

Minutes of Annual Meeting
Multistate Cooperative Project Number: NC-140
Project Title: Rootstock and Interstem Effects on Pome and Stone Fruit Trees
Period Covered: October 1, 2005 – September 30, 2006
Chairman: Winfred Cowgill Jr., Rutgers University
Vice Chairman: Harold Larsen, Colorado State University
Secretary: Terence Robinson, Cornell University
Meeting Dates: November 6-7, 2006
Location: Pittstown, NJ

Meeting Convened at 8:00am Nov. 6, 2007

2006 NC-140 Annual Meeting Attendance:

Name	Address	City	State	Zip	Phone	Email
Robert Andersen	112 White Springs Lane	Geneva,	NY	14456	315-787-2235	rla2@cornell.edu
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Brent Black	Utah State University	Logan	UT	84322-4820	435-797-2174	blackb@ext.usu.edu
Steve Castagnoli	3005 Experiment Station Drive	Hood River	OR	97031-9512	541.386.2030	steve.castagnoli@oregonstate.edu
Jon Clements	UMass Cold Spring Orchard Research & Education Center, 393 Sabin Street	Belchertown	MA	01007	413-478-7219	clements@umext.umass.edu
John Cline	University of Guelph, Box 587	Simcoe, Canada	ON	N3Y 4N5	519-426-7127 x331	jcline@uoguelph.ca
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Robert Crassweller	102 Tyson Building	University Park,	PA	16802	814-863-6163	rnc7@psu.edu
Paul A. Domoto	Iowa State University	Ames,	IA	50011-1100	515-294-0035	domoto@iastate.edu
Rachel Elkins	883 Lakeport Blvd.	Lakeport	CA	95453	707-263-6863	rbelkins@ucdavis.edu
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Gennaro Fazio	630 W. North Street	Geneva,	NY	14456	315-787-2480	hth4@cornell.edu
Jay Freer	111 Hedrick Hall	Geneva	NY	14456	315.787.2226	jf41@cornell.edu
Emily Hoover,	University of Minnesota, 1970 Folwell Avenue	St. Paul,	MN	55108	612-624-6220	hoove001@umn.edu
Steve Hoying	PO Box 727, 3357 Route 9	Highland	NY	12528	845-691-7151	sah19@cornell.edu
Scott Johnson	Kearney Agricultural Center	Parlier	CA	93648	559-646-6547	sjohnson@uckac.edu
Kevin Kosola	University of Wisconsin-Madison, 1575 Linden Drive	Madison	WI	53706	608-262-6452	kkosola@facstaff.wisc.edu
Mosbah Kushad	1201 West Gregory Drive	Urbana,	IL	61801	217-244-5691	kushad@uiuc.edu
Greg Lang	Michigan State University, A338-D Plant & Soil Sciences Bldg	E. Lansing	MI	48824-1325	(517) 355-5191 ext 1388	langg@msu.edu
Harold Larsen	Colorado State University – Western Colo. Research Center, 3168 B 1/2/ Rd.	Grand Junction	CO	81503-9621	970-434-3264, x205	harold.larsen@Colostate.edu
Thor Lindstrom	Utah State University, 364 N., 700 E.	Kaysville	UT	84037	801-544-4732	thorlind@cc.usu.edu

Richard Marini	Pennsylvania State University, 0102 Tyson Building	University Park	PA	16802	814-865-2572	rpm12@psu.edu
Diane Miller	OARDC	Wooster,	OH	44691	303-263-3824	miller.87@osu.edu
Renaë Moran	University of Maine, Highmoor Farm, PO Box 179	Monmouth,	ME	04259	207-933-2100	rmoran@umext.maine.edu
Michael Newell	Univ. of Maryland		MD			
Michael Parker	Box 7609, North Carolina State University	Raleigh,	NC	27695-7609	919-515-1198	mike_parker@ncsu.edu
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Ramesh Pokharel						
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Kathy Taylor	University of Georgia, 21 Dunbar Road	Byron,	GA	31008	478-956-6418	kctaylor@uga.edu
Neil Vincent	Rutgers Cooperative Ext. 6 Gauntt Place, P.O. Box 2900	Flemington	NJ	08822	267-377-7980	njvincent42@aesop.rutgers.edu
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Dwight Wolfe	Univ. of Kentucky	Princeton	KY			dwolfe@uky.edu

Welcome: Dr. John Grande, Director of the Snyder Research and Extension Farm, New Jersey Agricultural Experiment Station, gave the welcome and a brief outline of the research station and current projects.

