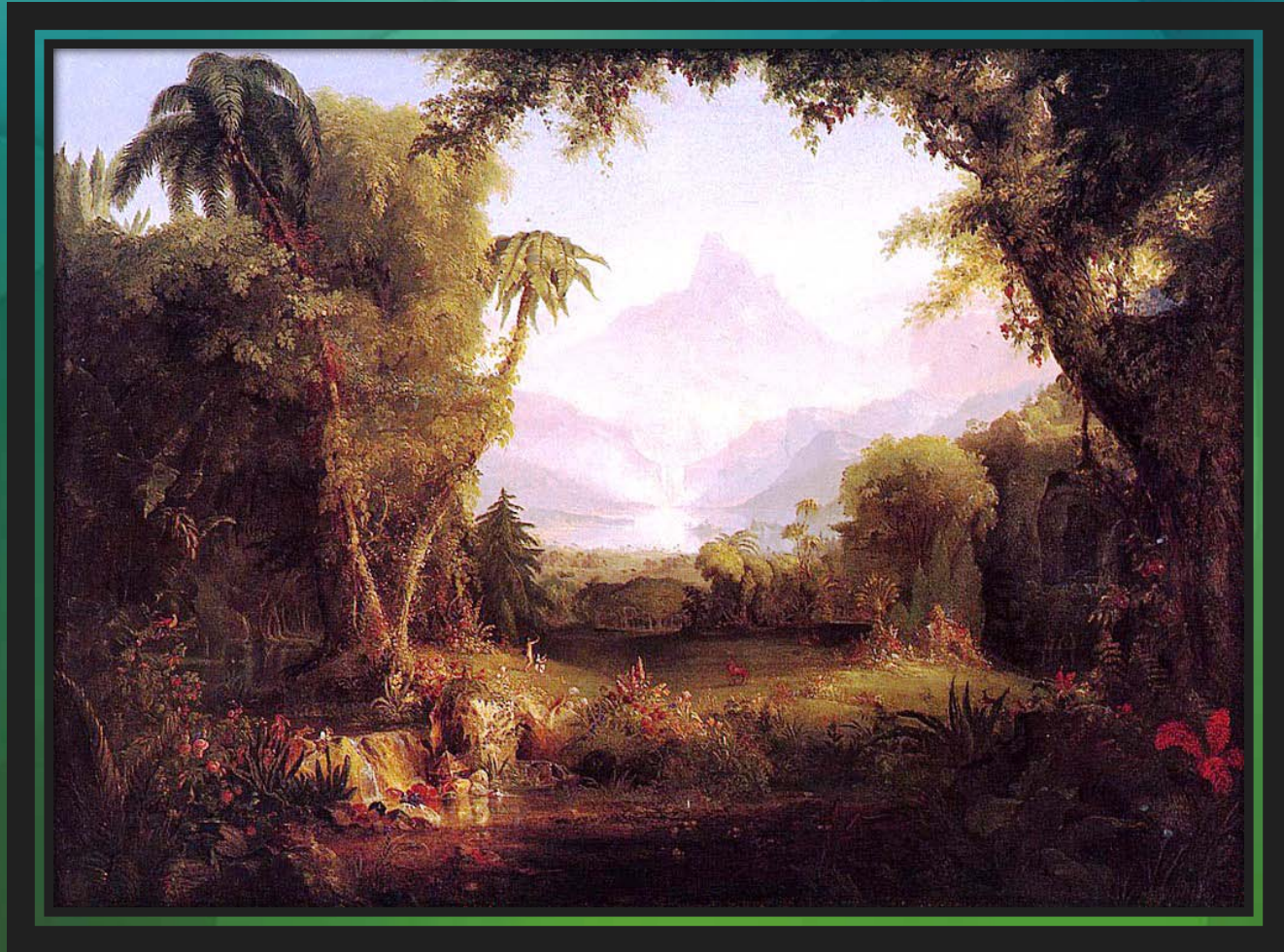


History of Horticulture & Agriculture Beltsville Agricultural Research Center (BARC): The Science of Organic Farming

**John Peter Thompson
The Laurel Historical Society & The Laurel
Public Library**

October 10, 2012

The Garden of Eden



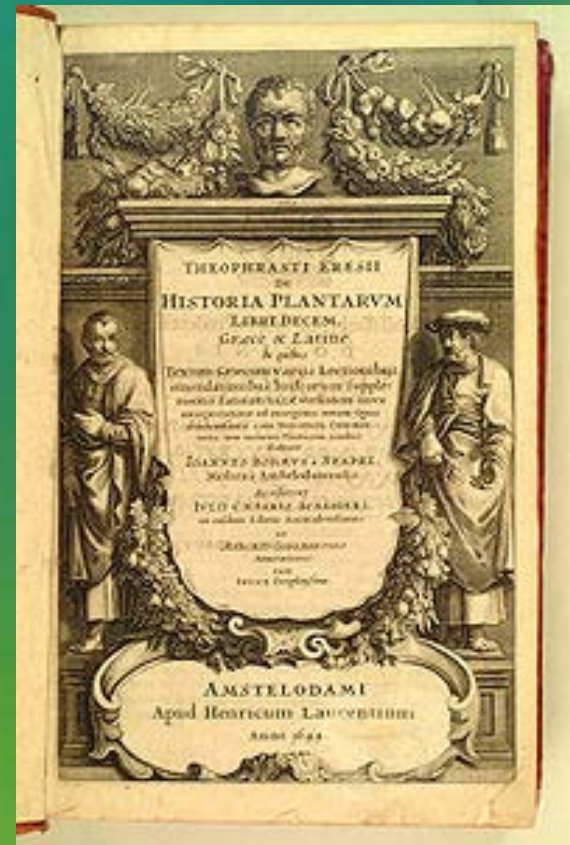
http://en.wikipedia.org/wiki/File:Cole_Thomas_The_Garden_of_Eden_1828.jpg

