

Editorial

What single trait drives research?

I wish today to challenge your opinion on a subject. If I asked you to tell me the single most important trait that drives all research, what would you select? I will not try to fill the page with potential answers. Each, I have no doubt, would be worthy of including. For the purpose of this discussion, I will submit that it is the ability to reduce or replace human labor. In earlier times, it was an effort to replace animal labor that was at the top of this list, as we moved away from “horsepower” and towards mechanically generated power.

Our ability to feed this planet, which seems not able to put a stop to population growth, has been a challenge ever since the first farm in the Garden of Eden. Man has toiled to feed his family first before any other need. Today is really no different. It is because we are so incredibly efficient that over 90% of the global population can tend to other needs. Today, the same challenge is how to produce more with fewer man hours.

So the single driving trait behind all new research is: how do we accomplish more with fewer man hours? Farm labor in current times is at an all-time critically low level. We have the same or greater need to feed this planet’s growing population, but fewer hands seem willing to participate in the task. This leads researchers to help us reduce hand labor. In apple production, we see this in efforts to chemically thin our crops and reduce hand thinning. One might suggest that the modern apple orchard is here only to increase production of high quality fruit. I would argue that it also goes to reduced

handling of marginal fruit and reduces labor in orchard maintenance (pruning).

The Civil War, one might argue, was a result of man’s inability to replace hand labor in the cotton fields. One has to wonder, if the cotton gin and modern combine had been available, would our history books have been written differently? Modern fruit packing lines are able to replace many hands and increase accuracy of the finished pack. Technology has replaced labor. Equal improvements are being made outside of the packing houses. As the cost and difficulty in finding ready hands to work on our farms continues, we will rely on research to help us bridge this need.

The remarkable thing about researchers is that, given a problem, they seem to always find a solution. Today, most growers feel that farm labor is the limiting factor. I am certain that our researchers are attuned to this and are working behind closed doors to help us meet this challenge. It is interesting that we first must have a problem to inspire us to find a solution. As a researcher, you certainly have job security, because as farmers, we always seem to have a new problem to hand off to you.

Paul Baker
 New York State Horticultural Society
 Sanborn, New York
 pbaker.hort@roadrunner.com



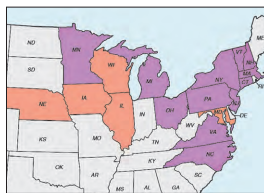
3



9



13



19



25



29



35

Contents

x Insect Mating Disruption – An Alternative Pest Management Strategy for Long Island Tree Fruit Orchards

Faruque Zaman, Laurie McBride, Shannon Moran, and Daniel Gilrein

9 News on Ooze, the Fire Blight Spreader

Suzanne M. Slack and George W. Sundin

13 Bitter Pit in Honeycrisp on G-41 vs M9-337: Observations from an Orchard Visit

Dan Donahue

19 NEWA (Network for Environment and Weather Applications) Provides Fruit IPM and Production Tools from 400 Weather Stations

Juliet Carroll, Tim Weigle, Art Agnello, Harvey Reissig, Kerik Cox, Deborah Breth, Terence Robinson, Greg Loeb, Wayne Wilcox, Keith Eggleston, Art DeGaetano, Dan Olmstead, Jennifer Grant, John Gibbons, and Curt Petzoldt

25 Tannin Additions to Improve the Quality of Hard Cider Made from Dessert Apples

Micah Martin, Olga Padilla-Zakour, Christopher Gerling

29 Stress-Induced Watercore in ‘NY2’ Fruit: Causes and Mitigation

Mario Miranda Sazo and Lailiang Cheng

35 Apple Harvest Platforms: Quantifying Efficiency and Determining Economic Benefits

Matt Wells, Jennifer Ifft, Jacob Marc Freedland

COVER: Ooze droplets caused by fire blight infection, and a fly touching one droplet with its front legs.

