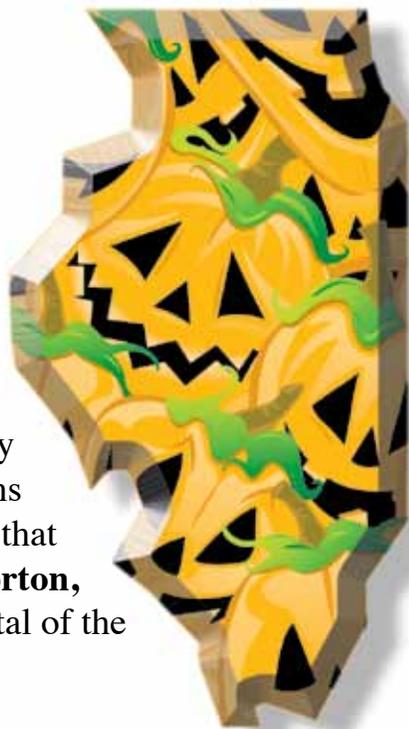




# #1 in Pumpkins

Illinois farmers grow more pumpkins than anywhere else in the world! In fact, they grow 90-95% of the pumpkins used for processing. Most of that processing takes place in **Morton, Illinois** – The Pumpkin Capital of the World.



**Q:** How do you mend a broken Jack-o-lantern?

**A:** With a pumpkin patch!

## Pumpkins on Parade

Throughout Illinois, people celebrate pumpkins. In the months of September and October there are a variety of exciting pumpkin activities all over the state. Have you ever picked your own pumpkin out of the field? Many pumpkin farms in Illinois have acres of land for you to explore and pick your own perfect pumpkin right out of the patch. You can also discover the many varieties of pumpkins grown around the state.

Take the day and travel to one of Illinois' 502 pumpkin farms, or even join in a festival. No matter where you end up, between the petting zoo, corn maze, shops and food, you are sure to enjoy all of the activities Illinois pumpkin farms have to offer. To find a pumpkin farm near you, go to [www.urbanext.uiuc.edu/pumpkins/pumpkinfarms.cfm](http://www.urbanext.uiuc.edu/pumpkins/pumpkinfarms.cfm).





**Pumpkin Blossom:** Pumpkins grow on a vine. Through pollination, they start by growing inside a flower. Insects help pollinate pumpkin blossoms.



**Mid Season Pumpkin:** After pollination, a tiny green pumpkin starts to grow at the base of the flower. Over time, this bud grows in size and changes in color from green to yellow, and finally to orange.



**Mature Pumpkin:** Pumpkins are harvested when they are a deep, solid orange color and the rind is hard.

## Did you know...

Pumpkins are good for your body. The filling is rich in vitamin A and potassium. The seeds are full of protein and iron.

## Pumpkins and American History

Long before the discovery of corn, Native Americans used pumpkins to help them through long winters. Over the centuries, they found many ways to enjoy the sweet inner meat of the nutritious pumpkin. They baked, boiled, roasted, fried, parched, or dried it. They added pumpkin blossoms to soups, turned dried pumpkin pieces into rich flour, and munched on the seeds as a tasty snack.

Native Americans developed a way to grow pumpkins. The method is called “Three Sisters.” They planted three crops: corn, beans and pumpkins together in one place. The “Three Sisters” or plants worked together. The corn stock grew sturdy and supported the bean plant that grew and twisted around the stock. The bean plant added nitrogen to the soil that helped the corn plant grow. The pumpkins provided a ground cover of shade that helped the soil stay moist. The “Three Sisters” method is just one example of the contributions Native Americans made to agriculture. Can you think of any other contributions?



# Pumpkins and Halloween

## Are Turnips Scary?

Have you ever carved a face into a pumpkin? Do you know how this tradition got started?

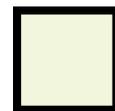
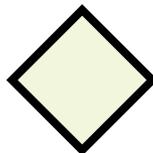
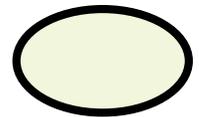
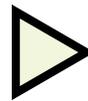
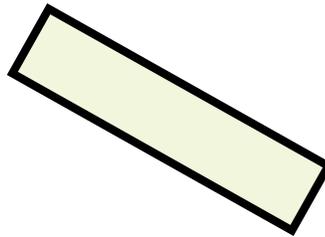
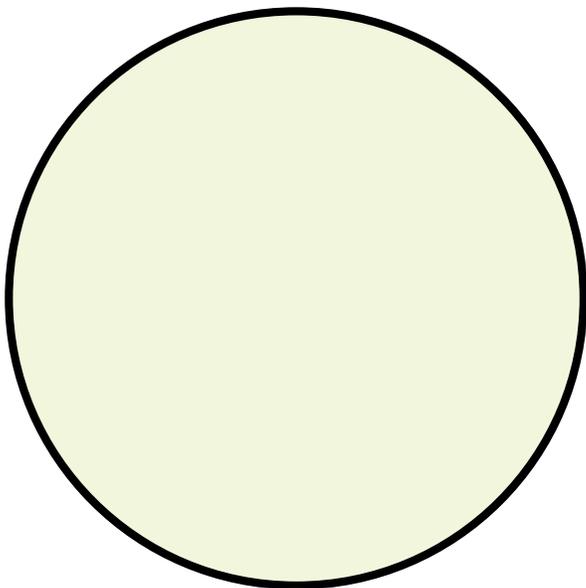
Jack-o-lanterns started centuries ago in Ireland. People carved frightening faces into turnips, put a candle in them, and placed them in their windows to scare away an evil ghost. The ghost was called *Jack of the Lantern*.