The Ancient Greeks

Aristotle



Theophrastus



The Ancient Romans

Marcus Porcius **Cato**. **The Elder**
Marcus Terentius **Varro**
Publius **Vergilius** Maro
L. Junius Moderatus **Columella**
Aelius **Galenus**
Gaius **Plinius** Secundus



The Hunt for a Cure



http://www.gardenvisit.com/assets/madge/bedes_world_herb_garden_911.jpg/600x/bedes_world_herb_garden_911.jpg_600x.jpg

From Medicine to Art

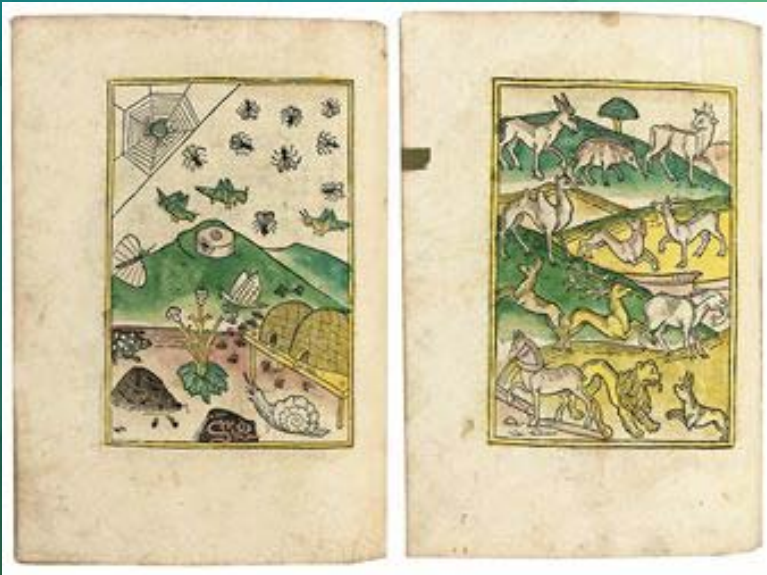


http://www.herbsociety.org/herb-images/Knot_Garden_at_NHG.jpg

http://farm4.static.flickr.com/3577/3519976465_18302e31f2.jpg?v=0

Truth in Pictures

Leonhart Fuchs, (Fuchsius Leonhardus) 1501-1566



Konrad Von Megenberg, 1309-1374



Leonhart Fuchs (17 January 1501 – 10 May 1566),

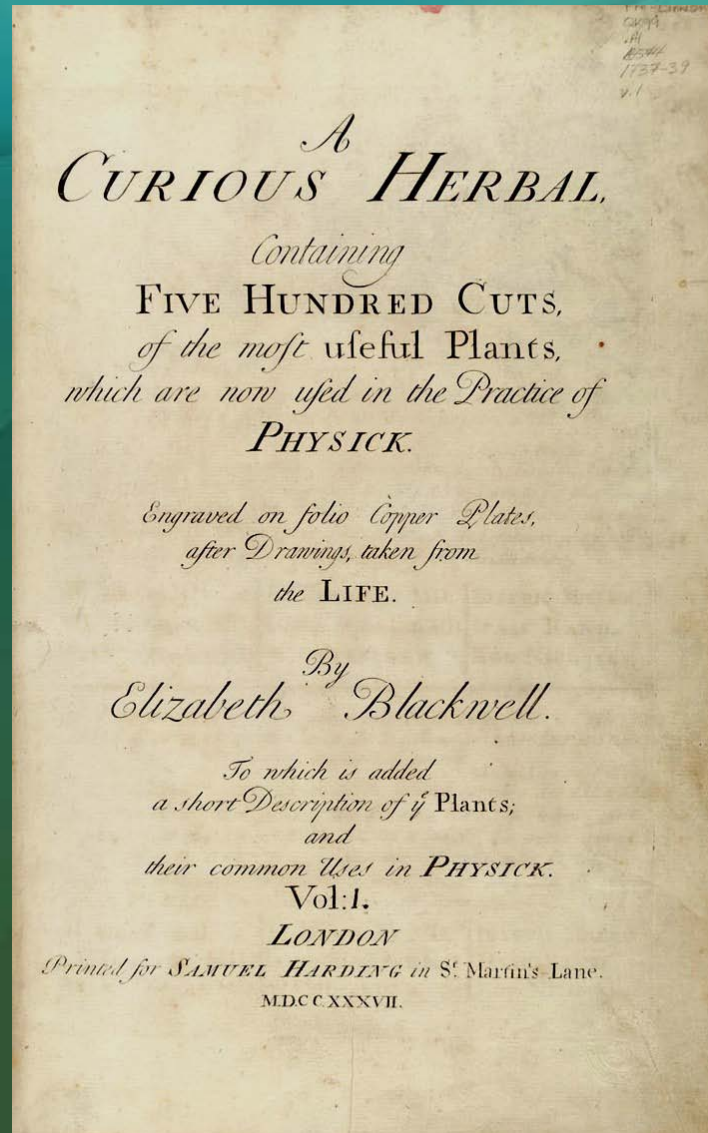


http://upload.wikimedia.org/wikipedia/commons/4/40/Renaissance_C14_F%C3%BCllmaurer_Leonhart_Fuchs.jpg

Europe's Search for New Plants



Elizabeth Blackwell (1707–1758)



A Near Thing – Gardens in Paradise

Boston

Jamestown



American Degeneracy

Carl Nilsson **Linnæus**, Carl von Linné
(23 May 1707 - 10 January 1778)



HISTOIRE NATURELLE.

