

# Intro to Agriculture

Agriculture, growing plants and raising animals, is important to New York State. About 23% of the state's land area, or 7.2 million acres of land, are used by the 35,500 farms to produce food products.

Milk is New York's leading agricultural product and ranks third in the United States for milk production.

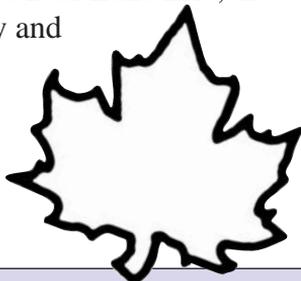


New York ranks second in the nation for our production of apples. Our leading varieties are McIntosh, Empire, Red Delicious and Golden Delicious.



Grapes for juice and wine now places New York second in US production behind California. The four major grape producing areas are near Lake Erie, the Finger Lakes, the Hudson Valley and eastern Long Island.

In 2014, New York produced 546,000 gallons of maple syrup which ranked our state second in the nation behind Vermont.



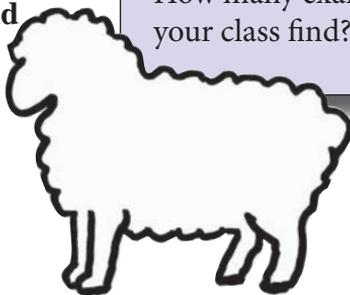
Farmers in New York grow many other crops and raise birds and animals too! In 2012, New York ranked 13th in the country for sheep, goat, wool and mohair production.

Look for the following:

- **Two features highlighting NYS Sheep Farmers**
- **Other Sources of Animal Fiber**
- **A Crossword Puzzle and Weaving Word Search**
- **An Easy Wool Dyeing Activity to Make Your Own Rainbow!**

**Newspaper Activity:** Look through the newspaper (print or electronic) for stories, pictures or ads that show examples of New York State agriculture.

How many examples did your class find?



# Meet The Kennedys



Pictured here with one their newest lambs are Liam (13), Karin and Devlin (18) Kennedy. Together, they raise Merino, Cormo and Romney sheep but their farm started with just a few chickens and eggs.

A young Devlin earned money by selling eggs and asked permission to save up to buy something special - no, not an iPad or Xbox - a ewe! With the prize money for first place in a

competition for Devlin's first sheep, the herd and the family business grew.

They breed for quality fiber and jacket their sheep to keep the wool clean and to prevent sun bleaching. Their farm store sells products including high quality fleece, yarn and roving for spinning. They also sell lambs and Karin's watercolor landscape paintings.

**Ensign Brook Farm** was established by Karin and Eric Kennedy with their sons in 2003. The property is 202 acres on County Route 113 in Town of Easton, Washington County.



This farm is home to five rams, 45 ewes (female sheep) - 20 are bred and will lamb early this spring and, of course, chickens remain as part of the farm!

**Fun Fact:** Sheep are ruminants and have four stomachs that efficiently breakdown plant matter. Therefore, sheep manure is not heavy with nitrates and, when used as fertilizer, seeds can be planted directly into it! For more information visit their website at [www.ensignbrookfarm.com](http://www.ensignbrookfarm.com).

**Newspaper Activity:** Look through the newspaper (print or electronic) for stories, pictures or ads about industry, or types of businesses, in your community. How many have ties to agriculture? Did you find any about sheep and wool production?

# Agriculture Literacy

## Meet The Stumbos



Keith Stumbo is currently the president of the Empire Sheep Producers Association. Keith grew up on a farm but didn't have livestock on his land until 1980 when his daughters wanted to raise and show sheep like their Dad did when he was growing up.

The Stumbo farm now raises four breeds of sheep - Columbia, Southdown, Dorset and Rambouillets. Their daughter Beth Allison has her own farm nearby and raises Oxfords.

**Down Valley Farm** is a family-owned and operated business. It is located on 24 acres of property in Honeoye in Ontario County approximately 30 miles south of Rochester.

This farm has about 150 sheep. Approximately a dozen are males and called rams. The farm raises sheep breeding stock to improve the herds of other farmers and for showing sheep. The Stumbo's five grandchildren (pictured above) are carrying on the family tradition. They participate in 4H and compete in local and regional sheep shows.



**Fun Facts:** Lanolin (grease or wax from sheep's wool) is used in the making of many beauty products including lipstick and cold cream.

The United States Military has started using U.S. wool to make washable wool underwear to meet military needs, durable socks to wick away moisture and new fire-retardant fabrics for protective clothing. A process called superwash removes the wool's scales making it softer and washable.

**Newspaper Activity:** Look through the newspaper (print or electronic) for stories, pictures or ads about raising animals or growing plants. Share what you find with your family or classmates.

