

Lesson 4
Insects on a Sustainable Farm
Developed by Beki Guion – Owner of Javernick Family Farms

Objectives: To see how insects can benefit a farm and how sustainable farming methods preserve these beneficial insects.

Students will:

- See the application of sustainable farming practices
- Understand how farms and ranches are connected to their communities

Curriculum Connections:

- Language arts
- Biology
- Art

Student Skills Developed:

- Listening Comprehension
- Thinking skills – categorizing

Materials Needed

- Poster board, coloring implements, old farming magazines, scissors, glue.
- Bug Building, such as recycled storage containers

Discussion:

I am Beki Javernick-Guion from Javernick Family Farms. My family and I are farmers.

Can you name some things you might see at a farm? (Get answers)

One of the things we grow are vegetables. Can you name some vegetables that grow in this area? (Get answers)

We grow all kinds of different vegetables. Tomatoes, cucumbers, cabbage, cauliflower, melons, corn – popcorn, sweet corn, and corn that we grind up into flour to eat, onions, beans, lots of different greens, lettuce, and potatoes – just to name a few.

We also have livestock. What kinds of animals would find at a farm? (Get answers)

We raise cattle for beef, chickens for eggs, pigs for pork, and sheep for wool. (pictures needed)

We also grow hay for our cows to eat.

Today we are going to be talking about sustainable farming practices and how farms are connected to their communities.

In the first lesson you learned about what sustainable agriculture is. Can you tell me what you learned about sustainable agriculture? (Get answers)

Sustainable agriculture means farming practices or techniques that are good for the earth. We all want our land to be here when we're older, right?

At our farm we raise our vegetables and livestock in a way that is least harmful, and most beneficial to the land and water. Here are some of the things that we do to be sustainable.

- We don't use any synthetic chemical fertilizers, pesticides, or herbicides.

- We rotate crops. Different crops take different nutrients so we plant something different in each spot each year.
- We use beneficial insects.
- We promote natural eco-systems at the farm.

Instead of using man-made chemicals to put nutrients back into the soil we use compost, sea minerals and cover crops.

Does anybody know what compost is? (Get answers)

Compost is decomposed manures, leaves, food scraps, and most other organic materials. This is our way of recycling at the farm.

Cover crops are planted, grown, and tilled back into the soil for nutrients.

One problem farmers face is that other insects like to eat the plants we're growing for food. Some farmers like to use chemicals to spray onto the plants to kill the bugs. It works like bug spray works on us. How many of your parents have sprayed you to keep mosquitos away? (Raise hands) Have you ever coughed after you've been sprayed? Our plants sometimes feel that same way when farmers spray them with pesticides and insecticides.

Instead of using those pesticides and insecticides, we use beneficial insects to help us control other insects.

There are many different kinds of beneficial insects. Beneficial insects are bugs that eat other bugs.

Raise your hand if you know what a ladybug is.

Ladybugs are one of the most common beneficial insects. Their main diet is aphids. Ladybug larva also eat a lot of aphids before turning into a ladybugs. What does an aphid look like? (Show picture)

Raise your hand if you know what a praying mantis is. Who can show me what they often look like they're doing? (Wait for responses)

Praying mantis will eat almost any bug in its path.

In order for the farm to stay in production, we need to sell our vegetables and meat.

Do you have any ideas where we might sell our products?

Farmers markets are where we sell a lot of our product. People like you and your parents and other people in the community come to the markets and buy our vegetables and meat.

We also market our products through CSA. Community Supported Agriculture. CSA.

Does anybody know what a CSA is?

It is a program to unite community members, such as yourselves, and farmers to work together to make sure there is a local food supply. This is a huge part of our farm.

Does anybody have any questions about what we have talked about?

Individual project: Build a beneficial insect. Build your own ladybug or praying mantis.

Group Project: In groups, students will illustrate the cycle of food from the farm to the consumer.

(directions, pictures and illustrations are needed)