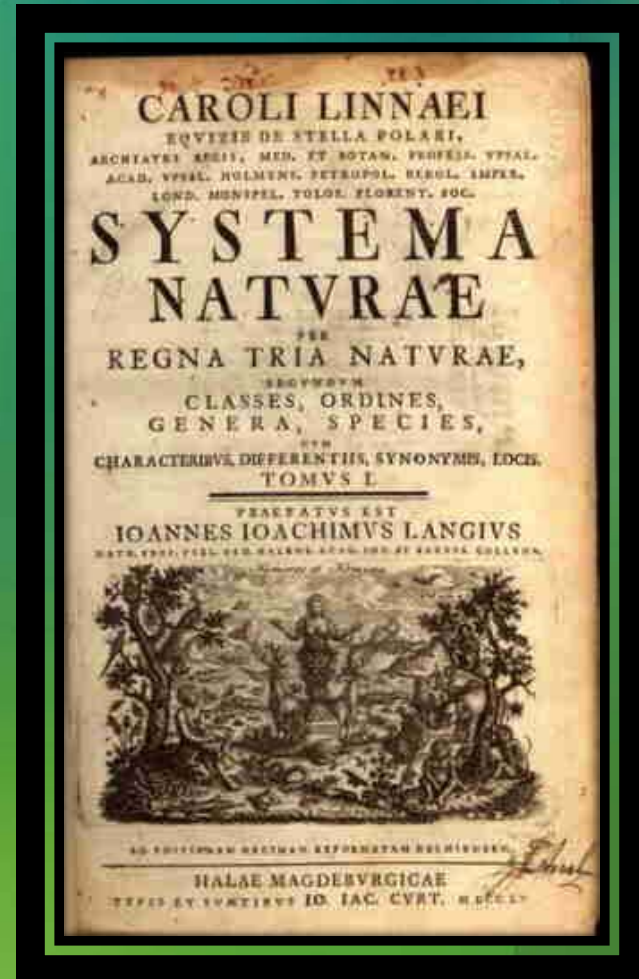
XXXXXXXXXXXXXXXXXXXXXXXXXXXX

PREMIER DISCOURS.

*De la manière d'étudier & de traiter l'Histoire
Naturelle.*

L'HISTOIRE Naturelle prise dans toute son étendue,
est une Histoire immense, elle embrasse tous les
objets que nous présente l'Univers. Cette multitude pro-
digieuse de Quadrupèdes, d'Oiseaux, de Poissons, d'In-
sectes, de Plantes, de Minéraux, &c. offre à la curiosité
de l'esprit humain un vaste spectacle, dont l'ensemble
est si grand, qu'il paroît & qu'il est en effet inépuisable
A ij

Georges-Louis Leclerc, *Comte de Buffon*
(7 September 1707 – 16 April 1788)



Birth of American Horticulture



(14)		(15)	
1	Yellow harvest, the earliest of apples, fit for tarts in June, and an excellent table fruit	ripe in July.	do
2	Sine qua non	do	do
3	White junetung	do	do
4	Red junetung	do	do
5	Large early bough	August.	do
6	Summer rose, P	do	do
7	Summer queen, P	do	do
8	Summer pearmain, P	do	do
9	Red calville, calville rouge d'été	do	do
10	Dwarf paradise	do	do
11	Margold	do	do
12	Red and green sweeting, weighs a pound	Aug. & Sept.	do
13	English codlin, P	do	do
14	Malden's blush, P	do	do
15	Large white sweeting	September.	do
16	Quince	do	do
17	Siberian crab, <i>Pyrus prunifolia</i> . This fruit, which is crimson and yellow, is peculiarly beautiful, P	do	do
18	Cherry crab, <i>Pyrus borealis</i> , P	do	do
19	Double blossom Chinese, <i>Pyrus spectabilis</i> , with clusters of flowers like roses, O 50 cents	do	do
20	Scarlet flowering Japan, <i>Pyrus japonica</i> , O \$1	do	do
21	Loan's pearmain	September and October.	do
22	Rambo, or Romanite, P	do	do
23	Autumn bough	do	do
24	Red bough	do	do
25	Transparent, pomme transparente, or pomme de glace	do	do
26	Green drag d'or	September to November.	do
27	Fall pippin, weighs a pound	do	do
28	Cortice's sweeting, C	September to December.	do
29	Aromatic russet	October and November.	do
30	Fama gusa, from Cyprus	do	do
31	Autumn pearmain	do	do
32	English wine	do	do
33	American nonpareil, doctor apple	do	do
34	Monstrous bellflower	do	do
35	Havorthornum	October to January.	do
36	Catline, of Maryland, C	do	do
37	Pear shaped	do	do
38	Newtown Spitzburgh	do	do
39	Rose, pomme de rose, or gros api	do	do
40	Monstrous pippin, or apple, or New-York gloria mundi, has weighed 27 to 33 oz. P	do	do
41	Newark king	ripe from October to January.	do
42	Morgan	October to February.	do
43	American wine, C P	do	do
44	Cumberland spice	November to February.	do
45	Bullock's pippin, or shequise, C P	do	do
46	Pennock's winter	do	do
47	Golden reinette, reinette dorée, C	do	do
48	French red reinette	November to March.	do
49	Long-Island russet	do	do
50	Ruckman's pearmain, C	do	do
51	Federal pearmain	do	do
52	Golden pearmain, C	do	do
53	Royal pearmain, C	do	do
54	Winter sweet pearmain	do	do
55	Reinette-grise	do	do
56	Belden, or red cheek	do	do
57	Queen's apple	do	do
58	Red Baldwin pippin	do	do
59	Red jellyflower	do	do
60	Lemon pippin	do	do
61	Margill	do	do
62	Surprise, yellow outside, and red to the core within	do	do
63	English nonpareil	do	do
64	Seek-no-farther	do	do
65	Royal russet, or leather coat, P	do	do
66	White calville, calville blanche d'hyver, P	do	do
67	Æopos Spitzburgh, thought by many inferior to none	do	do
68	Flushing Spitzburgh	do	do
69	Lady apple, pomme d'api, greatly admired	do	do
70	Red Winter sweeting	do	do
71	Yellow bellflower	do	do
72	Black, pomme noire	do	do
73	Vandevere, P	do	do
74	Dickskill	do	do
75	Swaar	do	do
76	Craam	do	do
77	Pomme gris, grey apple	do	do
78	English Wine	do	do
79	Red spice, fenouillet rouge, hardin, or pomme d'api	do	do
80	Yellow spice, fenouillet jaune, or petit drag d'or	do	do
81	Winter queen, of Ohio	November to March.	do
82	Lady's finger	November to April.	do
83	Ribston pippin, P	do	do
84	Rhode-Island greening, weighs a pound	do	do

