



Apple Rootstocks and Cultivars

www.extension.org/apples

Facebook: Apple Rootstocks and Cultivars

What is it?



Apple Rootstocks
and Cultivars

What is it?

Partnership of 74 land-grant universities.

Internet-based collaborative environment.

Complements community-based extension.

Collaborative content-creation.

Up-to-date, research-based information.

Accessible 24/7/365.



Apple Rootstocks
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Before...
Cooperative
Extension
working
separately.



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Now...

Cooperative
Extension
**working
together
pooling
resources**
creating a
hub
of valuable
information.



more mind reach



Apple Rootstocks
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The system recognizes where the user is.

Helps connect user to the most relevant information.

These resources are brought to you by the Cooperative Extension System and your Local Institution



Local Extension offices near you
Learn more about this institution

Select a different institution



Home About Resource Areas News Articles Answers Calendar Learning Lessons

Search

Objective, research-based and credible information you can use every day to improve your life.

Brought to you by experts from the nation's largest and oldest network of universities.



Online Workshop Helps Communities Plan Web Presence

Put Your Community on the Map with a Website > Read



Live Webcast Information

The next webcast is October 15 and is titled "NAQSAT, a Tool for Determining Opportunities to Reduce Air Emissions from Swine and Poultry Farms". > Read



Discovering the Food System

Learn what foods, such as blueberries, are delicious and healthy by participating in these exercises from Cornell University. > Read



Effective Horse Fencing: Free Webinar

Upcoming Events

21 September

- Erosion and Sediment Control Workshop for Government Employees, Developers, and Contractors

- Muddy Waterwatch Training in the Choctawhatchee River Basin

22 September

- National Dog Week
- Fish Amnesty Day

23 September

- Master Equine Manager One
- Feral Hog Information Day

Recent Articles, News & Answers

- Manure Application in No-Till

Resource Areas

Alerts

Community

Disaster Issues

Energy

Family

Farm

Pest Management

Youth

Ask an Expert

Connect with experts from Universities across the country

Our Partners And Sponsors



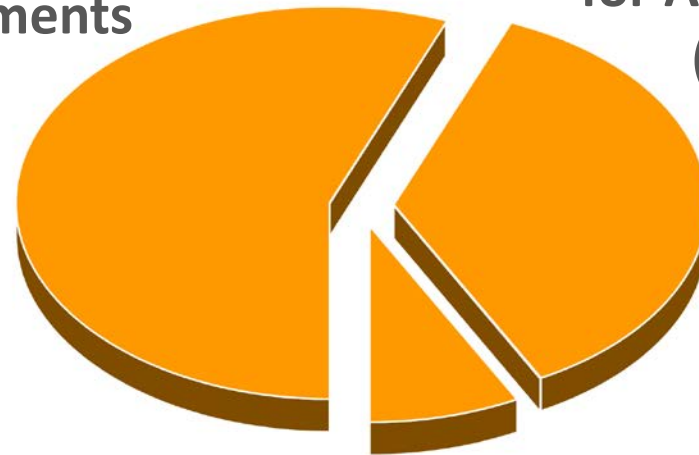
Apple Rootstocks and Cultivars



How is it funded?

Institutional Assessments

New Technologies for Ag Extension (USDA)



