



Chapter 3

Pests What's the Problem? —A Public Service Announcement

Standards:

MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

MS-LS1-5. Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.

MS-LS2-1. Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

MS-LS2-4. Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

MS-LS4-4. Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment

*Potential standard if discussing the importance of completing pest control correctly to eliminate producing pests that are resistant or more resilient to control methods

MS-LS4-5. Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms

*Potential to discuss how we have selected and bred plants that are resistant to certain sprays or produce their own method of pest resilience.

Objective

Students will be able to:

identify common crop pests.

identify sustainable methods to control common pests.

inform their peers about methods used to manage pests.

evaluate and determine the more appropriate method of controlling common crop pests.

Materials

Students will need access to the internet to gather information. Depending on the type of public service announcement they will create, they may need a computer or electronic device that has a camera, a voice recorder, webpage development software, or poster materials.

Time

3 hours depending on how elaborate the public service announcements are.

Prior to the Activity

Read "Problems with Pests" chapter in *Agronomy Grow With It!*

Author

John Nelson, Agri-Science Instructor

Ask students what a pest is:

An expected response will be something that bothers you or is a nuisance.

Ask students if this is positive thing or a negative thing?

Students should all agree that pests are usually bad. Sometimes pests may be a benefit to other organisms besides the crops that we are concerned about. See pg. 39 *Agronomy Grow With It!*

Direct students to discuss the negative things a pest can do. What affect do they have?

During the student discussion they should come up with some examples that pertain directly to their personal environment—something that affects them directly.

Direct students to thinking about other things like do your pets have any pests that we need to think about. (Fleas and Ticks are common ones)

What other organisms have to deal with pests Students should think about other species that are affected by a pest. They should come up with some examples. If not, start providing some easy examples:

A woodpecker will damage the tree

A gopher that digs holes in the lawn

A rabbit that eats the flowers or vegetables in the garden

Once students have started thinking about a pest they will be able to put together a better description of a pest.

Ask students to define: "Pest"

Help students think about the issues in a broad sense to provide a more inclusive definition

Have the students work in a partnership or small group to write a definition

At this time have the students read *Agronomy Grow With It!* "Problems With Pests" pg. 30-43?

Instruct students to alter their definition of "Pests" as they learn more about what a pest is.

As students are reading have them make a note on a separate sheet of paper the things that surprised them and what they found interesting in the reading

Ask students to share their notes they took. What was a surprise and what was interesting.

As students share be sure they elaborate and engage their classmates to get a discussion going. Have the students try to run the discussion and help answer and think about the different topics.

Have them reference the book in the discussion to look for further information

As students are talking see if they have had an experience with a pest.

Many students have some experience with a pest or have heard about some in their life.

AGRONOMY LESSONS
American Society of Agronomy



Pests What's the Problem?—A Public Service Announcement

Begin the activity: Pests, What's the Problem?

Allow students to select their own pests for the activity or provide a sample list for them. Below you will find links to a listing of some pests that you can either share with your students or use to generate your own list for students to select from. Note: This is not an inclusive list

Be sure to look at the resources ahead of time to provide the best directions for students about how to interpret what they see on the links

Garden pest list: <https://www.planetnatural.com/pest-problem-solver/garden-pests/>

Crop Pest link: <http://www.ers.usda.gov/media/1762872/ah717b.pdf>

Advanced* non native pest list http://www.iatp.org/files/Invasive_Pest_Species_Impacts_on_Agricultural_.htm

Continuation:

Have the students create a public service announcement that will inform the public about one of the pests from their list. There are many different options that students can choose to make the public service announcement depending on the available technology. Making a video commercial, radio commercial, or an advertisement campaign (poster, flyer, web page, etc) are a few options to think about.

Other tangents and continuation:

Construct a calendar of when you need to be looking for potential pests.

Have students research old methods of controlling pests before it was realized the method was harmful to the environment

Literacy Connection: *Silent Spring* by: Rachel Carson

Ask a county extension agent to come and speak for your class or help you find someone who could discuss integrated pest management further.