT analysis from your class discussion.

SWOT Analysis: Noun: a study undertaken by an organisation to identify its internal strengths and weaknesses, as well as its external opportunities and threats.

2. Tool Box Talk

Secondary sources:

- **Safe work instructions - Workshop safety - Occupational Health & Safety (monash.edu)**
- **Instruction and training | SafeWork NSW.**

a. Hazards: (What can cause harm?) *e.g. sharp cutting tools*
Identify two possible hazards when building your design.

i.

ii.

b. Risks: (Include the severity and likelihood for each hazard listed above) *e.g. Sharp cutting tools = risk of cuts requiring first aid (medium risk) and unlikely to occur if following safe work practices).*

i.

ii.

c. Controls: (How to manage the risk) Identify a control for each risk above *e.g. Use a glove to create a protective barrier, guards on power tools and make sure you are trained in new tools.*

i.

ii.

Answers

WORKSHEET 1A - I'm Speaking the Lingo!

a. Key terms in order: ***Insectary, Yield, Horticulture, Biosecurity, Entomologist and Pollination.***

i. **Pollination** - *the transfer of pollen from one flower to another to fertilise an egg/seed and produce a fruit or nut.*

ii. **Yield** - *A measure of the amount of crop harvested - weight of crop/unit of area, e.g. average macadamia yield is 3.5 tonnes/hectare on the Northern Rivers, NSW.*

iii. **Horticulture** - *a farm enterprise growing plants for production or amenity (ornamental reasons), e.g. Macadamias, blueberries and avocados.*

iv. **Insectary** - *a group of plants that produce flowers or habitats for the survival of insects.*

v. **Biosecurity** - *A practice to control the spread of pests and diseases.*

vi. **Entomologist** - *A type of scientist who studies insects.*

WORKSHEET 1B - Mind Map - How can We Feed the World?

Suggestions/answers for improved crop yields

- Improve soils with nutrients, carbon sequestration, microbiology and biochemistry.
- Reduce erosion to maintain topsoil (highest nutrient content).
- Mulch for retaining soil moisture and weed control.
- Fertiliser to artificially or organically (utilising biowastes) input nutrients into the soil.
- Pesticides specifically targeting outbreaks, selective to minimise the impact on other organisms.
- Integrated Pest Management (IPM) range of strategies to control a pest with inorganic pesticides used as a last resort.
- Integrated Orchard Management (IOM) range of strategies to manage all factors within an orchard enterprise.
- Genetics to breed varieties resistant to diseases/pests or more tolerant to an environmental stressor such as heat.
- Protected cropping such as greenhouses and hot houses.
- Biosecurity measures such as an antiseptic footbath and spray for vehicle and pedestrian entry and exit from the farm.
- Technology such as using NDVI data for plant health (Landsat Normalised Difference Vegetation Index).
- Innovation such as creative habitat boxes or Artificial Intelligence (AI) to monitor issues on farms.
- Sustainable farming, such as planting Insectaries to promote biodiversity and swales to retain water on slopes.

Suggestions/answers for problems

- Pests and disease
- Monoculture/Lack of biodiversity
- Environmental issues such as loss of biodiversity and soil health.
- Chemical/pesticide contamination.
- Poor soils and erosion.
- Extreme events - flood, drought, fire and cyclones.
- Climate change.

WORKSHEET 2 - Understanding the Agriculture Industry, Pollination Problems and Innovative Solutions

1. Watch the video and answer the questions below: **Where would we bee without them - YouTube**

   a. List two different types of pollinators used to support the pollination of horticulture crops.
   European honey bees and native Australian bees.

   b. List two food crops that rely on bees for pollination.
   Macadamias, blueberries, avocadoes, vegetables, e.g. pumpkin and tomatoes.

   c. Identify the name of the habitat used to support the survival of a bee. *Hive.*

   d. Identify the name of the mite that is a pest of bees. *Varroa destructor.*

   e. View the page **Biosecurity Code of Practice (nsw.gov.au)** and answer the question: Is this mite in Australia? If so, when was it introduced? *Yes, Varroa is in Australia after an outbreak in 2022.*

   f. Explain how a Code of Practice can protect the bee industry.
   A code of practice describes how to manage the movement of bees on and off property to prevent pest outbreaks and regulate the actions of an industry.

2. Watch the video **Horticulture – grow your career: Entomologist / IPM (Olivia De La Mare, Green Camel) (from 0:00- 1:40)** and answer the questions below:

   a. Describe Integrated Pest Management (IPM).
   A series of practices such as using pesticides as a last resort for controlling a pest situation.

   b. Identify two strategies used in IPM to control pests.
   Monitoring, organic farming and releasing beneficial insects.

   c. Describe the difference between beneficial and pest insects. *Beneficial insects assist crop production through pollination or predating pests. Pests cause crop damage.*

3. Visit the secondary source and read the first paragraph **UN Biodiversity Conference (COP 15) (unep.org)**

   a. Explain how governments across the world value the ethics of biodiversity in the environment.
   There is global agreement to improve biodiversity by target 2050 and a variety of strategies are being implemented.

