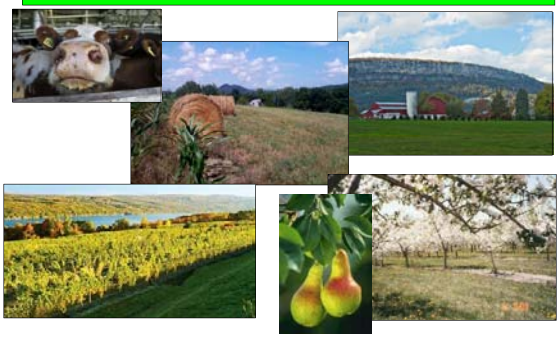
Rural NYS II

Agriculture

Prof. Anthony Grande

Farmland in NYS



New York is an Agricultural State

NATIONAL RANK	COMMODITY
• 26	**Tot. Value, Agric Products**
• 2	Pumpkins
• 2	Apples
• 2	Maple syrup
• 3	Cabbage
• 3	Corn silage
• 3	Cauliflower
• 3	Grapes
• 4	Dairy products
• 4	Tart cherries
• 4	Pears
• 4	Squash
• 4	Snap beans
• 4	Sweet corn
• 5	All fresh vegetables

NATIONAL RANK	COMMODITY
• 5	Onions
• 5	Horses
• 5	Ducks
• 7	Cucumbers
• 7	All floriculture
• 7	Christmas trees
• 8	Strawberries
• 9	Oats
• 11	Tomatoes
• 11	Potatoes
• 15	Aquaculture
• 17	Grain corn
• 20	Eggs
• 22	Soybeans
• 26	Hay
• 27	Wheat

Top AgCounties (receipts)

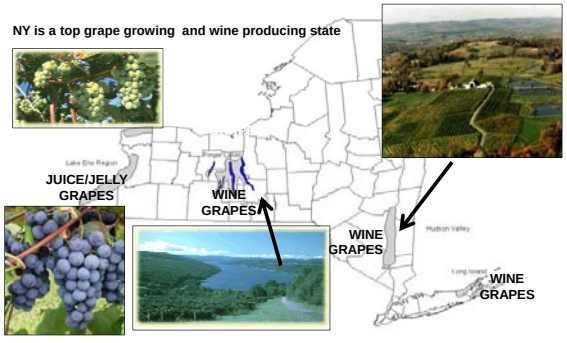
- 1. Suffolk
- 2. Wyoming
- 3. Cayuga
- 4. Genesee
- 5. Wayne

Pumpkins

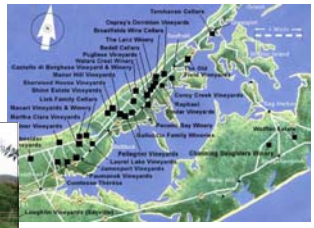
NYS is a top (ranking 1st or 2nd annually) pumpkin growing state in the nation.

Grape Regions

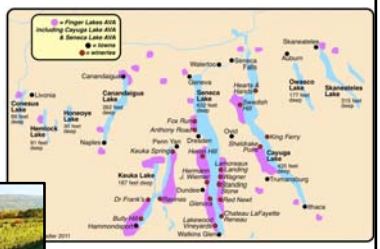
NY is a top grape growing and wine producing state



Long Island Vineyards

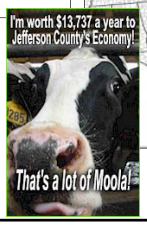


Finger Lake Vineyards



Concentration of Dairy Cows
2007 census

Greatest concentration of dairy cows is in Western NYS and the Mohawk Valley.



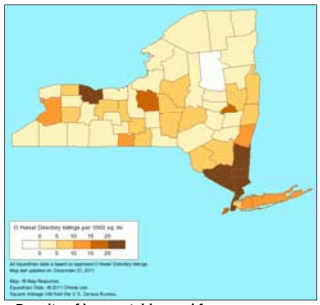
NY is a major national producer of dairy products.

Dairy Farming Landscape

Apple Orchards

NY is a top 5 national suppler of fruits and berries.

EQUINE INVENTORY



Density of horse stables and farms
per 1000 sq. mi. (Dec., 2011)

HORSE FARMING
One of the fastest growing industries in NYS
1960 – 12 farms
1980 – 450 farms
2000 – 11,000 farms
2006 – 13,900 farms
2012? – expect decrease

Good natural conditions:
Grass to the end of November
Local hay and oats
Rolling terrain for muscles and stamina

Benefits:
Preserves rural landscape with the negative aspects of dirt farming.
Caters to both the racing industry and leisure time recreation.
Over half the horses are kept for leisure activities.

