POWERED BY: WGRF

FIELD HEROES

THINK BENEFICIALS BEFORE YOU SPRAY

FIELD HEROES RESOURCE GUIDE

Bringing the Field to your Classroom!

GENERAL RESOURCES

CLASSROOM ACTIVITIES

POWERED BY: WGRF

FIELD HEROES

FIELD HEROES ARE HERE TO HELP!

The Field Heroes campaign was developed by the Western Grains Research Foundation to increase awareness of beneficial insects and the important role they play in integrating pest management strategies. The campaign provides tools for future and current growers and their advisors to identify the most common beneficial insects found across Western Canada. The goal is to increase the likelihood of growers considering beneficial insects in production decisions and to create a platform for entomologists to share their knowledge with growers and advisors.

Beneficial insects play a critical role in crop ecosystems, but they don't get much mention in traditional classroom resources. Field Heroes are here to help you add some life to your classroom or lab.

Get the latest information about beneficial insects by following Field Heroes on social media.

𝕏 @FIELDHEROES

GENERAL RESOURCES

- FIELD GUIDE
- PPT SLIDES
- FUN VIDEOS
- HEROES & VILLAINS POSTERS
- SWEEP NET SCOUTING TIPS
- SWEEP NET VIDEOS
- PODCASTS
- SCOUTING GUIDES

CLASSROOM ACTIVITIES

1. ONE-MINUTE PAPER
2. BRAINWRITING
3. PESTS & PREDATORS SPEED DATING
4. FARMER POV
5. SWEEP NET ID WORKSHEETS

GENERAL RESOURCES

FIELD GUIDE

PESTS & PREDATORS

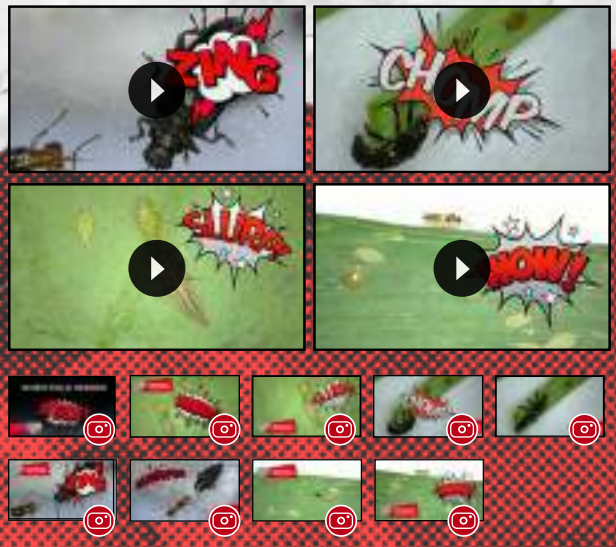
This guide is a great resource that will help students identify and manage insect pests and beneficial insects. Access the electronic version or order print versions for your classroom.

Order a Print Version

Online Interactive Version

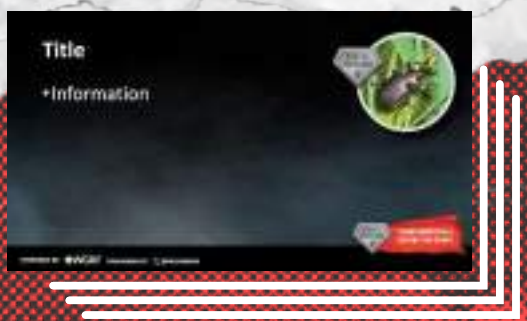
FUN VIDEOS

Looking for great photos and fun videos of beneficial insects? Here are a few to pull those beneficials from the field into your classroom.



PPT SLIDES

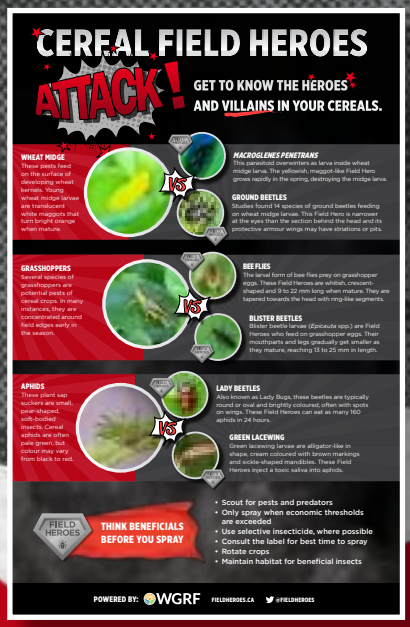
To support you in introducing beneficial insects in your classroom, here are some templates of slides to get you started.