NEW YORK STATE HORTICULTURAL SOCIETY

President **Ned Morgan**, Morgan Farms LLC
331 Pigeon Hill Road, Marion, NY 14505
Cell: 585-752-9771; FAX: (315) 926-7740
email: emorgan11@rochester.rr.com

Vice President **Ted Furber**, Cherry Lawn Farms
8130 Glover Road, Sodus, NY 14551
PH: 315-483-8529; FAX: 315-483-6408
Cell: (315) 573-4046
e-mail: atfurber@yahoo.com

Treasurer/Sec. **Ward Dobbins**, H.H. Dobbins & Son
99 West Ave., PO Box 503, Lyndonville, NY 14098
PH: (585) 765-2271; FAX: (585) 765-9710
Cell: (716) 622-6636
e-mail: wdobbins@wnyapples.com

Executive Director **Paul Baker**
3568 Saunders Settlement Rd., Sanborn, NY 14132
FAX: (716) 219-4089; Cell: (716) 807-6827
e-mail: pbaker.hort@roadrunner.com

Office Admin. **Karen Wilson**
630 W. North St., Geneva, NY 14456
PH: (315) 787-2404 (W); FAX: (315) 787-2216
Cell: (315) 521-0852
e-mail: wilsonk36@hotmail.com

Cornell Director **Dr. Art Agnello**, NYSAES, Department of Entomology
630 W. North St. Geneva, NY 14456
PH: (315) 787-2341 (W); FAX: (315) 787-2326
Cell: (315) 719-4623
e-mail: ama4@cornell.edu

Director **Dan Sievert**, Lakeview Orchards, Inc.
4941 Lake Rd., Burt, NY 14028
PH: (716) 778-7491 (W); FAX: (716) 778-7466
CELL: (716) 870-8968
e-mail: lvorchards@hotmail.com

Director **John Ivison**, Helena Chemical Company
165 Platt St., Suite 100, Albion, NY 14411
PH: (585) 589-4195 (W); FAX: (585) 589-0257
Cell: (585) 509-2262
e-mail: ivisonj@helenachemical.com

Director **Alisha Albinder**, Hudons River Fruit Distributors
65 Old Indian Road, PO Box 246, Milton, NY 12547
PH: (845) 795-2121; FAX: (845) 795-2618
Cell: (845) 518-3962
email: alisha@hudsonriverfruit.com

Director **Randy Hart**, Hart Apple Farms, LLC
2301 Rt. 22, Peru, NY 12972
Cell: (518) 524-5366
e-mail: randy.hart1@gmail.com

Director **Elizabeth Madison**
5812 Middle Road, Sodus, NY 14551
PH: (315) 483-6155
email: emadison1234@gmail.com

Director **Brett Kast**, Kast Farms, Inc.
2911 Densmore Road, Albion, NY 14411
PH: (585) 589-9557
e-mail: Brett.Kast@gmail.com

Director OPEN

Director OPEN

APPLE RESEARCH & DEVELOPMENT PROGRAM ADVISORY BOARD

Chairman **Walt Blackler**, Apple Acres
4633 Cherry Valley Tpk. Lafayette, NY 13084
PH: 315-677-5144 (W); 315-729-3728 (C)
wblackler@gmail.com

Alan Buhr, New Royal Farms
7577 Slayton Settlement Road, Gasport, NY 14067
PH/FX: 716.772.2469; greenapple47@juno.com

Steve Clarke, Sunshine Orchards
40 Clarkes Lane, Milton, NY 12547
PH: 845-795-2383; 845-901-7440(C); FX: 845-795-2383
apelsteve@hvi.net

Robert Deemer, Dr. Pepper/Snapple Group
4363 Rte.104
Williamson, NY 14589
PH: 315.589.4911 ext. 713; FX: 315-589-8048
bob.deemer@dpsg.com

Mason Forrence, Forrence Orchards
2740 Route 22, Peru, NY 12972
PH: 518-643-9527; 518-726-6074 (C); FX: 518-643-9509
gaylewager@yahoo.com