Can you guess what they found when they got here to America? That's right, pumpkins! Pumpkins are larger and easier to hollow out than turnips. An American tradition was born.



## This Jack-o-lantern Is Shaping Up

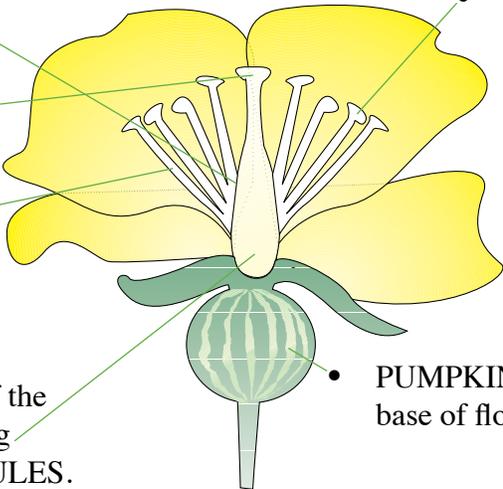
Cut construction paper into these shapes to make a paper jack-o-lantern. (Psst, here's a secret. Try overlapping these shapes to create new shapes.)



# Pumpkins and Farming

## Where Do Pumpkins Come From?

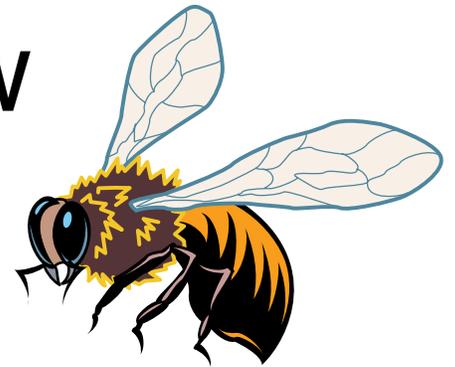
Did you know that pumpkins start to grow inside of flowers? Pumpkin plants have two type of flowers. One is a male flower and the other is a female flower (see illustration). If you cut a pumpkin flower in half, you would see many different parts.

- In the center of the flower is the PISTIL.
  - The sticky part at the top of the pistil is the STIGMA.
  - The parts of the flower around the pistil are the STAMENS.
  - At the bottom of the pistil are tiny egg cells called OVULES.
  - Stamens make yellow powder called POLLEN.
  - PUMPKIN starts at base of flower.
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## How Bees Help Pumpkins Grow

Before a pumpkin can begin to grow inside the female flower, a grain of pollen from the male flower must land on the stigma at the top of the pistil. This is called POLLINATION. Pollination can happen in different ways. Wind can blow pollen from flower to flower. Insects like bees and beetles help pollinate pumpkins too. As they search for food, pollen rubs onto their legs and bodies. Without even knowing it, they pick up pollen from one flower and leave it on another flower.



If pollen from the male flower lands on the pistil of the female flower, a long tube grows through the pistil into an ovule. This is the beginning of a seed. As the seed grows bigger, a pod grows around it to protect it. This pod is the pumpkin shell.

The pumpkin will continue to grow until it is harvest time.

# Pumpkins and Science

Different varieties of pumpkins have different looks, sizes, tastes, and even numbers of seeds. These differences are called GENETIC TRAITS. Did you know that some scientists look for and keep track of these traits as a job? Do you think that would be a good job for you? Wait, before you answer, you should pretend to be a scientist.

## Examine a pumpkin and record your results.

Pick up the pumpkin. How much do you think it weighs? \_\_\_\_\_

Weigh the pumpkin. How much does it really weigh? \_\_\_\_\_

Who in the class has the closest guess? \_\_\_\_\_

Who in the class has the farthest away guess? \_\_\_\_\_

How big do you think the pumpkin is around the middle? \_\_\_\_\_

Take a tape measure and measure the pumpkin's middle. The length of this circle around the pumpkin is called the CIRCUMFERENCE. What is the measurement of the circumference? \_\_\_\_\_

How many seeds do you think are inside the pumpkin? \_\_\_\_\_

Open the pumpkin up, pull out the seeds and count them. How many seeds were really in there?