4. **Group research: (Team activity)** Use the website **Attract Bees (mrccc.org.au)** to develop some innovative ideas to create habitat and environments to support pollinators in horticulture.

   a. Other than the European Honey Bee, name three other species of pollinators from the article (page 5).
   Blue banded bees, firetailed resin bees, butterflies, wasps, flies and beetles.

   b. Insectaries include different plants that support pollinators in a managed farm environment, List 2 examples of suitable plants. *Macadamias, Borage, herbs like basil, rosemary and coriander.*

   c. Are macadamias attractive to pollinators? Describe any problems that are associated with macadamia pollination (page 14).
   Yes, but pesticide applications can destroy pollinators as well as pests during flowering.

   d. Do you think a pollinator habitat box is a possible solution to improving farm yields in an orchard? Explain how. *Answers will vary depending on individual student responses. Explore ideas from students to empower them in their knowledge. Be aware some students might not see commercial value in this solution due to the micro vs industrial scale of work comparing solitary species with colonial bee species.*

   e. From page 19 and supporting images: Investigate the components of creating your own bee wall.

      i. List as many materials and equipment that you could use to build a pollinator box (page 21).

      Students will identify a frame (Hardwood, softwood or other?), a mixture of materials to support egg tubes, sediment mixtures to support bee quarries and also organic glue to cement pieces together, bark, wood chips, reeds, leaves, fixtures - hooks, nails or screws, tools will need cutting, drilling, measuring and fixing. Suitable location and installation site - post/branch etc.

      ii. Identify the range of sizes of hives, fixtures, diameters and depths required to support a bee habitat (page 21).

      A range of answers for all components with a limit to size due to weight.

WORKSHEET 3: Produce and Implement an Alternative Pollination Solution

1. Complete the SWOT analysis from your class discussion.

2. **Tool box talk**
   a. **Hazards** (what can cause harm? E.g. sharp cutting tools): List two
      i. *Sharp cutting tools*
      ii. *Slips, trips and falls*
   b. **Risks** (include the severity and likelihood for each hazard listed above, e.g. Sharp cutting tools= risk of cuts requiring first aid (medium risk) and unlikely to occur if following safe work practices):
      i. *Risk of cuts requiring first aid (medium risk) and unlikely to occur if following safe work practices*
      ii. *Risk of sprains, strains and bruises requiring first aid or short rest/leave from work, Unlikely if following safe work practices and procedures.*
   c. **Controls** (How to manage the risk): Identify a control for each risk above e.g. Use gloves, guards on power tools, make sure you are trained in new tools.
      i. *Use gloves, and guards on power tools, make sure you are trained in new tools.*
      ii. *Workshop rules (no running), PPE - sturdy footwear with good tread, signage on rules and procedures.*

References

- ACARA. (n.d.-a). *Key ideas.* **www.australiancurriculum.edu.au** https://www.australiancurriculum.edu.au/f-10-curriculum/technologies/key-ideas
- ACARA. (n.d.-b). *Structures Implementation Impact Interactions Patterns Big picture Developed by ACARA Digital Technologies in focus project Australian Government Department of Education, Skills and Employment CC BY 4.0.* https://www.australiancurriculum.edu.au/media/7395/systems_thinking_poster.pdf
- Agriculture in Education. (2016, March 30). *Where would we bee without them.* **www.youtube.com** https://www.youtube.com/watch?v=2GoecH2VzvQ&feature=youtu.be
- AUSVEG. (2021, October 15). *Horticulture – grow your career: Entomologist / IPM (Olivia De La Mare, Green Camel).* **www.youtube.com** https://www.youtube.com/watch?v=3C_BK1p28KE&feature=youtu.be
- BeeAware. (n.d.). *Code of Practice - Bee Aware*. **Beeaware.org.au** https://beeaware.org.au/code-of-practice/
- Bright, J., Nsw, W., Gov, & Au. (2022). *Macadamia plant protection guide 2022-23.* https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0006/529161/Macadamia-plant-protection-guide-2022.pdf
- Hort Innovation. (2020, May 18). *Powerful pollinators guide.* **www.horticulture.com.au** https://www.horticulture.com.au/growers/help-your-business-grow/research-reports-publications-fact-sheets-and-more/grower-resources/ph15001-assets/Powerful-pollinators-guide/
- mindmapping.com (2022). *What is a mind map?* **MindMapping.com** https://www.mindmapping.com/mind-map
- My First Garden. (2016, February 1). *MFG 2016: How to Make Sticky Traps & Using Vinegar to Stop Garden Pests: Seed Starting Help!* **www.youtube.com** https://www.youtube.com/watch?v=eeeWjiBVWJU
- NSW Department of Education. (2022, June 10). *Phases of design thinking.* **Education.nsw.gov.au** https://education.nsw.gov.au/teaching-and-learning/curriculum/stem/early-stage-1-to-stage-3/project-based-learning-and-design-thinking/phases-of-design-thinking
- NSW, S. (2018, August 16). *Instruction and training.* **SafeWork NSW.** https://www.safework.nsw.gov.au/safety-starts-here/physical-safety-at-work-the-basics/instruction-and-training
- Occupational Health and Safety. (2022, April). **Monash University** https://www.monash.edu/ohs/info-docs/laboratories,-studios-and-workshops/safe-work-instructions-workshop-safety#:~:text=SWI%27s%20are%20a%20set%20of,on%20a%20task%20or%20process.
- PIEFA Primary Industries Education Foundation Australia. (2023). *SFIRP.* **PIEFA | Agriculture Forestry & Fishing Educational Resources.** https://www.piefa.edu.au/sfirp
- ScienceDirect. (2023). *Trap Crop - an overview | ScienceDirect Topics.* **www.sciencedirect.com** https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/trap-crop
- UN Environment Programme. (2022, August 15). *UN Biodiversity Conference (COP 15).* **UNEP - UN Environment Programme.** https://www.unep.org/events/conference/un-biodiversity-conference-cop-15
- Valley Bees. (n.d.). *INFORMATION | Valley Bees.* **Valley Bees Community.** Retrieved May 19, 2023, from https://www.valleybees.org.au/information-sheets/

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