William
Prince
Nurseryman
New York

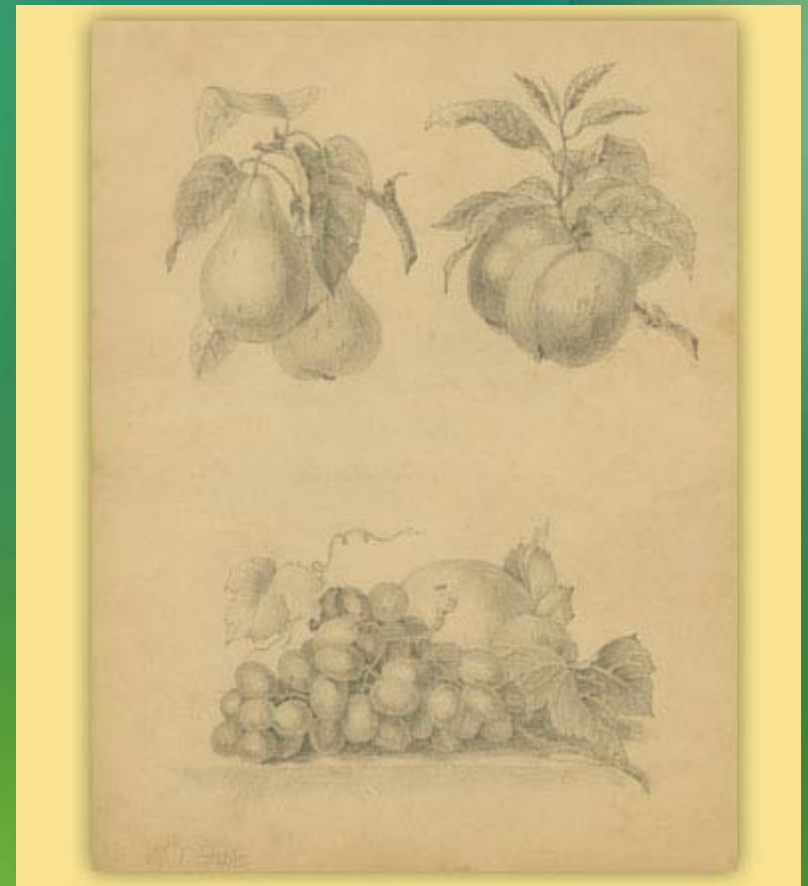
Oenothera grandiflora
Found in Alabama
by William Bartram
in 1775



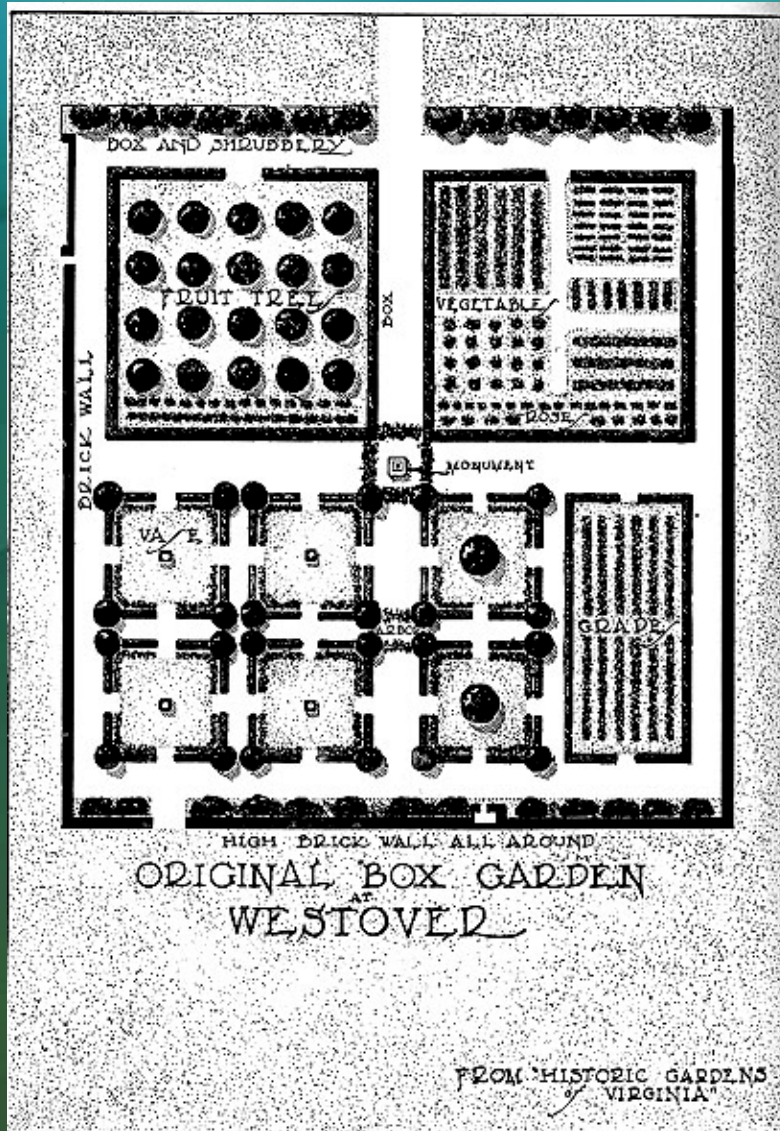
Birth of American Horticulture



Charles Willson Peale



Colonial Gardens; European Reflections

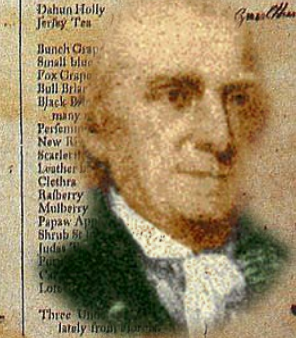


<http://ncmuseumofhistory.org/exhibits/healthandhealing/elements/media/topic-media/HerbGarden.jpg>