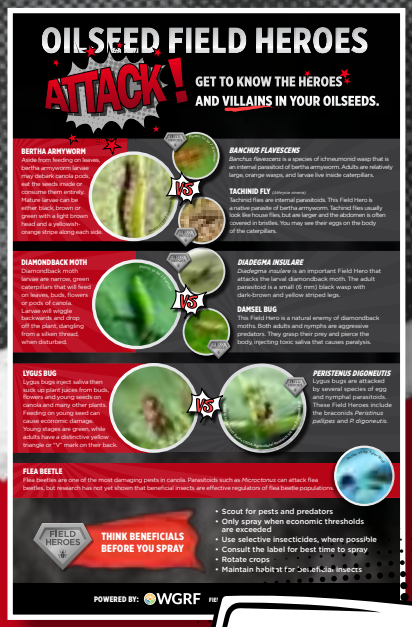


Download PPT

HEROES & VILLAINS IN THE FIELD POSTERS

Use these posters in your classroom or as infosheets for your students to help connect common pests with the Field Heroes that help control them.

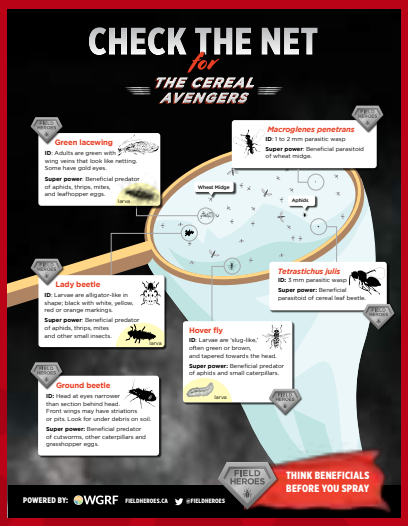


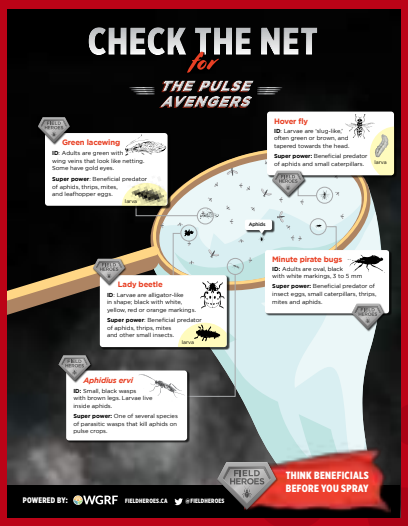


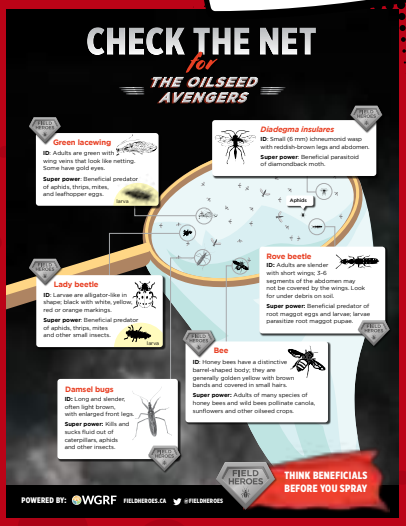
CHECK OUT THE STUDENT WORKSHEETS FOR SWEEP NET ID

Go to Worksheet

SWEEP NET SCOUTING TIPS

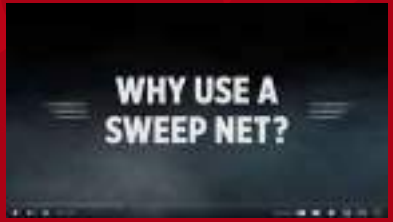


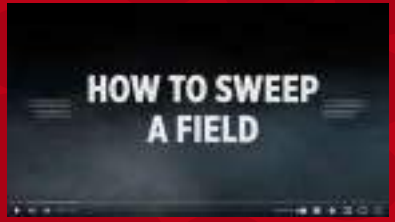


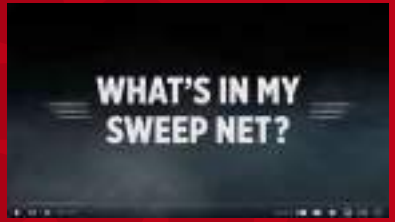


SWEEP NET VIDEOS

Discover **why** to sweep a field, **how** to sweep effectively and **what** to do with the contents of your net in this three-part video series.







