

Agriculture Literacy

Intro to Agriculture



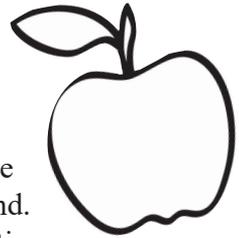
Agriculture, the science of growing plants and raising animals, is important to New York State. About 23% of the state's land area is used by 33,400 farms.

The majority of these farms (96%) are family-owned.

Milk is New York's leading agricultural product, ranking the state fourth in the United States for milk and the largest producer of yogurt, cottage cheese and sour cream.

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, place New York third in US production behind California and Washington. The four major grape producing areas are near Lake Erie, the Finger Lakes, the Hudson Valley and eastern Long Island.



New York also ranks second in maple syrup production behind Vermont.

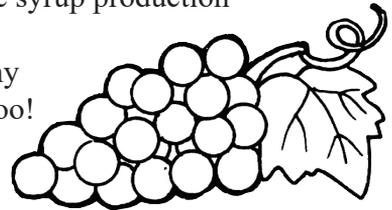
Farmers in New York grow many other crops and raise birds and animals too!

Farming isn't just for land in the country. There is a growing number of farming opportunities in New York's cities.

For more about NYS agriculture be sure to read the following

features:

- **Three Urban Farming profiles**
- **An Agriculture Crossword Puzzle and Word Search**
- **A Word About Worms**
- **And a Kid-Friendly Activity to Try at School or Home!**



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

How many examples did your class find?

Agriculture Literacy Freight Farming at Boys & Girls Club of the Capital Area

The Boys & Girls Club of the Capital Area started their freight farm in 2019. What is a freight farm? It's a vertical hydroponic farm designed and built completely inside a shipping container about the size of a railroad car. It is climate controlled so it can grow plants all year - even in the coldest winter months.

Primarily the freight farm is used to grow lettuces and leafy greens. Groups of young people, ages 5 to 18, are welcomed to tour the farm to learn about this type of agriculture. Many of these children have helped with seeding, planting into the vertical columns and harvesting the crops.

Some of the produce is sent home with Boys & Girls Club members and staff but the bulk of the lettuce and leafy greens are donated to Joseph's House & Shelter in Troy and the Interfaith Partnership for the Homeless in Albany. This provides fresh, nutritious food for some of the most needy in the community.

Freight Farm Coordinator and Urban Farmer Richard Daley hopes to add a flower garden, and raised beds outside of the club this spring. He also wants to increase partnerships and learning opportunities with urban gardens in Albany and Rensselaer Counties.



Photo credit: Troy Record 2019

Boys & Girls Club Freight Farm - is located at 1700 7th Ave., Troy, NY 12180. For more information see <https://www.freightfarms.com/blog/csr-sefcu-boys-and-girls-club>

Fun Facts: There are 256 verticle growing columns, each about 5 feet long. Each column holds 6 to 10 plants. The freight farm can grow about 500 to 600 heads of lettuce per week!

Troy's freight farm will be also be growing flowers so Boys & Girls Club members can bring flowers home for Mother's Day in May.



Newspaper Activity: Look through the newspaper (print or electronic) for stories, pictures or ads about agriculture. Did you find any examples of people growing plants or raising animals or working with nature?

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Grassroots Gardens of Western NY



Produce from one of our many gardens. Photo credit: Bennett Park Montessori School Garden

Currently numbering 100 community gardens in Buffalo and another 15 in Niagara Falls, the network of urban gardens known as the Grassroots Gardens of Western New York was started in 1995. The majority of these gardens are in “food deserts” - places where there are no large grocery stores and access to fresh fruits and vegetables is very difficult.

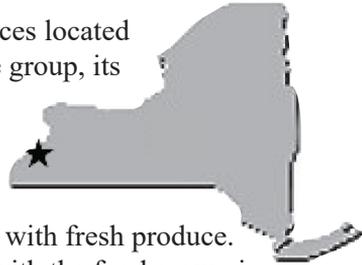
Their largest garden equals 8 city lots but most of the gardens are just a single lot. The group works with various interested community groups, including schools, faith-based organizations, block clubs and community centers assisting each with leasing available land and providing growing guidelines to ensure soil and food safety.

While a wide variety of fruits, vegetables and herbs are grown in the gardens each year, the most popular crops are collard greens, tomatoes and peppers. Two of their gardens

maintain bee hives and one even raises chickens.

About 70% of the produce grown goes home with the gardeners who work in the community gardens and are shared with their families, friends and neighbors. Some is made available to the public at their open harvest gardens. The remaining crops are made available at free farm stands or given to the Feedmore WNY food pantries.