# Animal Fiber: More Than Just Sheep

Wool is the most commonly used animal fiber. The fiber comes from the soft, hairy covering of sheep. There are many different breeds of sheep and the wool from each has different qualities and characteristics. The finer the wool, the softer it is, while coarser grades are more durable and less likely to pill. Sheep's wool comes in various colors including shades of white, black, gray, silver, brown, and red. Most modern domesticated sheep grow white wool. This is because white wool can be dyed any color - sometimes using natural plants like indigo, madder and goldenrod to add color. Although sheep's wool is the most commonly used animal fiber it is certainly not the only one.

**Alpaca fiber** is warmer than sheep's wool and lighter in weight. It is soft, fine, glossy, and luxurious. Most alpaca fiber is white, but it also comes in various shades of brown and black.

**Angora wool** or Angora fiber refers to the down coat of Angora rabbits. Angora is prized for its softness, thin fibers and fluffiness. Angora fiber comes in white, black, and various shades of brown.

**Bison fiber** is made up of course guard hairs and fine downy hairs. If the downy hairs are separated from the guard hairs a finer, softer yarn can be produced.

**Cashmere wool** is wool obtained from the Cashmere goat. Cashmere is fine in texture, strong, light, and soft. The most desired color of cashmere is white because it can be easily dyed however, naturally the fiber comes in many other shades from cream to brown to black.

**Qiviut** is the fine underwool of the muskox. Qiviut fibers are long, fine and relatively smooth. It is approximately eight times warmer than sheep's wool and does not felt or shrink.

With any animal fiber, the individual fibers look different, while all synthetic fibers look the same. This is an easy way to tell the difference between natural and man-made fibers.

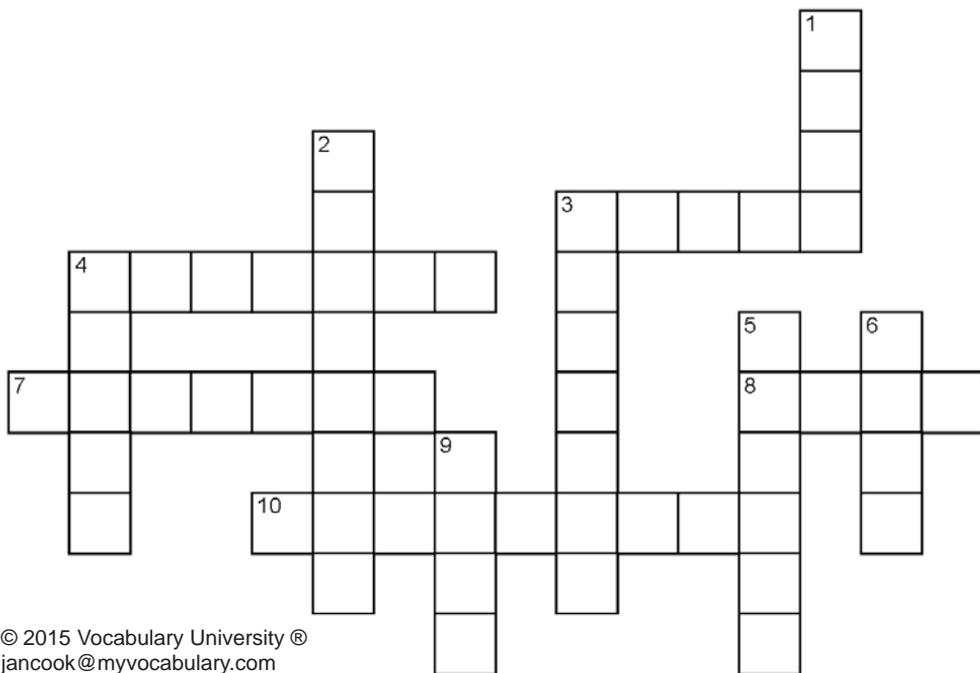


Ed Godfrey runs a pin drafter with blends of mohair and merino wool at the Battenkill Fibers in Greenwich. Photo by Derek Pruitt courtesy of *The Post-Star*, Glens Falls, NY.

**Newspaper Activity:** Look through the newspaper (print or electronic) and other sources for stories, pictures or ads about fabrics/textiles. Did you find any examples of products that could be made or are made with wool?

# “Weave the Rainbow” Crossword

www.myvocabulary.com



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 jancook@myvocabulary.com

Use the clues below to fill in the fiber, weaving and agricultural terms.