CATALOGUE of American TREES, SHRUBS and HERBACIOUS PLANTS, most of which are now growing, and produce ripe

CATALOGUE of American TREES, SHRUBS and HERBACIOUS PLANTS, most of which are now growing, and produce ripe

which are disposed of on the most reason



--- <i>Triplaris</i>	Water Elder
--- <i>Tripl. folia</i>	Mountain Viburnum
--- <i>Triplaris</i>	Tough Viburnum
--- <i>Lanceolata</i>	Arrow wood
--- <i>Dentanum</i>	
--- <i>Albidifolium</i>	Elder
<i>Sambucus</i>	Pringle Tree
<i>Chiosanthes</i>	
<i>The Virginiana</i>	Button Wood
<i>Cephaelis Caprif. pendula</i>	Horn Beam
<i>Caribbea Oryza</i>	Hophornbeam
--- <i>Betula</i>	Bermuda Mulberry
<i>Callicarpa</i>	Orange Honey suckle
<i>Azalea Rufes</i>	Sweet Azalea
--- <i>Vicinia</i>	Sweet Azalea
--- <i>Caroliniana</i>	Bladder Nut
<i>Staphylea trifol.</i>	Jupiter's Beard
<i>Amorpha Barba</i>	
--- <i>Indogopher</i>	
<i>Stewartia Malac.</i>	Winter berry
<i>Pinus Glabra</i>	Jackberry
--- <i>Verticillata</i>	Burning Bush of Virginia
<i>Evonymus Semper Viride</i>	
--- <i>Laricina</i>	

Rubra
 Hispanica
 Nana
 Phylla
 Deltoide
 Folio Amplissima
 Agrippa
 Caliana
 Dentata
 Chinquapin
 Lobata
 Campiana
 Palustris
 Flammula
 Gallica
 Halea Leucantera. *Halea*

Willow leaved Oak
Water Oak
Barren black Oak
Tive Oak
Chestnut Oak
Willow Oak with bread leaves
Heart Magnamin Oak
Red Oak
White Oak
Water Oak of Florida
Gull hearing Oak
Hudella or Silver Bell
varieties
Trefold Tree
Black Widow
White Walnut or Butternut
Black bell Hickory
Hognut Hickory

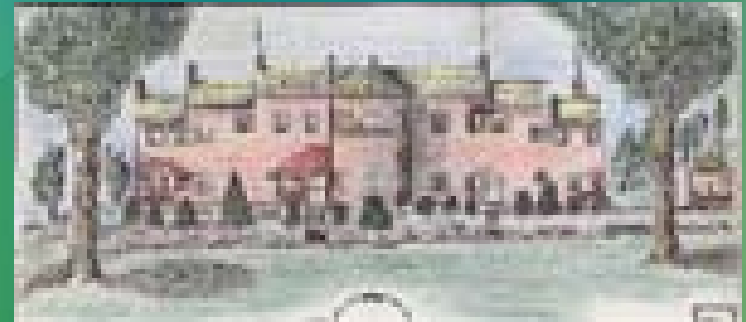
Diospyros Guaiacina
Asterias Octandria
..... Caroliniana
Dicra
Clethra Alnifolia
Rubus Idaeus
Rhus Nigra
Asonia Nuda
Hypericum Kalmianum
Cercis Siliquastrum
Olea Americana
Vitis Petrolifera
Callita *Guthriea virginica*
Philadelphus
Alatania
Gardenia

* EXPLANATION of Letters
 of Reference.

a Good seed, mould or Soil in Clay
 and (Grove).
 A Good Soil in Clay City.

many
Perfume
New River
Scarlet
Leather
Cleistra
Railberry
Mothbush
Papaw Apple
Shrub
Judas
Pumpkin
Lion
Three
lately from

Walnut Grange built around the year 1790



Mary Snowden was one of five children of Major Thomas Snowden (1751-1803), who was son of Thomas (1722-1770) son of Richard Snowden II, the Ironmaster, first owner of Montpelier.

This Richard was the son of Richard Snowden I, who received a grant of a manor from Lord Baltimore around the year 1660. It is said that during his lifetime he amassed an estate of 80,000 acres.

Mary Snowden has this two-story brick dwelling built on the tract of land she inherited from her father, Major Thomas Snowden.

It was built about the time she married Col. Carlyle Herbert.

It was named after his former home, Walnut Grange, in Virginia.

Andrew Jackson Downing (1815-1852)



http://www.livingplaces.com/people/li/Joseph_Walker_Cottage_2.jpg

Department of Agriculture established in 1862 by Abraham Lincoln.

"The Creation of this department was for the immediate benefit of a large class of our most valuable citizens... and [will] become the fruitful source of advantage to all our people"

— Abraham Lincoln



Frederick Law Olmsted (April 26, 1822 – August 28, 1903)



http://www.gardenvisit.com/assets/madge/biltmore_shrub_garden/600x/biltmore_shrub_garden_600x.jpg

**1st Agriculture building is
constructed in 1867 on the Mall
just north of today's USDA
complex.**



The Gilded Age of Gardening

44 FARM AND HOME. Feb. 15,

VICK'S SWAN RIVER DAISY!



The *Brachyotum Perleflora* is a daisy-like flower, found on the banks of the Swan River in Australia, and is sometimes called Swan River Daisy. AN ELEGANT LITTLE PLANT, growing about eight inches in height, of compact branching habit and abundance of flowers, something like those of the *Chrysanthemum*. AN EXCELLENT FLOWERING PLANT, deserving more attention than it receives, the blue being particularly desirable. BRANCHYCOMB INTERMIDTOLIA, SWAN RIVER DAISY, blue and white, separate or mixed. Price per packet, 25 Cents.