NYS ranks in the top 5 states nationally.

EQUINE INVENTORY

Equine by Primary Use, New York, 2005

There are 197,000 Equines in NYS
87,000 Pleasure **44%**
11,100 Lessons
27,000 Competition **14%**
14,500 Racing
26,900 Breeding **14%**
4,700 Specialty
25,800 Other

Agriculture Exercise

Exercise 16 (required) looks at agriculture within the counties and compares county production and trends to those of NYS.

It is due on December 6, 2012.

Early Agriculture

The Native Americans were skilled in agriculture but limited by their lack of iron tools and beasts of burden.

- The "**slash and burn**" method of agriculture was employed; ash residue fertilized the soil.
- Fields were planted annually until crop yield lowered (usually after 7-10 yrs).

- **Chief crops were corn, beans and squash, called the Three Sisters.**
- **No orchards** but a variety of fruits, nuts and berries were **gathered** from the forest.
- Animals and fowl were **hunted** for meat; eggs were gathered.
- **Fish were an important dietary supplement**.

Review the Iroquois Village web site www.nysm.nysed.gov/IroquoisVillage/

Early Agriculture

- **The Dutch appreciated the fertile land, good climate, ample water** (without the drainage problem) and the forest resources; limited their farms to areas close to the shore and along the Hudson.
- The **English learned techniques** from the Iroquois and **introduced European plants** and domesticated animals to the New York Colony.
- **The Americans replaced corn as the main field crop with grains** (wheat/oats/barley/flax/hemp).

Early Agriculture

NYS become the granary of the new USA (early 1800s).
However on the farm:

- **quality of cattle was poor** – no selective breeding; little food in winter; minimal grazing in summer – they were lean and provided little milk.
- **pigs were widespread**, self-sufficient and an important food source.
- **sheep** were kept in small numbers mainly for **wool**.
- **chickens** were kept for their **eggs**.
- **apples** were the chief fruit used as both a **food and beverage.**

19th Century Agriculture

- **After 1825, the Erie Canal shifted population inland; enabled speedier movement of harvests to market and supplies back to the farm.**
- The ample NYS harvests and the reduced price of food fed the cities of the mid-1800s.
- By the late 1800s, the US agricultural heartland had moved to the Midwest.
- NYS farms were now at a disadvantage.

Quality of location changes with time!!

20th Century Agriculture

Throughout the 20th century, NYS agriculture continued to decline and farms were abandoned or sold to developers.

- Suburbanization invaded the farmland that surrounded the cities (especially around NYC after WWII).
- Remaining farms grew in size and became specialized.
- Their focus was on providing the cities with fresh fruits, vegetables, dairy, and most recently, with sod and horticultural plants.
- **In spite of this, NYS today is a high ranking agricultural state in certain products.**

Trends in Agriculture

- Today (2010 data) farmland including pastures, occupies about 24% of the state (down from 49% in 1954).
- Number of farms is about 36,600 (down from 104,000 in 1954).
  Average size of a farm has increased to 197 acres/farm (up from 150 acres /farm in 1954).
- **During the 20th century, farms in less fertile areas near cities tend to be overpriced.**
  Farm owners face property value hardships, esp. with tax rates (actual use vs. potential use).
  Farms near populated areas tend to be regulated for noise, smell, dust and water pollution issues.

Trends in Agriculture

Agricultural potential depends on a combination of **physical factors** as climate, soil, slope, water supply and **market factors** as unit price, the distance to market, and the demand for product

Larger farms are less expensive to run.

- Mechanization cuts the cost of labor.
- Scientific farming increases yields.
- Crops are tailored to the existing climate, water and soil conditions.

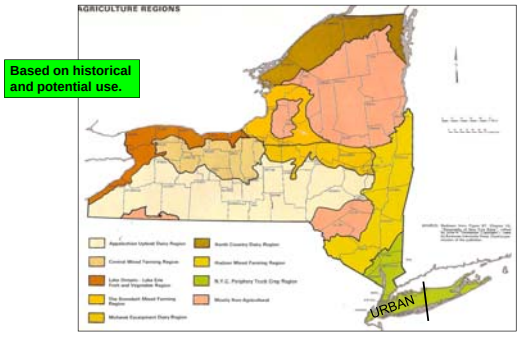
Farmland Perservation

NYS is a leader in preserving farmland.