Motion on Minutes 2005: The minutes from previous meeting were discussed and a motion was made by Harold Larsen (CO) and seconded by Kathy Taylor (GA) to approve the minutes. The motion passed unanimously

Membership: Each participant in the new project must be entered on the NIMSS data base. Go to www.nimss.umd.edu and register under NC_Temp140. USA participants must have their experiment station do this. International participants can enter their own information. USDA cooperators should also register as official members and bring an annual report.

Future Meetings

2007 Colorado - Harold Larsen will Chair and Host **Proposed Date: Nov. 12-13.**

2008 Mexico - Terence Robinson will Chair and Rafael Parra will Host. (Will be a 4 day meeting) (Robinson will be the Vice Chair in 2007 and prepare the Annual Report)

2009 Minnesota - Emily Hoover will Chair and Host. (Hoover will be the secretary in 2007 and take the minutes and the Vice Chair in 2008 and prepare the Annual Report.)

2010 Utah - Brent Black will Chair and Host (Black will be the Secretary in 2008 and take the minutes and be the Vice Chair in 2009 and prepare the Annual Report)

Report by CSREES Representative: Tom Bewick was unable to attend but joined the meeting

by conference call. He indicated that the value of specialty crops now exceeds the value of program crops. He discussed the specialty crops initiative to bring more research dollars to specialty crops. To give focus to the initiative he is helping to develop strategic plans for specialty crops (Grapes, Apples, Berries are done). He is working on vegetables. These commodity strategic plans will be put into a national strategic plan for specialty crops. This will likely result in block grants to states. Tom also discussed the new farm bill in which it is proposed that there will be conservation programs for specialty crops, a research competitive grants program for specialty crops of \$200million and a \$5million program for clean plant centers. It is expected that multi-state Hatch dollars will continue.

Publication page charges: The system of charging the active scientists and not the retired authors for page charges in the APS journal was reviewed by Rob Crassweller. It is working well, but a few authors have outstanding bills they need to pay.

Ongoing cooperative plantings

1998 Cherry – Greg Lang reported:

- The Western sweet cherry planting will be terminated at the end of this year (2006). All data should be sent to Frank Kappel by Jan 15, 2007.
- The Eastern Sweet cherry planting will also be terminated at the end of this year (2006). All data should be sent to Greg Lang by Jan. 15, 2007.
- The eastern Tart Cherry planting will continue for one more year until the end of 2007. Send 2006 data to Greg Lang by Jan. 15, 2007.

1998 Apple – Terence Robinson distributed the final protocol and indicated that the planting will be terminated at the end of this year (2006). Send final data to Terence Robinson by March 1, 2007.

1999 Apple – Wes Autio distributed an annual report and a protocol for data collection in 2007. He requested that cooperators measure the degrees of leaning of trees in the semi-dwarf trial. These data should be reported for 2006 as well as 2007. Send 2006 data to Wes Autio by Jan. 15, 2007.

2001 Peach – Greg Reighard distributed the 5-year report and requested that cooperators check their data and report errors to him. Paper will be submitted in January to Journal of APS. Send data for 2006 to Greg by Feb. 1, 2006.

2002 Peach – Scott Johnson reported that there is tremendous variability in the performance of VVA around the country. It is time to prepare the 5 year report. At the end of 2006, please measure canopy height and spread. Also, explain why each stock failed and if there is an obvious reason for suckering (winter damage to the scion, incompatibility with scion, or genetic). Please send the requested data to Scott Johnson by Jan. 15, 2007.

2002 Apple – Wes Autio distributed a report and a protocol for 2007. This year completes 5 years for this trial and additional data should be collected. Please collect tree height, spread and burrknots according to the protocol. **Terence Robinson reported that this trial has a mixture with some of the rootstocks (JM1, JM2, JM7, CG.3007, G.935 and P.14.) The first 5 stocks exist only in the supplemental plantings as Geneva, Mexico, Ohio, and British Columbia. However, P.14 exists in all plantings. Cooperators are requested to review each tree of these stocks and determine if there are any super dwarfing trees.** Each of these stocks should be semidwarfing or semivigorous. The trees with the wrong rootstock will be more dwarfing than B.9 and similar to M.27. Once data

are corrected for mistaken rootstocks they should be sent to Wes Autio by Jan 1, 2007. Please also send a note to Wes with an explanation of any trees identified with the wrong rootstock.

2002 Cameo Trial – Jon Clements reported that MA and NJ planted a trial in 2002 with Cameo as the scion and G.16, M.9 and B.9 rootstocks. A five-year summary of this planting will be published this winter.

2002 Pear – Steve Castagnoli (OR) reported that this trial was planted in OR, and WA but is not a uniform trial. Each state had different varieties and rootstocks. There has not been a coordination of data yet, but Steve indicated he will try to request data and put together a 5-year summary of the trial.