VICK'S FLORAL GUIDE

1887

EVERY GARDENER'S BEST COMPANION

Vegetable Seeds! Flower Seeds!

Bulbs! Roses!

Plants! Grains! or Potatoes!

RECEIVED AT THE ABOVE

It contains two beautiful colored plates, one of Parsnips and one of bedding and border plants, thousands of illustrations, nearly 200 pages of practical articles on planting and raising seed beds, growing Asparagus, Radishes, Dill, Beans, Chrysanthemums, Lilies, Winter Vegetables, etc. Full directions how and where to obtain the best stock, with prices on SEEDS, PLANTS and BULBS delivered at your door.

REFERENCES.—The millions of our customers who have bought it, in during the past 35 years. Now is the time to send for the Guide and select what is wanted. Don't buy cheap seeds worth in the grocers of the last season, taking what is left, likely to be disappointed after all your expense, trouble and weeks of waiting. The Guide is a model of beauty and neatness, an ornament as any library or parlor table. VICK'S FLORAL GUIDE mailed to any address on receipt of 10 cents, not available its cost, which may be deducted from the first order sent on.

VICK'S EARLY SCARLET GLOBE RADISH!



For HOT-BEDS for early so desirable a Globe. IT IS THE HANDSOMEST MILDEST, and will be the MARKET-GAR as a forcing Radish. will stand a great or becoming gilly. Its early for garden culture 1884 it has already and deservedly won 10 Cents.

SEED ANNUAL.

1897



D. M. FERRY & CO.
DETROIT, MICH.



Plants from 'round the world



Hosta Thomas Hogg

Stewartia
pseudocamellia



Isaac Sprague (September 5, 1811 - 1895)



William Edwards (March 15, 1822 – April 4, 1909)



Plants from 'round the world with a twist



<http://njaes.rutgers.edu/images/photos/weeds/large/kudzu-flower-full.jpg>

<http://www.wisteriaseed.com/images/wisteria%20flower%20Pod.jpg>



Fairchild & USDA

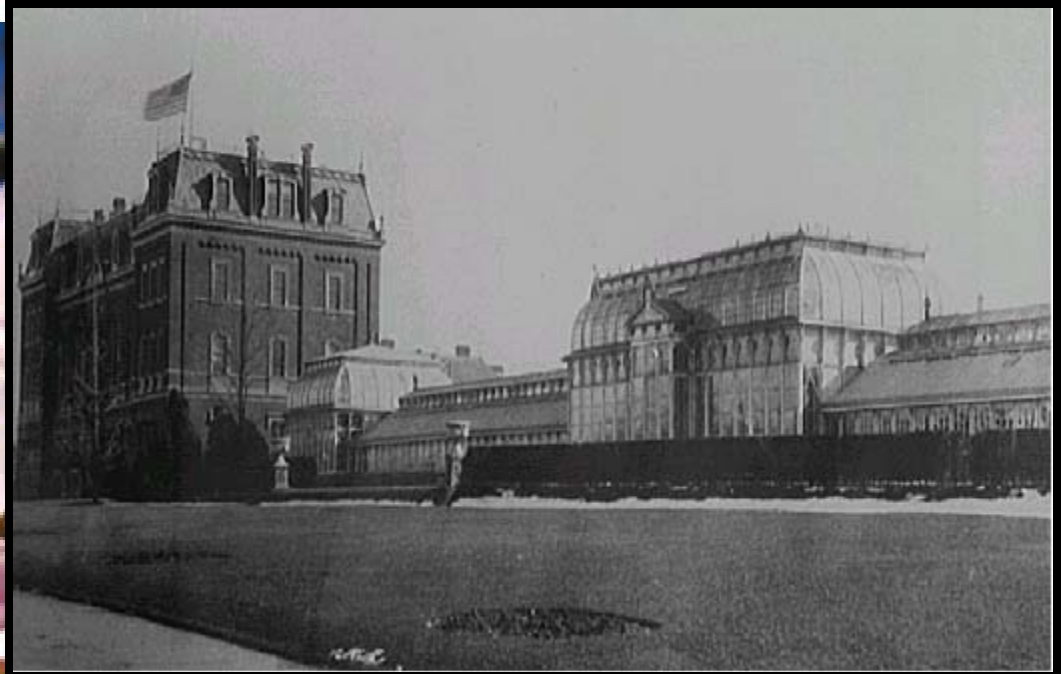
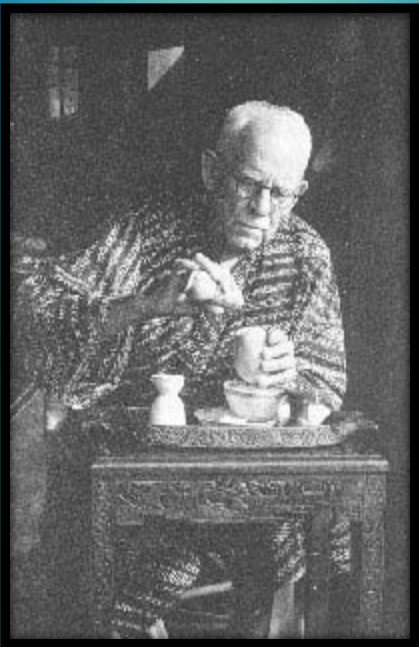


Photo: Greenhouse, Department of Agriculture Building. *National Archives and Records Administration*

Early 20th Century



<http://home-and-gardening.info/wp-content/uploads/2009/06/dumbarton-oaks.jpg>

http://3.bp.blogspot.com/_N7dFOZ91fkM/S6uc_Gu9MKI/AAAAAAAAABro/Aix3sJHUeu4/s400/Beatrix+Farrand+garden.jpg

The Dairy Barn (Building 167) is built in 1913



The first building at Beltsville and is the site of the first research activity.