Ted Furber, Cherry Lawn Farms
8099 Glover Rd., Sodus, NY 14551
PH: 315-483-9221; 315-573-4046 (C); FX: 315-483-6408
atfurber@yahoo.com

Mark McMullen, Marketing Order Administrator
NY State Dept. of Agriculture & Markets
10B Airline Drive, Albany, NY 12235
PH: 518-485-2014; FX: 518-457-2716
mark.mcmullen@agriculture.ny.gov

Jeff Smith, Ledge Rock Farms LLC
4362 South Gravel Road, Medina, NY 14103
PH: 585-798-3831
jsmith24@rochester.rr.com

Peter Ten Eyck, Indian Ladder Farms
342 Altamont-Voorheesville Road
Altamont, NY 12009
PH: 518-765-2956; 518-698-6258 (C); FX: 518-765-2700
Peter@indianladderfarms.com

MICHIGAN APPLES BOARD MEMBERS

Chair **Tony Blattner**
Lowell, Michigan

Vice Chair **Mark Youngquist**
Kent City, Michigan

Executive Committee Members

Gary Bartley
Dowagiac, Michigan

Damon Glei
Hillsdale, Michigan

Bob Gregory
Leland, Michigan

Art Lister
Ludington, Michigan

Kevin Winkler
Hartford, Michigan

Executive Director **Diane Smith**
Michigan Apple Committee
13750 S. Sedona Parkway, Suite 3
Lansing, MI 48906
Ph. 800.456.2753 Fax 517.669.9506



NYS BERRY GROWERS BOARD MEMBERS

Chair **Dale Riggs**, Stonewall Hill Farm
15370 NY Rt 22, Stephentown, NY 12168
PH: 518-733-6772; stonewallhill@taconic.net

Treasurer **Tony Emmi**, Emmi Farms
1572 S. Ivy Trail, Baldwinsville, NY 13027
PH: 315-374-3577; emmifarms@aol.com

Executive Secretary **Paul Baker**
3568 Saunders Settlement Rd., Sanborn, NY 14132
CELL: 716-807-6827; FAX: (716) 219-4089
pbaker.hort@roadrunner.com

Bruce Carson, Carson's Bloomin' Berries
2328 Reed Rd.
Bergen, NY 14416
PH: 585-494-1187; bcarson1@frontiernet.net

John Cashin, Cashin Farm
225 Argersinger Road, Fultonville, New York 12072
PH: 518-281-6000; cashinsfarm.com

Amy MacHamer, Hurd Orchards
17260 Ridge Rd., Holley, NY 14470

Elizabeth Madison
5812 Middle Road, Sodus, NY 14551
PH: (315) 483-6155; emadison1234@gmail.com

Terry Mosher, Mosher Farms
RD #1 Box 69, Bouckville, NY 13310
PH: 315-893-7173; tmosher@direcway.com

Chuck Mead, Mead Orchards LLC
15 Scism Rd., Tivoli, NY 12583
PH: 845-756-5641 (W); CELL: 845-389-0731
chuck@meadorchards.com

SPRING 2017 • VOLUME 25 • NUMBER 1

This publication is a joint effort of the New York State Horticultural Society, Cornell University's New York State Agricultural Experiment Station at Geneva, the New York State Apple Research and Development Program, Michigan Apple Committee, and the NYSBGA.

Editor **Dr. Art Agnello**
Dept. of Entomology
New York State Agricultural Experiment Station
Geneva, NY 14456
PH: 315-787-2341; FX: 315-787-2326
CELL: 315-719-4623
ama4@cornell.edu

Subscriptions & Advertising **Karen Wilson**
NYSHS, 630 W. North St., Geneva, NY 14456
PH: 315-787-2404; FAX: (315) 787-2216
wilsonk36@hotmail.com

Design **Elaine L. Gotham**
Gotham City Design, Naples, NY
PH: 585-374-9585; elg2@cornell.edu

Production **Gemma Osborne**
CAL Communications
NYSAES, Geneva, NY
PH: 315-787-2248; gro2@cornell.edu