Grassroots Gardens WNY has offices located at 389 Broadway, Buffalo, NY 14204. More about the group, its mission and vision can be found on their website at <https://www.grassrootsgardens.org>



Fun Facts: For each gardener working in one of Grassroots Gardens, about five people are supplied with fresh produce. That adds up to 12,000 people that are fed each year with the food grown in Grassroots’ community gardens!

Newspaper Activity: Look through the newspaper (print or online, past or present) for stories or pictures about land use in your community. Can you find any with ties to agriculture? Did you find any reports involving the availability of fresh fruits and vegetables?

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Taproot Collective in Rochester

Taproot Collective was started in 2017 by a team of volunteers with different sets of knowledge and skills but one mission - to support community and school gardens in Rochester, NY.



Community members learning about gardening. Credit: taprootcollective.org

How do they support these gardens? Taproot helps gardens access necessary materials, offers ideas for garden design, aids in fundraising, assists in getting city permits, conducts research, and even works to get gardening help from willing volunteers and youth interns. They do more than that but this list gives you an idea of how committed the group is in supporting Rochester's urban gardens to be successful, now and into the future.

Taproot's First Market Farm and offices are located near the Rochester Public Market which is open year-round, with vendors offering local produce and food from around the state and the world. Taproot calls this farm their "living classroom." It has about 4,500 square feet of growing space, three active beehives, and a 300 square foot greenhouse. The First Market Farm, as with all urban farms, gives community members the chance to grow something, to connect with the land and with each other.

For a virtual tour of the First Market Farm go to <https://tinyurl.com/1stMarketFarm>

First Market Farm is located on the corner of Pennsylvania Avenue and First Street, Rochester, NY 14605.

For more about Taproot Collective and how they are working to assist community gardens go to their website at <https://taprootcollective.org/>

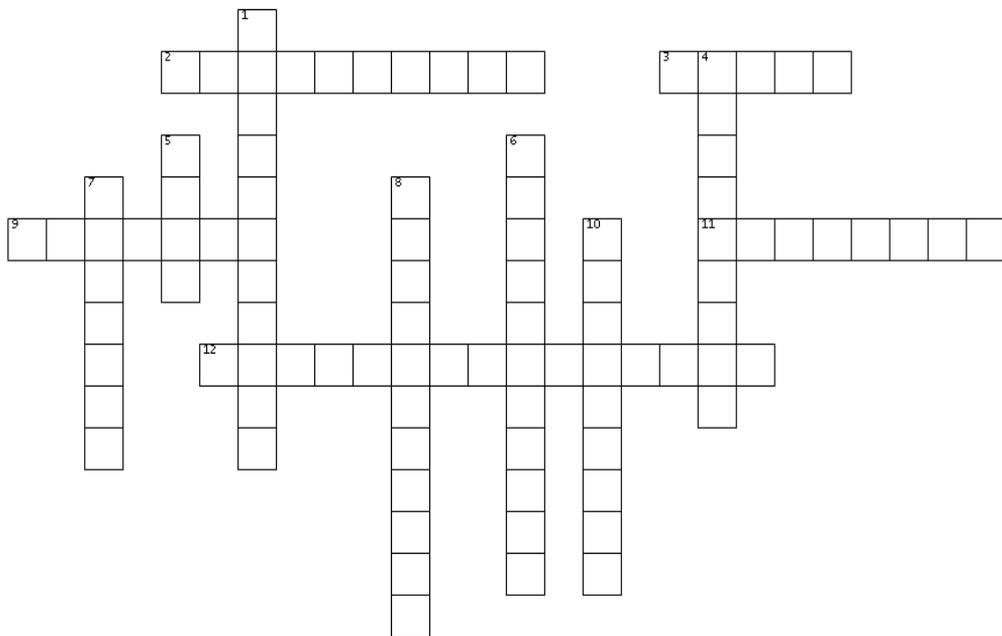


Fun Fact: Rochester is home to over 100 community and school gardens!

Newspaper Activity: One of Taproot Collectives' action steps is to help grow jobs for the community's young people. Look through the newspaper (print or electronic) for stories, pictures or ads about jobs or careers you might like to have some day. What type of experiences or education would you need to become the best you can be? Did anyone in your class pick a career in agriculture?

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Agriculture Crossword



Use the clues below to fill in the agricultural words.