2003 Apple – Rich Marini distributed a report and protocol for 2007. He indicated that he is missing data from some locations. His report details years and locations that have not been submitted. Please send the requested data to Rich Marini by Mar 1, 2007.

2003 Apple Physiology – Rich Marini distributed a report and protocol for 2007. He indicated that he is missing data from some locations. His report details years and locations that have not been submitted. Some sites were not able to impose different croploads in 2006 due to light bloom and set. These sites should impose the range of croploads on their trees in 2007. See the protocol for 2006 for detailed instructions. Sites that imposed different croploads in 2006 should measure return bloom on each tree by counting flowering spurs and nonflowering spurs on 2 branches per tree. They should then thin all of the trees to a low cropload (3 fruits/cm² TCA) soon after bloom. Please send the requested 2006 data to Rich Marini by Mar 1, 2007.

2004 Pear – Steve Castagnoli (OR) reported that this trial was planted in NY, WA and NS and is a uniform trial. There has not been a coordination of data yet but Steve indicated he will take on the task, request data and bring a report to the meeting next year.

2005 Pear – Steve Castagnoli (OR) reported that this trial was planted in CA, NY, OR, WA and CHIH but is not a uniform trial. There has not been a coordination of data yet but Steve indicated he will take on the task, request data and bring a report to the meeting next year.

2006 Apple Replant – Terence Robinson reported that this trial was planted in 10 locations. And has 12 rootstocks. He distributed the protocol for 2007 and 2007 and requested that cooperators measure total lateral shoot growth on all trees even though the earlier protocol only requested shoot length of 5 laterals. This will allow calculation of total shoot growth per tree. The protocol for 2007 also requests total lateral shoot growth. Trees should be left unpruned or minimally pruned. However, if leader growth is more than 1m then the leader can be headed by 1/3. It was agreed to amend the protocol to allow cropping of trees in the second year but they should be thinned to no more than 5 fruits/cm² TCA. Send final data to Terence Robinson by March 1, 2007.

2006 Cherry Physiology – Greg Lang reported that this trial was planted in 4 locations (CA, MI, NY and WA). The trial has Rainer on Gi.5 and will study the effect of management (pruning and thinning) on fruit size of Rainer in 4 distinct climates. Although more locations were interested, he could only locate trees for 4 locations. Trees for additional sites will be planted in 2007 or 2008. A protocol

will be developed for 2007 and distributed to participants. Greg will coordinate the data but no request for data submission from 2006 was made.

Report from the Administrative Advisor

Dr. Wendy Wintersteen (Iowa State U.) joined the meeting by teleconference and discussed the new NC-140 proposal. She has made several suggestions by email earlier to Wes Autio including strengthening the impact section. She discussed the procedures for review and approval of the new proposal. The proposal must be submitted by Dec. 1, 2006. She expressed her desire to join the group next year in Colorado.

Field Tours

Win Cowgill lead an excellent and interesting tour of his plots at the Snyder Research farm including the 1998 Apple plot, the 2002 Apple Plot, the 2003 Apple plot, the 2003 Apple Physiology plot and the 2006 Apple Replant plot.

Win Cowgill and Ed Dager, Snyder Farm Supervisor, led a tour of pesticide storage and handling facilities at Snyder Farm.

Dr. John Grande, Snyder Farm Director gave a hands on lecture and demonstration of his project on Evaluation of backpack sprayers for horticultural crops.

Committee Meetings

The standing commodity committees met in the late afternoon to discuss future plantings. The apple group was led by Terence Robinson, the Pear group was led by Steve Castagnoli, the peach group was led by Greg Reigard and the cherry group was led by Greg Lang.

Discussion of New Proposal.

Wes Autio reported that the rewrite committee (Autio, Cowgill, Domoto, Hoover, Robinson and Taylor) completed a draft of the new proposal. It should now be reviewed by all interested cooperators and any changes should be forwarded to Wes by Nov. 15, 2006. The proposal must be submitted by Dec. 1, 2006. Suggested changes from those in attendance include:

- the addition of plum rootstock work to objective 1. Even though we do not have a plum trial coordinator there is still plum rootstock work being done by the cooperators.
- the addition of propagation work to objective 2. Propagation difficulties are limiting the development and adoption of several promising rootstocks. Several cooperators including Fazio and Proebsting are doing work on propagation.
- the inclusion of the work by USDA cooperating scientist under planned work especially objectives 1-3.

Motion on New Proposal A motion was made by Robinson (NY) and seconded by Reighard (SC) for the secretary to send a letter of appreciation to Wes Autio and his committee with a copy to their department chairs for the great job they did on drafting the new NC-140 project proposal. The motion passed unanimously.