Private Funding



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**How is it
organized?**

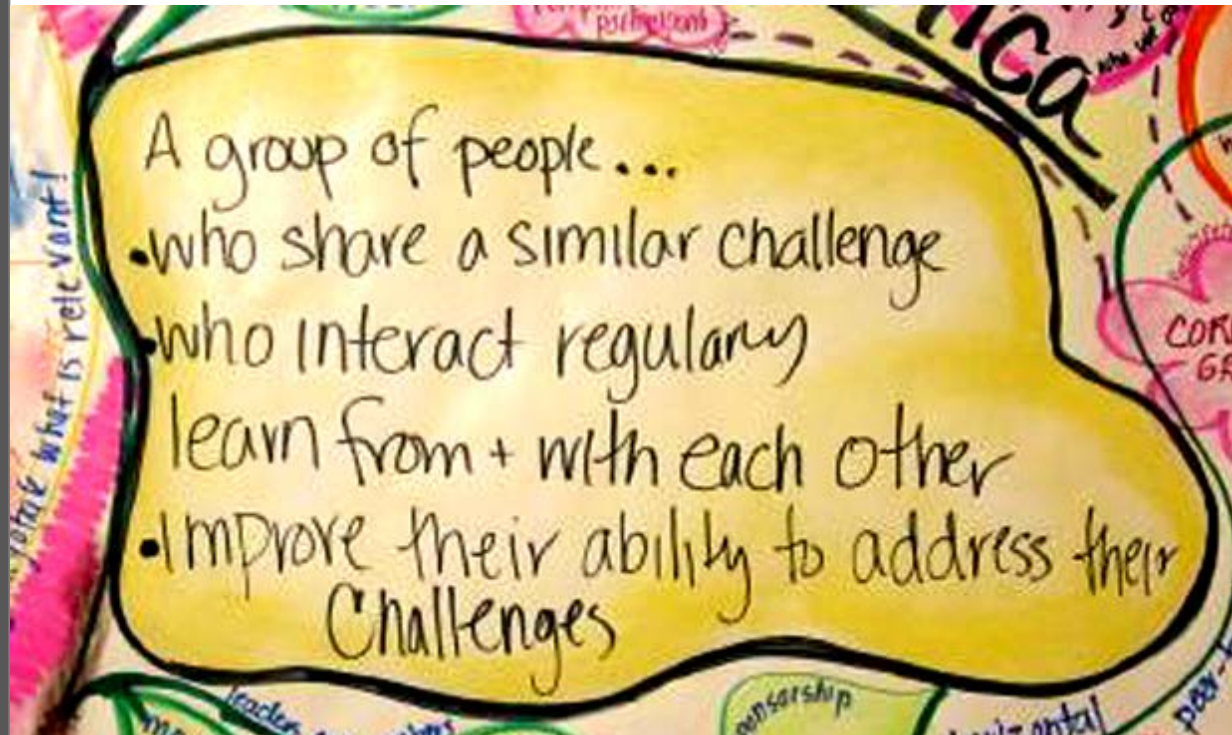


http://21stcenturylearning.typepad.com/blog/community_of_practice/



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Community of Practice (CoP)



<http://www.fullcirc.com/2008/09/07/communities-of-practice-series-with-darren-sidnick-1/>



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Community of Practice at eXtension

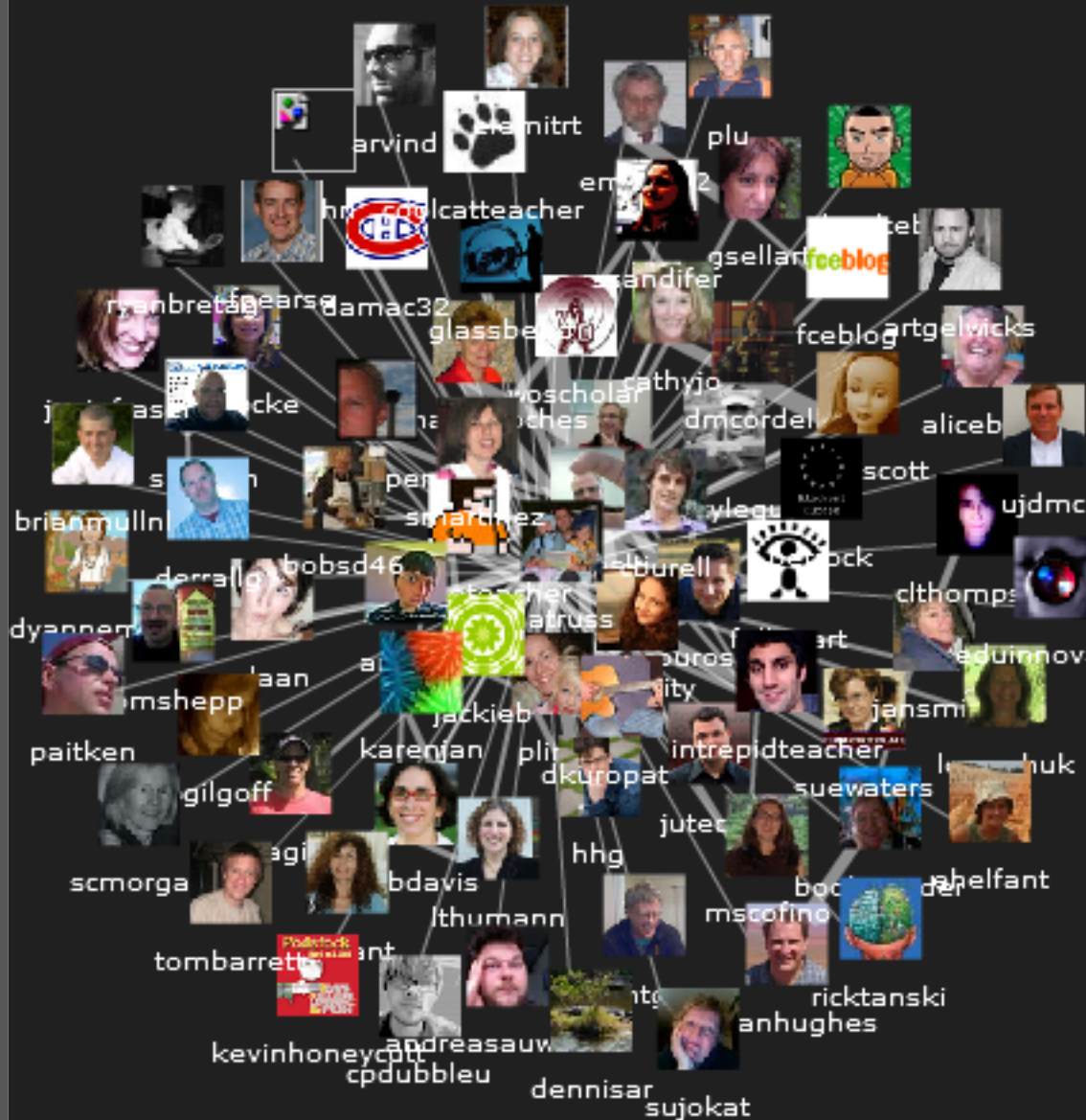
A **virtual network** of subject matter content providers consisting of **faculty, professional and para-professional staff, county educators, industry experts, clientele and government agency representation** who share knowledge or competence in a specific content area and are willing to work and learn together over a period of time to further **develop and share that knowledge in forms of educational products and programs.**