PODCASTS

PESTS & PREDATORS PODCAST

Explore five seasons of the Pests & Predators podcast! Hear from Canadian entomologists and experts on their latest research.

SEASON 1	SEASON 2	SEASON 3	SEASON 4	SEASON 5
				
Why Protect Beneficial Insects	Powerful Parasitoids Better Than Fiction	Weather Effects: Predicting Pest Populations	Mapping Systems for Prairie Pest Protection	20 years of Canola Surveying and Counting!
Prairie Pest Monitoring Network Survey Results	GOOD vs Pea Leaf WeEVIL	Mistaken Identities: Insect Pest or Beneficial?	Prairie Pests and Predators: What can you Expect?	Invasive Species Awareness: Knowing What to Look for and How to Report it
Cereal Leaf Beetles Be Gone	Secret Agents in the Stubble	Aphid Milkshakes: Green Lacewing's Fave	Lurkers in the Lentils; Friends in the Faba	Armoured Tanks: Beetles in Battle
Who's After Grasshopper Eggs?	Good Bugs Relocate for Work	Parasitoids Prey on Pests in Pulses	Biodiversity Benefits: On the Farm and Beyond!	Research Roundup: Lesser Clover Leaf Weevil
Keeping Wheat Stem Sawfly in Check	Beneficial Insects Free Farm Labour	Spiders and their Amazing Appetites	Wheat Stem Sawfly 101	The Ecology of Fear
Have Parasitoids Been Active in your Fields?	Get a Jump on Grasshoppers	Preying in the Canola Canopy	Ground Beetles to the Rescue!	Farmer Feedback: Insect Pest Management Practices

SCOUTING GUIDES

Crop Scouting Guides

Use these handy crop specific scouting guides to learn about what to look for in key crops.

Pest Scouting Guides

Use these helpful pest specific guides to get to know the most common pests in the field and the beneficial insects that help keep them in check.

1 2 3 4 5

CLASSROOM ACTIVITIES

Making Learning Memorable and Practical

Now that you've accessed the mix of Field Heroes resources, it's time to apply the learning. Here are some ideas on how to use these resources in engaging learning activities that will get students thinking differently about beneficial insects.

1 ONE-MINUTE PAPER

Encourage students to reflect on their learning and enhance their writing skills by summarizing key insights or questions.

1. **Review podcasts:** Choose 1-4 podcasts for the students to review and ask them to select one in preparation for the next class.
2. **Set the timer:** At the start of the class, set a timer for one minute.
3. **Reflect and write:** Ask students to write down their most eye-opening revelation or their biggest question about beneficial insects. This could be something they found particularly interesting or a concept they are still curious about.
   Prompts for writing: To get students started, you can use prompts such as:
   a. What was the most surprising thing you learned about beneficial insects in the podcast?
   b. After listening to the podcast, what questions do you still have about the role of beneficial insects in crop ecosystems?
   c. How would considering beneficial insects as noted in the podcast impact current agronomic practices?
4. **Share insights:** Collect the responses to gain insight into students' understanding and identify any areas of confusion. This feedback can help guide future lessons and discussions.

This exercise not only helps students consolidate their learning but also provides valuable feedback for instructors to address any misunderstandings or knowledge gaps.

2 BRAINWRITING

A great introduction to studying beneficial insects. Instead of traditional brainstorming, give your students time to individually generate the names of every beneficial insect they know. After this period of individual reflection, students can then share their ideas verbally with the class or in a small group.

You can also do this as an after-class discussion, encouraging students to categorize the key insects to scout for in three crop categories: oilseeds, pulses and cereals.

This approach stimulates memory and encourages deeper thinking like they'll need in a scouting situation.