\_\_\_\_\_

How many students in your class guessed more than the actual number of seeds? \_\_\_\_\_

How many students guessed less than the actual number? \_\_\_\_\_

# Pumpkin... It Does a Body Good

The bright orange color of pumpkins is your first clue that it is full of one important antioxidant, beta-carotene. Beta-carotene can be found in orange fruits and vegetables such as pumpkins, carrots and yams. It can also be found in leafy green vegetables like spinach. It is converted to vitamin A in the body, which helps with bone and cell development and also helps promote healthy eyesight. Current research shows that foods containing beta-carotene may help reduce the risk of developing certain types of cancer and can also help protect against heart disease and some aspects of aging.

Not only is pumpkin loaded with vitamin A and antioxidant carotenoids, it's a good source of vitamins C, K, and E, and lots of minerals, including magnesium, potassium, and iron.

You don't have to go far to get pumpkin in your daily diet. Visit your local farmer's market, or the over 500 pumpkin patches here in Illinois! Those healthy vitamins and minerals can even be found in your pumpkin pie at Thanksgiving, pumpkin muffins and pumpkin bread. Remember, when looking for healthy fruits and vegetables, buy local and buy fresh!



# Many Ways to Make Pumpkin Pie

Early American settlers used to make pumpkin pie inside of the pumpkin shell. First, they sliced off the pumpkin's top. Then they removed seeds and filled the insides with milk, spices, and honey. It was baked in hot ashes of a fireplace. It didn't look like the kind of pie that you get at Thanksgiving, but it was still yummy. You can make your own special pumpkin pie too. Just follow this recipe.

## What You Need to Have

- gallon Ziploc freezer bag
- 2 2/3 cups cold milk
- 2 packages (4 serving size) instant vanilla pudding mix
- 1 can (15 ounces) solid-pack pumpkin
- 1 teaspoon ground cinnamon
- 1/2 teaspoon ground ginger
- Graham cracker crumbs
- 25 small cups
- scissors
- 1 can whipped topping
- 25 spoons

## What You Need to Do

1. Combine the milk and instant pudding in the Ziploc bag.
2. Remove the air and Ziploc it shut.
3. Squeeze and kneed with hands until blended for 1 minute.
4. Add the pumpkin, cinnamon, and ginger.
5. Remove the air and Ziploc it shut.
6. Squeeze and kneed with hands until blended for 2 minutes.
7. Place 1/2 tablespoon of graham cracker crumbs in the bottom of small cups.
8. Cut corner of freezer bag and squeeze pie filling into cups.
9. Garnish with whipped topping.
10. Add a spoon. Eat up!



## Farmers Make New Kinds of Pumpkins

Sometimes pollen comes from a flower on a different pumpkin plant. This is called **CROSS-POLLINATION**. Cross-pollination can be harmful to some plants, but it is good for pumpkins. It can make them healthier and tastier.

Sometimes farmers cross-pollinate pumpkins on purpose to create a brand new kind of pumpkin. If a farmer takes pollen from a small yellow pumpkin and puts it on the flower of a large orange pumpkin, it might make a pumpkin that has seeds for a small orange pumpkin.

Different types of pumpkins are called **VARIETIES**. You probably see many varieties around Halloween. Some are small, colorful, and good for decorations. Some taste sweet and are good for pies. One variety is even white! It makes a neat ghost-looking jack-o-lantern.

# Career Corner

## John and Eve Ackerman

Ackerman Farms  
Morton, IL

### How did you get involved in agriculture, John?

I have been farming all of my life. When I was in 4th grade, I raised my first calf. I got to feed and water it, and I showed it at the 4-H Fair. My father and I farmed side by side for many years. He died a few years ago, and even though I'm older with my own children, I miss him very much. Now my wife and kids have joined me on our farm and everyone works together. I feel like I have the best job and am the luckiest man in the world!



### Tell us about your farm and business.

Our farm is located in Central Illinois near the town of Morton. At the farm, we raise corn, soybeans, wheat and lots of pumpkins – over 150 different kinds! We live in our farmhouse that my great grandfather designed, my grandfather helped build, and where my dad was born. Our farm is open to people in the fall. They come to shop, see the animals, pick apples, go through our corn maze, and, of course, pick pumpkins!