Committee Reports

Apple Committee - Terence Robinson reported that the following decisions were made

- Proceed with the propagation of a smaller rootstock planting in 2009 (6 new rootstocks, primarily new Russian stocks and 4 controls) with Honeycrisp and Auvil Early Fuji as the scions. Those who want to plant this trial must commit before Feb. 1, 2007. A signup sheet was passed to the group for commitments to host the trial. Cooperators who were not present at the meeting must contact Terence before

Feb. 1, 2007 if they want to participate. They must also decide which variety. Wes Autio will coordinate the data for this trial.

- Proceed with the propagation of a larger rootstock planting in 2010 (15 new rootstocks, primarily new Geneva and Malling stocks and 4 controls) with Honeycrisp and Cameo as the scions. Those who want to plant this trial must commit before Feb. 1, 2008. A signup sheet was passed to the group for commitments to host the trial. Cooperators who were not present at the meeting must contact Terence before Feb. 1, 2008 if they want to participate. They must also decide which variety.
- New committee members were added to the apple subcommittee to replace Bruce Barritt and Curt Rom whose terms expired. The new members are Win Cowgill, Mike Parker, Renae Moran and Mosbah Kushad.

Cherry Committee – Greg Lange reported:

- Although the 1998 Sweet Cherry trial will be terminated the trees will be used for a pruning study of fruit size. Interested cooperators will apply similar pruning treatments to determine the interaction of pruning and rootstock on fruit size.
- A new rootstock trial is being planned. It will likely be an interaction trial with dwarfing rootstocks and management. Proposed stocks include Gi.5, Gi.6, Edabriz and Wi72.
- A new rootstock trial is also being planned for the PiKu stocks, Gi.12 and the best from the last trial. No date for planting this trial was given

Peach Committee Peach: Greg Reighard reported:

- A new rootstock trial is being planned for 2009 with 10 new rootstocks to include Kuban86, Tetra, UC-Davis clones and if possible Zaiger clones.

Pear Committee Pear: Rachael Elkins reported:

- The group has restructured itself at this meeting. There will be 2 coordinators:
 - accession acquisition coordinator (The group needs someone to do this) Two possible persons are Kim Hummer or Richard Bell
 - trial and data coordinator – Steve Castagnoli (OR).
- The group will work on both European and Asian pears. (This may attract new cooperators.)
- The group needs an Asian pear coordinator.
- A new trial is planned for 2009. Cultivars will be Anjou for WA and OR and Bartlett for CA and Blakes Pride for Eastern locations. Possible cooperators include BC, CHIH, MA, MD, NJ, NS, NY, ONT, OR, WA, CO. The trial will be propagated at Adams County Nursery or Fowler Nursery.

Web Committee: Win Cowgill and Jon Clements reported:

- All publication abstracts are up-to-date and available on the website www.nc140.org
- All cooperating states and provinces should upload their annual report to the website.
- Planting coordinators should upload their protocols to the website in the members only section.

Motion on Web Committee: A discussion followed and a motion was proposed by Greg Lang (MI) and seconded by Dan Ward (NJ) that an introductory statement be added to the web page of state reports indicating that the data is preliminary and not to be used without the consent of the author. The motion passed unanimously.

State Reports were presented from the following locations

IL
 MN
 SC
 IA
 NS
 NC
 ONT
 GA
 NY
 PA
 CA
 CO
 KY
 MD
 MA
 CHIH, Mex
 MI
 NJ
 OR
 UT
 WI

Use of Technology: The technical committee meeting was made available to other NC140 members that could not attend via a live webcast via QuickTime web stream from the Synder Farm. The technology proved most useful during committee meetings when absent member were able to join the discussion via Macintosh iChat two way video conferencing.

Motion of Appreciation: A motion was made by Brent Black (UT) and seconded by Scott Johnson (CA) that the secretary send a letter of appreciation to Win Cowgill with a copy to his Dept. Chair for chairing the project in 2005/2006 and for hosting an excellent meeting in Pittstown NJ.

Final business:

- **All states and provinces are requested to send Dr. Harold Larsen (new Chair for 2006/2007) a one paragraph summary of their state report for inclusion in the projects annual report by Dec. 1, 2007. Send to: harold.larsen@colostate.edu**

Unfinished business:

- Paper on the History of NC-140 – Win and Terrance will finish writing this paper for publication as a feature article in HortScience commemorating the 30th anniversary of NC-140.
- Awards Committee – Emily Hoover will continue to investigate nominating NC-140 for the USDA annual honor award.

Meeting Adjourned at 4:00pm Nov. 7, 2007

Respectfully submitted,
 Terence Robinson
 NC-140 Secretary 2006/2007