Across

2. garden containers constructed above ground level
3. of, related to, or being a city
9. the use of land for raising crops or animals
11. an organic form of fertilizer produced from worms
12. an improvement of soil for crops by worms from decayed materials (leaves/ grass)

Down

1. shoots of young eatable plants served as a vegetable or salad
4. process to convert waste into reusable materials
5. loose surface material of the earth where plants grow
6. the growing of plants in nutrient solutions
7. a large shipping container
8. cultivation of soil, production of crops, and raising of livestock
10. complex community of living organisms interacting in their environment

WORD BANK:

FARMING	RECYCLING
FREIGHT	SOIL
HYDROPONICS	URBAN
MICROGREENS	VERMICOMPOSTING
RAISED BEDS	
AGRICULTURE	
CASTINGS	
ECOSYSTEM	

For more vocabulary lists and puzzles go to www.myvocabulary.com

Agriculture Word Search

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

Find and circle the agricultural words and phrase listed below:

AGRICULTURE
CASTINGS
ECOSYSTEM
FARMING

FREIGHT
HYDROPONICS
MICROGREENS
RAISED BEDS

RECYCLING
SOIL
URBAN
VERMICOMPOSTING

Newspaper Activity: Select a story from the newspaper (print or electronic) 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 has any connection to New York state agriculture.

For more about NYS agriculture go to newyork/agclassroom.org
For information on NYS community gardens and urban agriculture go to
<https://agriculture.ny.gov/community-gardens-and-urban-agriculture>

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A Word About Worms

We all know recycling is important, right? You may be interested to learn that worms recycle. They do this by eating dead organic matter—things like vegetable scraps and old newspapers and turning them into castings. Castings are also known as worm poop. And these castings, or worm waste, are very rich with nutrients and help plants grow. The type of recycling work worms do is called **vermicomposting**.

Worms also help aerate or bring air into the soil. This looses the dirt which helps plants grow more easily. With the right mixture of soil, organic matter, water and air, red wiggler worms can turn kitchen scraps into compost and make their own mini **ecosystem**.

Would you like to watch how worms do their jobs? Check out this short YouTube video at <https://www.youtube.com/watch?v=n9Mnf9ysNSs&t=54s>



Worms At Work - 20 Days Time Lapse Of Vermicomposting

To learn more about vermicomposting and for instructions about how to make your own compost bin with red wigglers, visit the New York State Agriculture in the Classroom website at <https://newyork.agclassroom.org/matrix/lesson/511/>



Newspaper Activity: Look for news (in print or online) about recycling or ecosystems. Did you find any examples of composting? Or, maybe a story about people working with nature to help plants and animals grow?

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Grow and Eat: Microgreens

Provided by Richard Daley from the Boys & Girls Club of the Capital Area

Growing microgreens, in this case pea shoots, is a great activity for kids, and an awesome way for children to begin to understand food production, and how food grows. You can get pea seed at your local garden center. Sugar pod is an excellent variety, but any pea seed will work.



Photo credit: epicgardening.com

In addition to seeds, all you will need is either a sunny window-sill, a grow light, or you can even do this outdoors on a porch, soil, water and shallow container and drip tray to catch excess water.

1. Use a cardboard milk or juice container (cut an opening in one side) or any shallow container and poke a drainage hole or two.
2. Soak your pea seeds in a big bowl of water for 6-12 hours, and no more than 24 hours. You will want enough seed to cover most of the surface area of soil in your container. When done soaking, you can drain and move onto the next step.
3. Put about an inch or so of soil in your container
4. Place the pea seed directly on top of the soil, and spritz with water to get everything moist (but not soggy) and then be ready to water a little everyday. You can let the soil dry out a bit, but don't let it become bone dry.
5. Cover your tray with something for the first 2 days to help with germination. The low light will encourage the shoots to stretch, and even if you put something directly on top of the seed, this will encourage strong roots, you may even see the shoots pushing the cover up!
6. On day 3 remove the cover, keep watering as you have been. Try watering directly onto the soil (or bottom watering if available with your container setup).
7. Once your shoots are 6-8 inches tall, you can trim them back, and let them regrow if you want. You can eat the pea shoots raw or cook them to eat! They have a delicious green bean taste. They are typically ready for harvest within 14 days. You can eat pea microgreens raw as a garnish to sandwiches or salads, cooked in a stir fry, or however else you can think up!

To watch a 7 minute video showing how to plant your pea shoot microgreens go online to YouTube at <https://youtu.be/cfr1gjGP5F8>

Newspaper Activity: Look through the local newspaper (print or online) and other sources for recipes that use fruits, vegetables, animal or dairy products from New York State as ingredients.

Healthy Tip: Including several daily servings of fruits & vegetables as part of an overall healthy diet may lower the risk of heart disease and certain types of cancer.

Source: www.choosemyplate.gov