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Community of Interest (CoI)

An identified group of individuals sharing similar **interests** **concerns** **educational needs** around a subject area.



How is a CoP created at eXtension?

Existing Extension programs seeking to expand reach.

A group of individuals gather around a shared interest.

A group forms to address a recognized stakeholder need.

These may be formed within eXtension and become certified CoPs in order to receive operation funding.

OR

Funding may be secured in advance through a grant program (USDA-NIFA) for the purpose of creating a CoP.



Apple Rootstocks
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Who are we?



Researchers
Extension Agents
Faculty
Technicians
Specialists

in

Horticulture
Tree Fruit
Plant Pathology
Agricultural
Education

UNIVERSITY OF MINNESOTA
EXTENSION

Cornell University
Cooperative Extension



UMassAmherst Outreach **UMass**
Extension

NC State University
A&T State University
**COOPERATIVE
EXTENSION**
Empowering People · Providing Solutions

PENNSTATE



UNIVERSITY OF MISSOURI
M **Extension**
Live. And Learn.

Extension Service
WV West Virginia University

T · H · E
**OHIO
STATE**
UNIVERSITY
EXTENSION



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Researchers
Extension Agents
Faculty
Technicians
Specialists

in

Horticulture
Tree Fruit
Plant Pathology
Agricultural
Education



NC140

Improving economic and environmental sustainability in tree-fruit production through changes in **rootstock** use



NECC1009

Multidisciplinary evaluation of tree fruit **cultivars**



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Who is in our CoI?

(CoI = stakeholders)



Nursery professionals



Commercial growers



County educators



Master gardeners



Home gardeners



Consumers



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Critical need

Researchers have produced **a great deal of information** relating to apple varieties and rootstocks over the past 30 years, but much of this information **is not easily accessible** to those who are interested in it.



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Goals

Develop diverse and dynamic educational tools to provide research-based, reliable information.

Increase **productivity, profitability and sustainability**.

Increase **adoption** of new and existing apple **rootstocks and cultivars** ideal to particular regions.

Improve **crop characteristics**.

Reduce incidence and impact of industry-critical **pests and diseases**.

Increase **consumer knowledge** of regional apple industry.



Apple Rootstocks
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Dynamic web products

Interactive maps

Searchable databases of rootstocks/cultivars

Photo galleries

Video library

Podcasts and webinars

Interactive, self-paced courses

Engage

Facebook page



Blog

Ask an Expert

A screenshot of a web form titled 'Ask an Expert' with the 'extension' logo in the top right corner. The form includes a 'Question' text area, an 'Image (optional)' section with instructions 'You can upload .jpg .png or .gif. Max size of 2MB each.' and a 'Choose File' button, and an 'Email' section with two input fields and the instruction '(please type it twice to confirm)'. An 'Ask' button is at the bottom.

Outreach

what we plan to do



Year 1 (June 2010 – June 2011)

Timeline

Perform needs assessment and analysis

Collate information

Existing extension materials

Journal articles

Photos

Videos

Develop

Disseminate

Evaluate

Establish social media presence



Begin development of online information tools

Launch first stage of public site on extension.org

Year 2 (July 2011 – June 2012)

Timeline

Continue development of all site features

Conduct evaluations and analysis to guide further development

Beta-testing of dynamic content

Fully engage with all eXtension tools (ie. Ask an Expert)

Develop

Disseminate

Evaluate



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Year 3 (July 2012 – June 2013)

Timeline

Complete development of dynamic online tools

Continue to build FAQ database

Website fully launched and functional

Develop

Evaluation and analysis of site effectiveness

Disseminate

CoP members actively involved in eXtension

Evaluate

CoP gains new members, become active in sustaining CoP.