Glenn Dale and the National Arboretum



http://www.usna.usda.gov/News/Morrison%20Garden%20Azalea%20Co_9.jpg

<http://scholar.lib.vt.edu/ejournals/JARS/v22n2/Fig14.jpg>

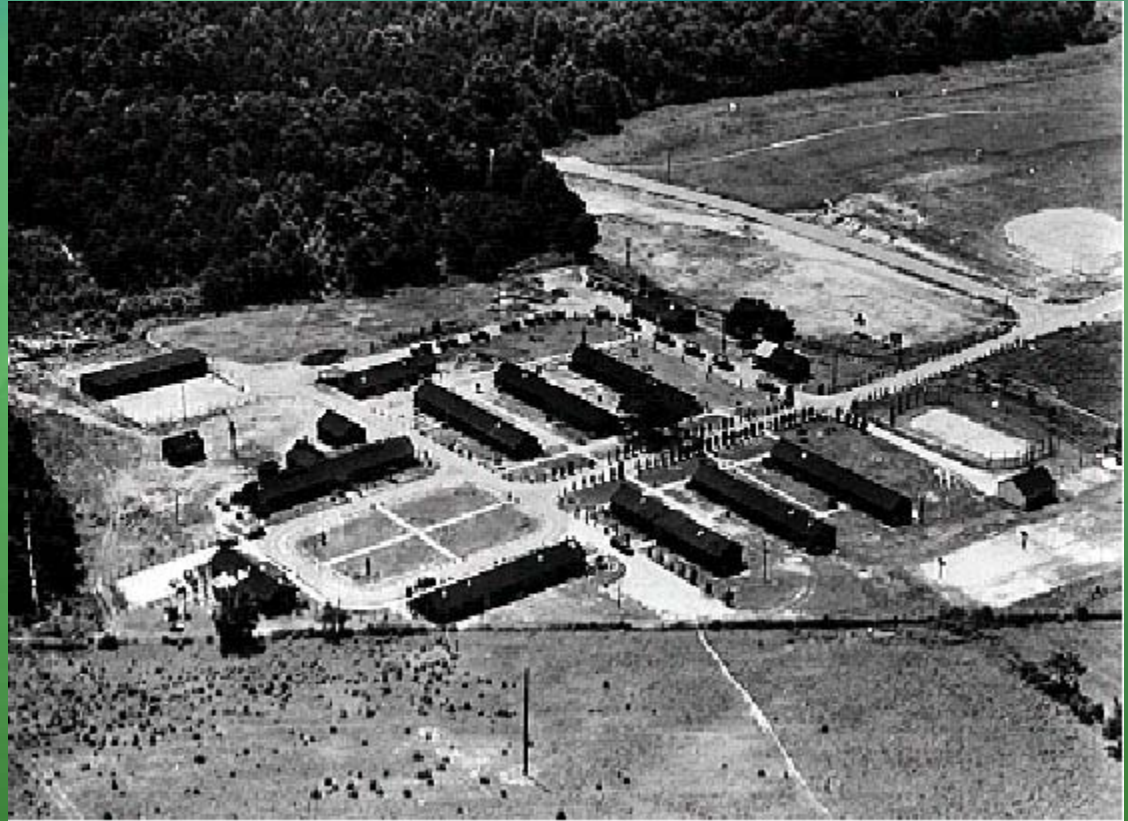
`Mary Wallace', the first shrub rose that is also multi-disease resistant, is released in 1928.



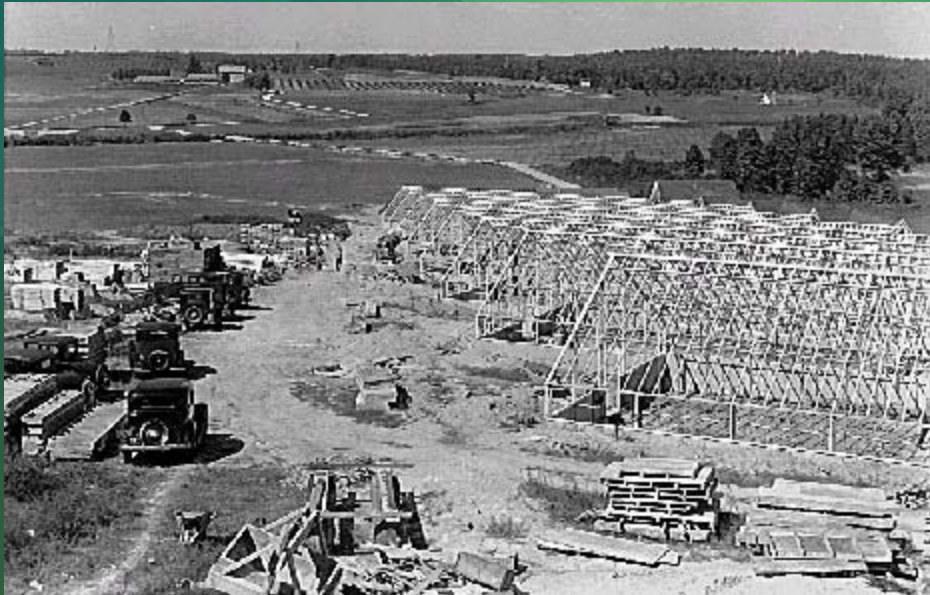
PLATE VI. New Hybrid Rose, "W. C. 124" (*Rosa Wichuraiana* × Hybrid Tea) in bloom in 1920 at Bell Experiment Plot. Originated by Dr. W. Van Fleet; received three first prizes at Portland (Ore.) Test-Garden in 1920. (See pp. 83, 117)

Many Government agencies begin as part of USDA BARC

- Food and Drug Administration,
- Environmental Protection Agency,
- Biological Survey of the Department of the Interior,
- Forest Service,
- Soil Conservation Service.



