



Fruit Notes

YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

Cornell Cooperative Extension
Lake Ontario Fruit Program

Volume 18 Issue 1 January 4, 2018

2018 Lake Ontario Winter Fruit Schools

Monday, February 5 – Niagara County CCE, Training Center

4487 Lake Ave., Lockport, NY 14094

Tuesday, February 6 – Newark Garden Hotel (Formerly the Quality Inn)

125 North Main St., Newark, NY 14513

Sponsorships available now, and registration available soon on the LOF website, <https://lof.cce.cornell.edu/>

We feel that we have an excellent program this season, with the help and input from industry. The program will offer topics which are not covered at the Empire State Producers EXPO sessions. The program is nearly finalized and will be posted on our website in the coming weeks. We expect over 150 growers to attend at each site.

We are excited to announce that David Granatstein of Washington State University has agreed to be our special guest speaker. David is a native of upstate New York and currently serves as the Statewide Coordinator for WSU's Center for Sustaining Agriculture and Natural Resources, based in Wenatchee, the heart of Washington's apple industry. During his career, David has been invited to conduct training in Russia, Argentina, Chile and beyond, and regularly gives presentations throughout the USA. At our Winter Fruit Schools, he will be sharing with us his expertise in orchard soil health and weed management. If you would like to sponsor the program to help cover David's travel costs, please go to our website or direct sponsorship link at: https://lof.cce.cornell.edu/sponsor_event.php?event_id=875

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Program (Speakers and Topics Confirmed, but not order)

	Topics/Title	Speaker
1	Protected Culture: Low Tunnels, High Tunnels, Exclusion Netting and How to Control SWD in These Situations	Laura McDermott, CCE-ENYCHP
2	Cherry Fruit Fly	Margaret Kelly, NYS Dept. of Ag & Mkts
3	Launch of the New Precision Smart App	Poliana Francescatto & Jaume Lordan, Cornell
4	IPM update	Tess Grasswitz, CCE-LOF
5	FSMA Update/Requirements	Craig Kahlke, CCE-LOF
6	Building a Fruiting Wall for Future Technology	Mario Miranda Sazo, CCE-LOF
7	Orchard Soil Health	David Granatstein, WSU
8	New York Apple Association—Marketing New York Apples (summary of promotional activities for 2017 crop year and NYAA's strategic work plan)	Cynthia Haskins, NYAA

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9	Labor Update	Brett Kast (Niagara County) & Liz Madison (Wayne County)
10	Using Whole-Farm Revenue Protection with Yield Insurance for Fruit Production	Jenny Ifft, Cornell
11	Importance of Bacterial Strains in Cultivar Response to Fire Blight	Awais Khan, Cornell
12	Hail Netting: Is it Right for Your Farm?	Liz Higgins, CCE-ENYCHP
13	Introducing the Labor Ready Farmer Project	Gabriela Pereyra and Kat McCarthy
14	Orchard Weed Mgmt	Davis Granatstein, WSU
15	Round Table	Unanswered questions/discussion any of the day's talks

Thank you to our Fruit School Sponsors Thus Far

Platinum Sponsors: BASF, Bayer Crop Science, Crop Production Services

Gold Sponsors: New York Apple Sales, Wafler Nursery

Silver Sponsor: Sun Orchard Fruit Company Inc.

Delegation: Key to Effective Management. The Happy Acres Orchard Story.¹

Elizabeth Higgins, Ag Business Specialist, Eastern NY Commercial Hort Program

Bob Smith, owner of Happy Acres Orchard, was increasingly frustrated with his staff. “No-one seems to be able to make a decision without asking me. If I’m not there, work just stops.” He also expressed concern that his equipment mechanic, Pete, was threatening to quit because he felt he was overworked, but his orchard manager, Juan, was also upset that work that he expected Pete to do wasn’t getting done. “I feel like I have enough people”, he said, “but the work isn’t getting done. If I could clone myself, I could get the work done.” Bob said.

Unfortunately for Bob, managing others differs a great deal from performing work ourselves. It requires new skills, attitudes, and an organizational framework that clearly defines roles and relationships. The first thing that we did was to look at how Bob’s farm was organized.

The key to good management is delegation, which means passing responsibilities to others. Delegation needs to take place at various levels in the farm operation, depending on the nature and complexity of tasks to be performed. Tasks must be assigned to

appropriate levels to keep labor costs down and make the best use of available skills.

Delegation takes place along lines of authority. Usually these lines are described in an organizational chart and through job descriptions.

There are two fundamental principles that apply to an organizational chart.

1. No employee can have more than one boss.
2. Authority must be equal to responsibility.

The first principle relates primarily to issues of communication and accountability. If a farm employee is expected to take orders from more than one person, what happens when orders conflict? On the other side, which boss checks to see that work was performed as directed? A one-to-one relationship between supervisor and subordinate is essential to avoid confusion.

The second principle of authority equal to responsibility is a practical consideration that is often overlooked by management. When an employee is assigned to a particular function he/she must have prior approval to make the critical decisions necessary to handle the job. Without this authority

¹ Adapted from Rich, Robert, “Delegation: Key to Effective Management”. Human Resource Management on the Farm: A Management Letter Series (Maloney, Bratton, Embrey and Petzen eds.) 88-22 Cornell Cooperative Extension, Department of Agricultural Economics. September 1988.

the employee is hamstrung, and the efficiency of delegation is lost in frequent delays of "checking with the boss."

In a fruit operation, like Bob's, a general manager might separate harvesting functions from orchard-care functions for delegation purposes. One employee might be in charge of supervising harvesting crews, arranging for trucking, and maintaining related equipment while another would be responsible for pest management decisions and spray applications and could even supervise the roadside stand.