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Web Outline – Draft, Items 1 of 12

- 1. Factors to consider when choosing a rootstock
 - Tree size
 - explain the terminology used such as dwarfing/semi-dwarfing etc
 - % of standard
 - Links to any other publications, websites on this topic.
 - Precocity
 - define term
 - explain how rootstocks affect time to flowering
 - Links to any other publications, websites on this topic.
 - Productivity
 - how measured
 - yield and yield efficiency explained
 - Links to any other publications, websites on this topic.
 - Winter hardiness (USDA hardiness zones)
 - Define hardiness zones
 - link to web site that allows people to search for their zone
 - How hardiness impacts fruit production
 - Links to any other publications, websites on this topic.
 - Suckering
 - define what it is
 - pictures of scion/rootstock combinations demonstrating suckering
 - Links to any other publications, websites on this topic.
 - Virus status
 - Listing and descriptions of potential viruses
 - Links to any other publications, websites on this topic.
 - Tree support
 - Descriptions of types of tree support e.g. posts, wire, conduit, bamboo, angle iron
 - Links to any other publications, websites on this topic.
 - Where rootstocks have been tested (NC 140 or other research plantings)
 - What is NC140
 - Type of research NC140 cooperators conduct
 - Link to nc140.org and CRIS reports

Web Outline - Draft, Items 2-6 of 12

2. Buying apple trees

- Choosing a nursery

- List of nurseries (or links to individual nursery sites)

- Links to any other publications, websites on this topic.

3. How to select and prepare a site for planting

- Soil testing and Nutrition

- rootstock graft union location

- Links to any other publications, websites on this topic.

4. Tree spacing

- Jon's tree spacing calculator

- Other available systems

- Links to any other publications, websites on this topic.

5. Parts of the apple tree

- Graft union

- scion (vs cultivar)

- rootstock

- crown vs. collar

- spurs

- Links to any other publications, websites on this topic.

6. Planting apple trees

- Method

- Timing

- Planting videos

- one tree in a home landscape

- acres in a commercial planting

- Links to any other publications, websites on this topic.

Web Outline - Draft, Items 7-9 of 12

7. Why trees decline and might die (focusing on the root system)

- Temperatures (too hot, too cold)

- Water (too much, not enough)

- Physical damage

 - Deer

 - Rabbits

 - Hail

 - Wind

- Burr knots

- Insects

 - Dogwood borer

- Diseases

 - Crown rot

 - Fire blight

- Links to any other publications, websites on this topic.

8. How are new rootstocks developed

- Breeding programs

- Testing process

- Characteristics selected for

- Links to any other publications, websites on this topic.

9. Rootstock and apple tree propagation (Michele?)

- Rootstock Propagation

 - Stool beds

 - Tissue culture

- Apple tree propagation (Diane?)

 - Asexual reproduction (summary of why grafting/budding)

 - Types of grafting and budding used (link to videos if we know of any)

- Links to any other publications, websites on this topic.

Web Outline - Draft, Item 10 of 12

10. List of categories of rootstocks (with rootstocks presently on the rootstock spreadsheet;

Dwarfing

For each specific rootstock listed:

Synonyms of rootstocks

Origin - cross if known and breeding program (might be helpful here to link to any articles that have been written on the rootstock)

Current status on availability

Where it has been tested within NC140 or other research plantings

Tree size, precocity, productivity, winter hardiness, suckering, virus status, trunk support

Semi-dwarfing

For each specific rootstock listed:

Synonyms of rootstocks

Origin - cross if known and breeding program (might be helpful here to link to any articles that have been written on the rootstock)

Current status on availability

Where it has been tested within NC140 or other research plantings

Tree size, precocity, productivity, winter hardiness, suckering, virus status, trunk support

Standard size

For each specific rootstock listed:

Synonyms of rootstocks

Origin - cross if known and breeding program

Current status on availability

Where it has been tested within NC140 or other research plantings

Tree size, precocity, productivity, winter hardiness, suckering, virus status, trunk support

Web Outline - Draft, Items 11-12 of 12

11. Publications

NC140 studies that have been published with links if possible

Region-specific apple information - Links with descriptions to extension publications and other regular publications, newsletters, UMass Fruit Advisor - and put under the appropriate region

Commercial

Northeast

Southeast

Mid-west

Homeowner/hobbyist

Northeast

Southeast

Mid-west

Other web sites of interest (national or international sites with descriptions of why in list)

12. Glossary of terms

Web Site Launching June, 2011



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