



## Honeybrook Farm Apple Orchard

### Winter

**Narrator 1:** Honeybrook Farm Apple Orchard was one of the nicest orchards in the state. It belonged to two farmers—Farmer Bob and Farmer Anne. During the winter, when the trees didn't have any leaves or apples, Farmer Bob and Farmer Anne could hardly wait for springtime to arrive so they could see their trees bloom.

**Farmer Bob:** I think this is going to be a great year for Honeybrook Farm Apple Orchard.

**Farmer Anne:** I agree. I can't wait to see how many apples we are able to harvest. Last year we had problems after we sprayed pesticides to kill insects.

**Farmer Bob:** Because we sprayed the pesticides, there weren't enough insects around to pollinate the flower blossoms and not many apples grew on our trees.

**Farmer Anne:** This year is a fresh start. I bet we'll have more juicy apples than ever before!

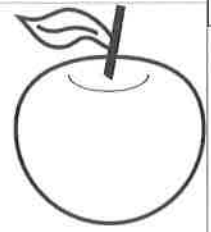
### Spring

**Narrator 2:** When springtime arrived, Farmer Anne went outside to take a walk in the orchard and look at all of the trees blooming. But she wasn't outside long before she came running back to the farm house.

**Farmer Anne:** Oh no! Farmer Bob, we have a problem. I see lots of green caterpillars on the trees! They are eating the buds of the apple blossoms.

**Farmer Bob:** This is terrible. We can't let the caterpillars hurt our trees! We will have to stop them.

**Fruit Tree Leaf Roller:** I am a fruit tree leaf roller caterpillar. I am fat and green. Some day I will grow up into a moth with papery brown wings. I lived in my egg all winter long, waiting until spring came so I could come eat the apple blossoms.



**Farmer Anne:** What do we do?

**Farmer Bob:** I don't know. We don't want to spray pesticides again.

**Narrator 3:** The farmers scratched their heads and they thought and thought. They decided to ask an agricultural engineer for help.

**Agricultural Engineer 1:** I know what to do! Let's try Integrated Pest Management. I know lots about insects and what they eat. Lady beetle larvae eat fruit tree leaf rollers. If we bring some of them to your orchard, they will eat most of the fruit tree leaf rollers that are harming your trees.

Even if you did spray pesticides, they won't hurt fruit tree leaf rollers much. They roll up apple leaves and hide inside them, just as if they were in a sleeping bag!

Remember to BE CAREFUL with pesticides. If you spray pesticides, you can kill some insects that are pests, and some that are not pests. And if the fruit tree leaf roller insects are causing your problem, you might not harm them at all!

**Farmer Bob and Farmer Anne:** We're saved!

**Narrator 1:** The farmers listened to the agricultural engineer and brought lady beetle larvae to the orchard. Soon, there were fewer fruit tree leaf rollers eating the apple tree buds. Honeybees and other pollinating insects visited the tiny flowers. The farmers were happy. Late in the summer, just as the apples began to grow, the farmers went out to walk in the orchard.

## Summer

**Farmer Bob:** Oh no! All of the apples are growing sick and brown! What do we do?

**Weevil:** I am a weevil. In the day, I hide in the dirt and at night I climb up the tree trunk for a tasty meal on the apple tree leaves. If there are too many of my weevil friends and I in a tree, the tree can die.



**Narrator 2:** The farmers scratched their heads and they thought and thought. They decided to ask an agricultural engineer for help.

**Agricultural Engineer 2:** I know what to do! The best way to stop the weevils from eating your trees is to stop them from climbing up the tree trunks. If we put sticky stuff, like glue, around the trunks of the trees, the weevils will get stuck!

Most pesticides don't harm this kind of weevil at all. Integrated Pest Management is a better way to stop the weevils from harming your apples.

**Farmer Bob and Farmer Anne:** We're saved!

**Narrator 3:** When the farmers put glue around the trunks of the trees, the weevils' tiny feet got stuck and they couldn't reach the leaves. Soon there were fewer insects eating the apple tree leaves and bark. In the fall, the farmers went out to walk in the orchard.

## Fall

**Farmer Anne:** Oh no! Many of the apples have spots and holes in them. No one will want to eat those apples. What do we do?

**Apple Moth Larvae:** I am an apple moth larvae. I like to make tunnels through apples so I can eat the insides. People don't like to eat the same apples that I eat.

**Narrator 1:** The farmers scratched their heads and they thought and thought.

**Farmer Bob:** Maybe we can use Integrated Pest Management to help us stop the apple moth larvae.

**Narrator 3:** Farmer Anne and Farmer Bob decided to ask an agricultural engineer for help.

**Agricultural Engineer 3:** I know just how to control these apple moths larvae! We can set up containers filled with the smell of adult moths. The moths will get confused and won't be able to find each other. No moth families will form, and there won't be any apple moth larvae to grow up and eat your apples.

**Farmer Bob and Farmer Anne:** We're saved!



**Narrator 2:** Finally it was time to harvest the apples. Some of them had been eaten by insects, but most of them were fine and tasty looking.

**Farmer Bob:** Thanks to those agricultural engineers, we know how to protect our orchard. Integrated Pest Management can be a big help. Pesticides aren't always the answer to our problems.

**Farmer Anne:** That's right. We need to make sure we help nature stay balanced so our orchard will be healthy. I think Honeybrook Farm Apple Orchard will be beautiful for years to come!

**The End!**