### Why did you become interested in agritourism?

We became interested in agritourism because we wanted to find a way to make a living on a small farm. We used to have cattle, but it was hard to make much money with them. We were already growing pie pumpkins (the kind that go in a can for pumpkin pie), and one year some of those pumpkins didn't get picked. We put them out in our front yard for decorations, and people stopped by wanting to buy them! The next year we grew one acre of pumpkins. Since then, we have added mums (flowers), straw bales, corn stalks, apples, and a corn maze. Now we have thirty acres of pumpkins to pick!

### What is your favorite part of your job?

My favorite part of my job is meeting all the nice people who come to our farm. Seeing the smiling faces and happy families is great. Being outside and watching plants grow helps me to see how lucky I am!

### Describe the stages of pumpkin growth. How do you care for pumpkins throughout each stage?

Pumpkins start out as a seed that we plant usually in early June. The soils needs to be tilled and some fertilizer mixed in to help the plant grow. Soon small plants begin to grow, and we work hard to keep weeds from growing. The plants will grow and send vines every direction, up to 30 feet long! The vines will have flowers on them – some of which will become pumpkins. It is important for us to make sure insects don't damage the plants. When fall comes, it is time for harvest. This is the best time of the year! We cut the stems from the vines, and bring the pumpkins up to the display area.

## Mohammad Babadoost

Department of Crop Sciences  
University of Illinois  
Urbana-Champaign



### Tell us about your job.

I work in plant pathology, where my primary role is to identify extension needs for vegetable and fruit crops disease management, and to develop research programs that provide effective disease management. My research programs help extension specialists, commercial growers, and the home gardener. I also teach a course on "Plant Disease Diagnosis."

### How did you develop this interest in fruits and vegetables?

I grew up in a farming community with diverse vegetable and fruit production. After receiving my Ph.D. degree, I continued to conduct research on and teach vegetable and fruit pathology.

### What is your favorite part of your job?

The favorite part of my job is problem-solving. I get to use my experience to find a reasonable solution for disease problems of vegetable and fruit crops.

## Noreen Dollinger

Dollinger Family Farm  
Channahon, IL



### Tell us about your farm.

Not only do we farm pumpkins, we also farm corn, soybeans, hay, cattle and wheat. Our farm has been in the family since 1852. It is busy on the farm, with everyone doing his own special job to make it work. We get to work outside and see things grow. A pumpkin is fun to watch, because sometimes it grows very fast. We also started our pumpkin farm to give our kids an idea of how the business world works. We wanted our children to be involved in the entire process of developing and selling a product.

### Where do you get your pumpkin seeds for planting?

We order seeds from several commercial seed companies. Pumpkins come in all kinds of shapes and sizes and there is a different seed for each kind. Some pumpkins are extra large. Some pumpkins have a higher sugar content for making pies. Some pumpkins are tall and skinny. Some are more resistant to disease than others. It is good to read and learn every day about the new kinds of seeds that are available. We like to grow a lot of different kinds to give people many choices for their perfect pumpkin.

### What special skills do you need to farm pumpkins?

A pumpkin farmer needs to know about science and math. A pumpkin farmer needs to know a lot about the soil. He needs to be able to identify bugs and plant diseases, and to watch the weather and understand how it will affect his crop. A pumpkin farmer needs to know about math. How big is your field? How much seed will you need? How much fertilizer should you use? How long will it take to do the job? We use our math skills every day.

### How do you harvest your pumpkins?

We still harvest our pumpkins by hand. It takes a lot of work to carefully cut each stem from the vine. We only pick the most perfect pumpkins to bring in from the field. We load them up on wagons and then carefully unload them so they are ready for families to select.

# Did you know...

The largest pumpkin pie ever made weighed in at 3,699 pounds! It was 20 feet in diameter. The pie was made with 1,212 pounds of pumpkin, 233 dozen eggs, 109 gallons of evaporated milk, 525 pounds of sugar, 7 pounds of salt, and 14.5 pounds of cinnamon and 3 pounds of pumpkin pie spice. The pie baked for over five hours in a special made oven and made over 5,000 pieces.



**Q:** What did one jack-o-lantern say to the other?

**A:** Cut it out!

Information in this Ag Mag may be linked to the following Illinois Learning Standards: 1.B.2d; 6.A.2; 7.A.2a; 7.B.2a; 10.A.2a; 10.B.2a; 11.A.2b; 12.A.2a; 12.B.2a; 13.B.2c; 15.B.2a; 16.E.2a(W); 17.B.2a; 17.C.2b

Information in this Ag Mag may be linked to the following Illinois Assessment Frameworks: 1.4.11; 1.4.12; 1.4.18; 6.4.09; 6.4.16; 7.4.02; 7.4.04; 10.4.01; 10.4.02; 11.4.02; 11.4.03; 12.4.04; 12.4.05; 12.4.06; 13.4.10; 13.4.11; 13.4.14; 13.4.15

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