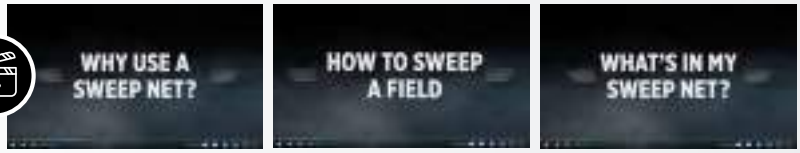
After the brainwriting session is complete, review the Crop Scouting Guides to see if any were missed.

3 PESTS & PREDATORS SPEED DATING

Improve students' presentation skills and broaden their perspectives by having them share insights multiple times. This exercise not only enhances students' understanding of beneficial insects and pests they control, but it also helps them develop effective communication and presentation skills.

1. **Prepare:** After discussing beneficial insects in class, divide students into two groups. Assign each student in the first group a specific Pest and each student in the second group a Predator from the Field Heroes Field Guide. Have them prepare an "introduction" to that insect for the next class.
2. **Set up the space:** Organize the room to allow all students to sit in two parallel lines facing each other – Pests on one side, Predators on the other.
3. **Cycle through:** Give students 1-2 minutes to introduce their Pest or Predator to the person across from them and ask them to identify relationships between the two (simulating a "speed dating" format). As they present their information multiple times, they will refine their presentation skills and gain new perspectives from feedback and questions.
4. **Present and reflect:** After cycling through all combinations, ask students to share the combinations of Pests and Predators that are beneficial to look for when scouting a field.

4 FARMER POV



Help students understand how to effectively communicate with farmers about beneficial insects by using Empathy Maps to explore the farmer's perspective.

Empathy maps are a tool used in Design Thinking to allow development of products and services that consider the needs of users. For more detail on Empathy Maps, check out these resources:

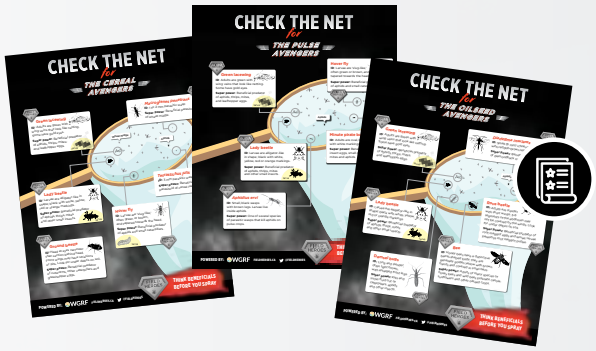
- Article: Empathy Mapping: The First Step in Design Thinking
- Video: How to Create an Empathy Map