**Across**

- 3. A length of yarn wound in a coil
- 4. Setting up the loom, or weaving machine, with the initial threads (warp yarn) to make material
- 7. Process that detangles wool before processing
- 8. An apparatus for making fabric by weaving yarn or thread
- 10. Cross or be crossed intricately together; interweave

**Down**

- 1. Thread made from fiber which is used for knitting or weaving
- 2. Converting fiber into yarn
- 3. A device in a loom for passing the weft thread from one side of the loom to the other
- 4. To interlace yarn or thread to form clothing or material
- 5. The coat of wool that covers a sheep
- 6. The hair that forms the fleece of sheep
- 9. The yarn woven across the width of fabric, interlacing through the warp yarn

<b>WORD BANK:</b>	FLEECE	SHUTTLE	WARPING	WOOL
	INTERLACE	SKEIN	WEAVE	YARN
	LOOM	SPINNING	WEFT	

For more vocabulary lists and puzzles go to [www.myvocabulary.com](http://www.myvocabulary.com)

# Weaving Word Search

**Weaving the Rainbow - Word Search**  
www.myvocabulary.com

I	G	N	I	T	T	I	N	K	P	K	N
Y	D	O	G	I	D	N	I	M	L	Y	I
M	O	O	L	E	H	T	P	R	A	W	E
S	C	A	R	D	I	N	G	R	N	E	K
E	C	A	L	R	E	T	N	I	T	A	S
L	B	G	N	I	N	N	I	P	S	V	F
D	I	L	F	I	B	E	R	L	I	E	L
A	G	Q	B	F	A	J	A	O	S	Q	E
E	S	H	U	T	T	L	E	O	D	L	E
R	E	D	D	A	M	A	H	W	K	Y	C
T	F	E	W	O	P	A	S	T	U	R	E
X	I	P	R	O	I	C	B	A	M	E	J

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**Find and circle the agricultural words listed below:**

CARDING

INTERLACE

SHEARING

WARP THE LOOM

FIBER

KNITTING

SHUTTLE

WEAVE

FLEECE

MADDER

SKEIN

WEFT

GOLDENROD

PASTURE

SPINNING

WOOL

INDIGO

PLANTS

TREADLES

YARN

**Newspaper Activity:** Select a story from the newspaper that is interesting to your class. Use the important words from the story to make a new word search or crossword puzzle. Give yourselves extra credit if the story is about wool or New York State Agriculture.

To learn more about NYS Agriculture go to [www.agclassroom.org/ny/](http://www.agclassroom.org/ny/)

## Agriculture Literacy

# Create Your Own Rainbow: Wool Dyeing Activity

Here's a kid-friendly activity to help you create your own rainbow of yarn.



### Supplies:

- White/Light Wool Yarn (synthetic yarn will NOT work)
- Unsweetened KoolAid packets
- White Vinegar
- Pots and Pans (or glass bowls for microwave process)
- Rubber Gloves

**Instructions:** Soak a skein of the yarn in a pot or glass bowl with very warm water for about 30 minutes. Drain almost all of the

water. Do not move the yarn around too much to avoid felting. Put on gloves and mix one packet of KoolAid per one teaspoon of vinegar and one cup of water. For variegated yarn use more than one color. Carefully pour each color onto the yarn in sections (like pieces of pie). Use chopsticks or a spoon to gently move the yarn a bit to let the color reach the bottom.

**Setting the Dye:** Once the colors have been applied, set the pot on the stove and turn the burner to medium high heat. When the water begins to simmer, turn heat down to a low simmer for about 20 minutes or until the water is clear and the dye has been absorbed into the yarn. You may also use a microwave for heat setting by placing your yarn in a glass bowl, applying the dye and microwaving on High at one minute intervals until the dye is absorbed. Let the yarn cool to room temperature and rinse in room temperature water. Wearing rubber gloves, hang to dry.

**Notes:** Lemonade (yellow) and other colors may be pale. If you want brighter colors, add food dye. Also, most red colored KoolAid packets, regardless of flavor, dye about the same. A slow cooker can also be used to heat set dye. It will take about two hours on high.

Dyeing kits are available from Battenkill Fibers for \$29.95 plus shipping. Each kit contains:

- Four 4 oz. skeins of ecru worsted weight NYS wool yarn tied for dyeing.
- 12 packets of KoolAid and a quart of white vinegar along with dyeing instructions.

Email [mjpacker@gwriters.com](mailto:mjpacker@gwriters.com) or Fax request with complete mailing address to 518-692-2700.

### Newspaper Activity:

Pretend you're a reporter for the local newspaper and you need to write about the process of making a wool sweater from gathering the raw materials to the finished product. Use the articles in this series, elements of the story "Weaving the Rainbow" by George Ella Lyon and other resources to discover more about fiber production.

Dyeing yarn photo credit: [www.flickr.com/photos/kaete\\_hh/](http://www.flickr.com/photos/kaete_hh/)