1974 Suffolk County becomes the first county in NYS to regulate resale of farm land.

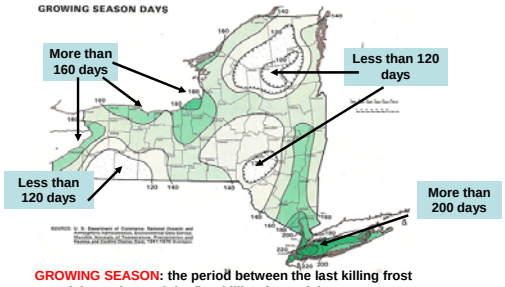
1992 NYS **Farmland Protection Program** created to preserve farmland and reduce economic pressure on owners by providing funding to struggling farms.

Agricultural Regions



Based on historical and potential use.

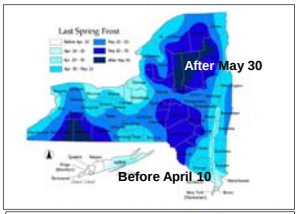
Growing Season

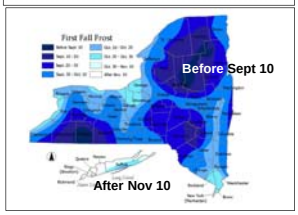


GROWING SEASON: the period between the last killing frost of the spring and the first killing frost of the autumn.

Average Dates of Killing Frosts

GROWING SEASON: the period between the last killing frost of the spring and the first killing frost of the autumn.





http://hurricane.ncdc.noaa.gov/cgi-bin/climatenormals/climatenormals.pl

Growing Degree Days

- **Growing Degree Days (GDD) are a tool used** by farmers, horticulturists, entomologists and gardeners **to predict the date** that a plant or insect will reach a particular **stage in its growth cycle**: flower will bloom, a crop reach maturity, insect eggs hatch, adult emergence from ground, etc.
- **GDD is a means of relating crop growth and insect development to temperature.** In its most basic form, it is computed by subtracting a base temperature (50°F) from the average temperature for the day.
- **GDD are also used by some farmers to schedule their use of pest controls.** They try to apply the treatment at the point that the pest is most vulnerable.

Growing Degree-Day Tracker

Growing degree-days (GDD) **are a measure of heat accumulation during a growing season**.

Many events associated with plant and insect life cycles depend on heat accumulation.

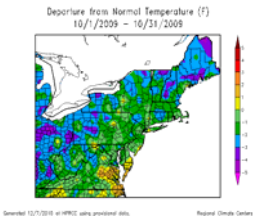
These events can be predicted based on temperature readings from the start of a season.

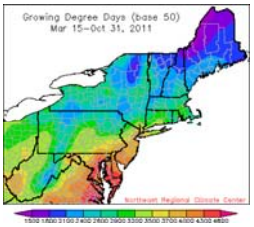
Events cannot be reversed, only slowed, by a lack of heat.

Examples:
- Sprouting of seeds
- Blossoming of flowers
- Ripening of fruit
- Hatching of insect eggs
- Appearance of pests
- Appearance and spread of plant disease

See http://www.weather.com/outlook/agriculture (weather channel calculator)
http://www.nrcc.cornell.edu/grass/index.html - Cornell Univ. site

Growing Degree Days

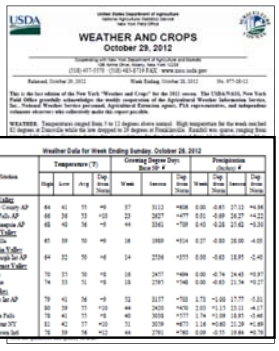




http://www.nrcc.cornell.edu/grass/degreedays/degreedays.html#

Weather and Crops

- The National Agricultural Statistics Service **(NASS)** of the US Dept of Agriculture **(USDA)** issues weekly *Crop Progress and Conditions Reports* for every state during the growing season.
- Weather conditions (too wet; too dry; too cold; too warm) affect all stages of the agricultural process (crop planting, growing, harvesting; raising of poultry and livestock).
- Weather conditions will influence quality, yield and price of the commodity.


USDA
WEATHER AND CROPS
October 29, 2012

•http://www.nass.usda.gov/Statistics_by_State/New_York/Publications/Crop_Progress_&_Condition/index.asp.