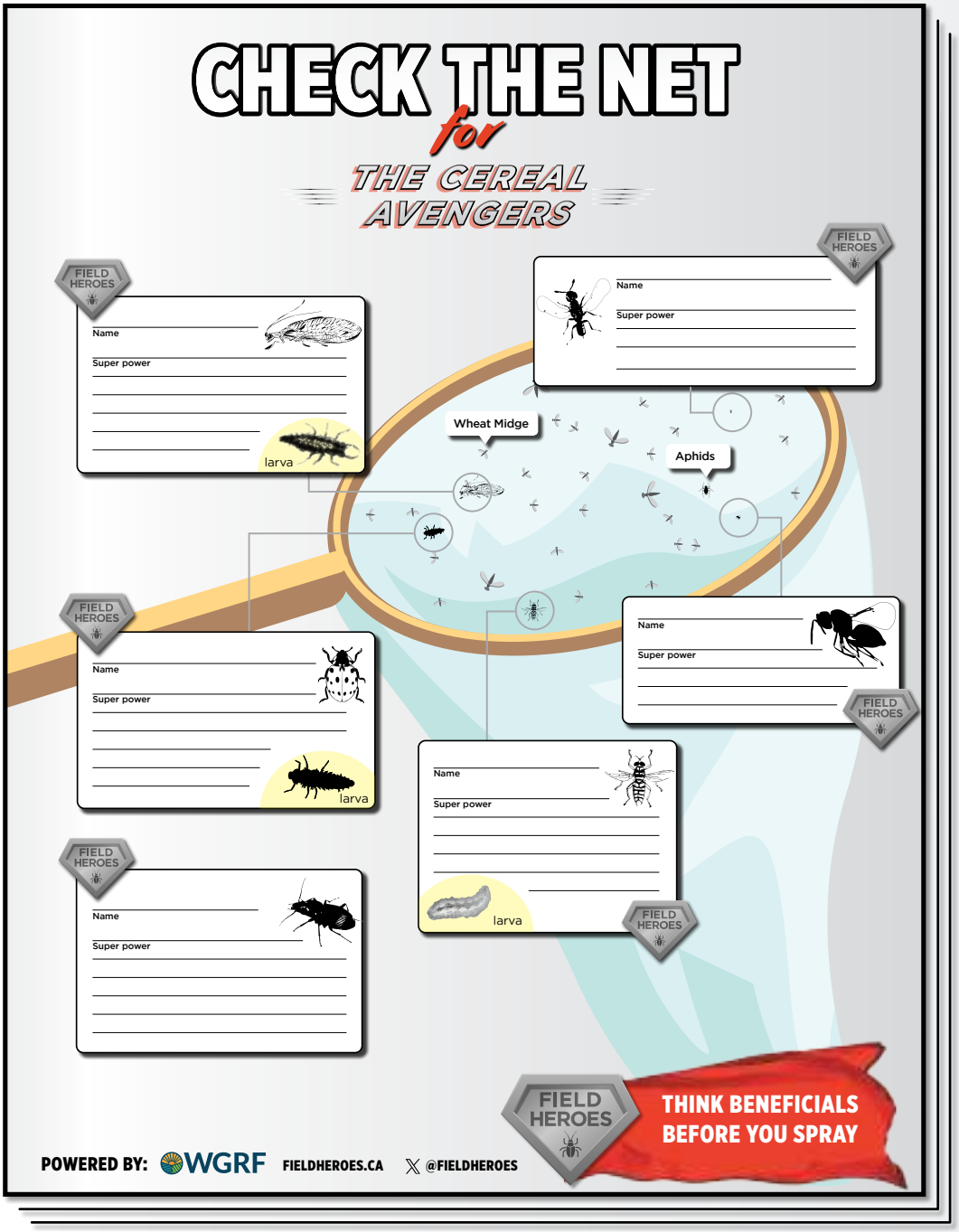
1. **Introduce empathy maps:** Explain the concept of empathy maps, which help in understanding what a person says, thinks, does and feels. Highlight how this tool, commonly used in design thinking, can be applied to understanding farmers' perspectives.
2. **Create empathy maps**: Assign each student the role of a farmer who is learning about beneficial insects. In groups, have students create empathy maps for their assigned farmer role. They should consider:
   - **Says:** What might the farmer say about their current pest management practices and their knowledge of beneficial insects?
   - **Thinks:** What are the farmer's thoughts or concerns regarding the value and utility of beneficial insects in their fields?
   - **Does:** What actions does the farmer currently take to manage pests, and how might they incorporate activities to encourage populations of beneficial insects?
   - **Feels:** What might the farmer feel about the potential benefits and challenges of using beneficial insects?
3. **Role-playing exercise (if you're feeling brave...):** Pair students and have them role-play a conversation between an entomologist and a farmer. The "entomologist" should use the insights from their empathy map to address the farmer's concerns and explain the benefits of beneficial insects.
4. **Share and reflect:** After the analysis or role-playing exercise, ask students to share their experiences and discuss what they learned about the situations farmers face and their beliefs about insects that could make them disregard or overlook the value of beneficial insects in a field.
5. **Debrief:** Reflect on the value of slowing down and immersing oneself in another point of view. Discuss how this exercise can help students better understand and address farmers' needs and concerns.

New ideas in crop production require time to increase farmer awareness and adoption. Many students have an overly optimistic view of the adoption of best practices in a farming operation. This exercise not only enhances students' knowledge of beneficial insects but also develops their communication skills and empathy, making them more effective in real-world interactions with farmers. These skills will help them support farmers in creating more productive and sustainable farms.

5 SWEEP NET ID WORKSHEETS

Test your student's sweep net ID knowledge with this Check The Net worksheet.





Download Cereals Worksheet

Download Pulses Worksheet

Download Oilseeds Worksheet