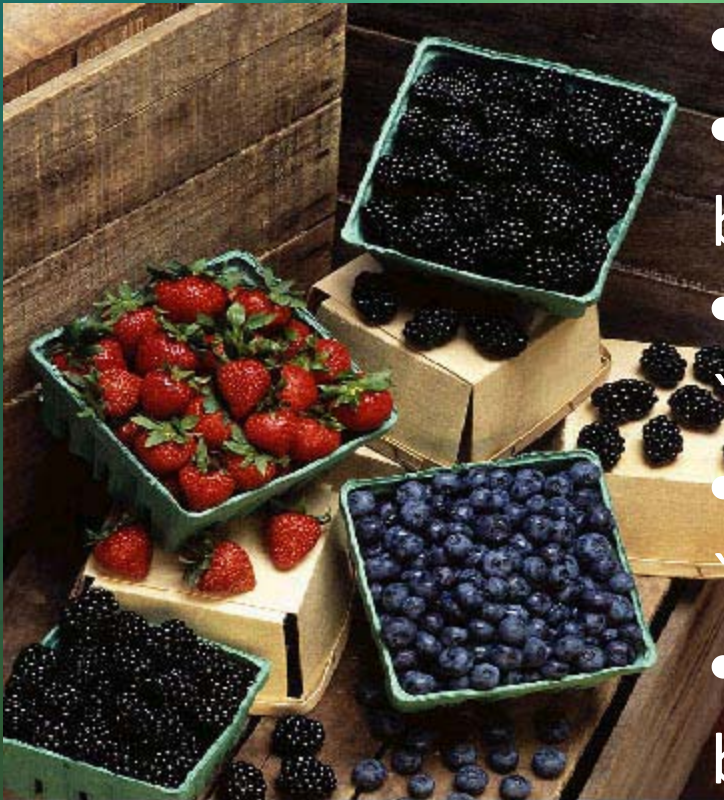
"Pan America", the first fusarium wilt resistant tomato, is released 1941.



http://www.ba.ars.usda.gov/history/photos/1940_8.html

http://www.ba.ars.usda.gov/history/photos/1940_1a.html

New varieties of fruits & vegetables with enhanced disease resistance, increased flavor 1950s

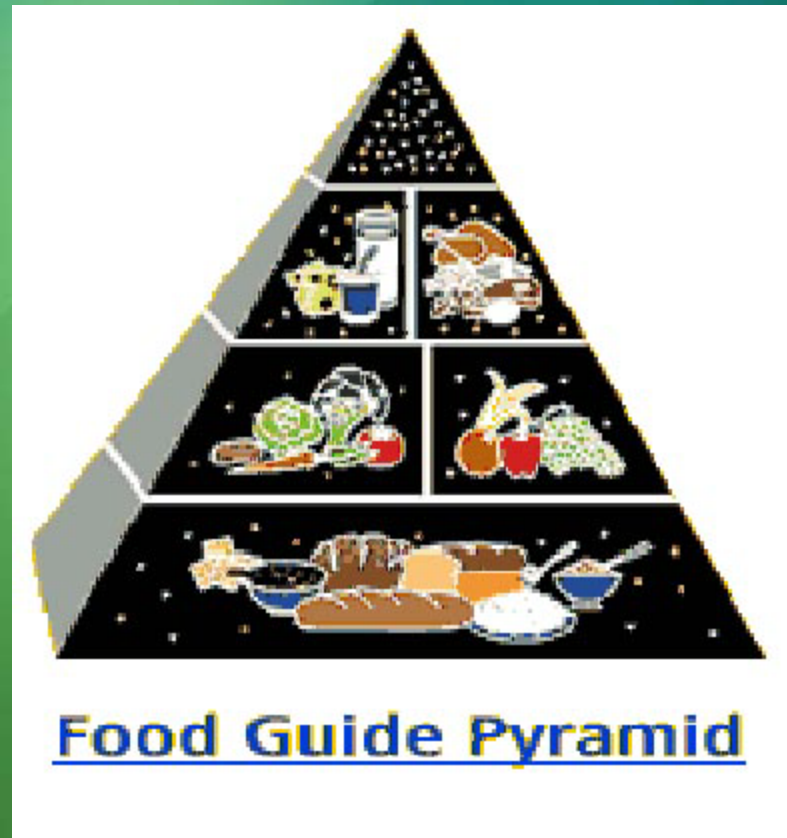


- Roma' tomato; `
- Topcrop' and `Tendercrop' beans;
- `Kennebec', `Atlantic', and `BelRus' potatoes;
- `Surecrop', `Earilglow' and `Allstar' strawberries;
- `Duke', `Jersey' and `Bluecrop' blueberries.

Research leads to the science of precision farming. 1980s



Food Guide Pyramid is developed by USDA, using Beltsville research



Sustainable Agricultural Systems Laboratory (SASL)

The Sustainable Agricultural Systems Lab determines principles and practices integral to the development of sustainable agricultural systems. Multi-disciplinary research investigates agro-ecological processes underlying the functioning of sustainable systems. Emphasis is also on molecular biology of soil and root interactions, developing biologics to suppress soil borne plant pathogens, and molecular biotechnology to produce nutrient-rich and long lasting crops. Communication with the agricultural community and consumers that value sustainable agriculture is integral to the definition of research problems and the transfer of technology.



For over 100 years BARC has led the way towards sustainability

For 100 years, the Henry A. Wallace Beltsville Agricultural Research Center (BARC) in Beltsville, Maryland, has maintained and protected its share of 25,660 acres of green space just 15 miles from the nation's capital.



ARS microbiologist Pat Millner is developing a way to cap or seal old landfills with more environmentally sensitive vegetative caps—trees and shrubs planted in a mix of topsoil and compost—in place of conventional clay caps

USDA ARS BARC and NAL



Support Conservation of Our Agricultural Heritage Materials Identified for Conservation Treatment

- Early American Nursery and Seed Trade Catalogs
- Early USDA Plant Exploration
- *Pomona italiana, ossia trattato degli alberi fruttiferi.*
by Giorgio Gallesio. 1772-1839.
- George Cooke Diary (1791-1849) was an antebellum planter
in Anne Arundel County, Maryland