So first we looked at Bob's current organizational chart.

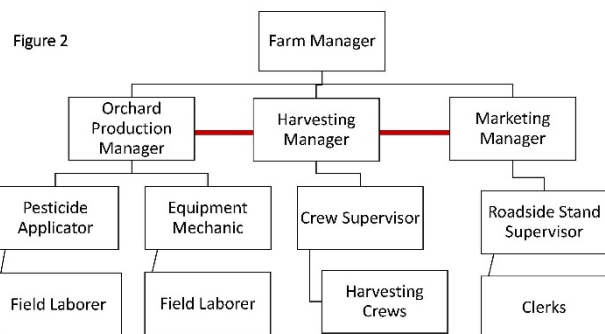
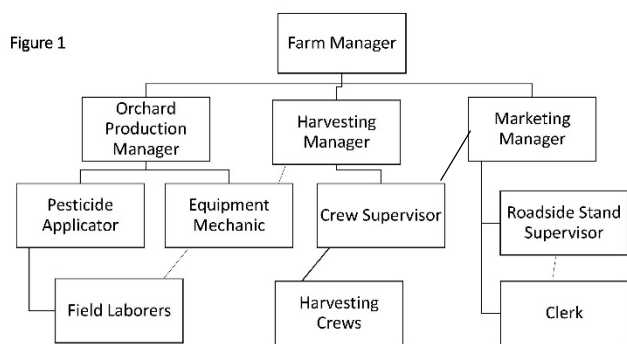


Figure 1: Bob's current farm chart, violates the "one boss" principle all over the place. When asked why Pete reported to both Juan, the orchard production manager and Ed, the harvesting manager, Bob's rationale was, "Both the orchard production and harvesting managers are dependent on equipment, so they should have authority over the mechanic." The statement is true, but the structure invites disaster. Pete felt pulled between Juan and Ed and consequently, overworked. When asked, Juan said that he was not fully aware of Ed's expectations of Pete's time.

We revised Bob's chart into one that was likely to be more effective (Figure 2). Functions are segregated and communication between managers is relied upon to channel needs from one division to another. Vertically in the organization, with each position reporting to a single position above. Communication lines (in red) are drawn between the middle managers to convey that interaction between divisions follows that course. For example, the harvesting manager, Ed, will go through the orchard production manager, Juan, on equipment issues and the marketing manager will consult with the harvesting manager about which varieties to pick next instead of going directly to the crew supervisor. This system also applies within divisions. Note that the marketing manager will go through a subordinate supervisor for help from the clerks.

Regardless of how authority is to be divided and delegation is to follow, the most important response is to stick with it and give managers authority over the decisions that fall under their area of supervision. The most difficult thing for an owner/operator/ worker to do is to let go!

Why is it so hard? On the surface, we would think that one would welcome the opportunity to "off-load" some responsibility. Bob, for example, was frustrated by how much his staff relied on him, but in reality, he was inhibiting their ability to make decisions. Some of the key barriers were:

- **Loss of control.** In talking to Bob, it was clear that he doubted the ability of his staff to do their jobs. He feared that he would lose control of the operation and everything would "go to the dogs." He was unintentionally conveying this belief to his managers, so they responded by double-checking all decisions with him.
- **Feeling of laziness.** Individuals who have done heavy physical labor most of their lives often think that they will appear lazy if they let someone else do the work they once did. Paperwork also may not seem like "real work." Bob also really liked being out in the orchard. Because he was often there, his employees deferred to him.
- **Inadequate communication skills.** This was the hardest skill for Bob to master. Describing and delegating work to others is substantially different from doing it. Bob realized that he became frustrated with trying to explain what

needed to be done and often decided that "it's easier just to do it myself."

We discussed a technique to handle the last issue. It is vitally important that orders include the following:

1. who is directly responsible,
2. what specifically is to be done, and
3. when it should be completed.

These three simple instructions usually eliminate confusion with delegated tasks. In general, the most difficult skill to develop in handling the delegation function of management is gaining the confidence to do it. The manager needs to feel comfortable that problems that arise because of the performance of subordinates can be solved and that overall the operation will function more efficiently when the workload and responsibility are shared.

A year later, after establishing clearer lines of authority, working with his staff to increase their

confidence in making decisions (and his confidence in them) and working to more clearly communicate with employees and helping them to more clearly communicate with their staff, Bob reported that things were going much more smoothly on the farm.

This material is based upon work supported by USDA/NIFA under Award Number 2015-49200-24225.



Use of Visual and Auditory Tactics for Detering Birds from Fruit Crops

Tessa R. Grasswitz

Detering birds from fruit crops is a perennial problem, particularly in drought years (remember the summer of 2016?). However, before investing in the latest bird-scaring gizmo, consider some of the factors that can influence their efficacy.

Bird behavior and visual or auditory deterrents

One of the problems with deterrent devices based on visual or audible signals is that they tend to rapidly lose their effectiveness as birds soon learn that they pose no real threat and eventually ignore them (a process known as 'habituation'). This is especially true for visual deterrents that do not move (e.g. simple models of hawks or owls), or for sounds that are repeated at very regular, predictable intervals in the same place.

Birds will eventually ignore even moving visual deterrents if the devices have only a limited range or pattern of movement (e.g. tethered balloon- or kite-like devices); the effectiveness of such devices can be preserved to some extent by frequently moving them to other locations within the target area. Some audible bird-scaring devices try to overcome the

problem of habituation by randomly playing a variety of alarm or distress calls from multiple bird species (mimicking birds under attack from predators). Obviously any recorded calls should closely mimic those of the target birds in the local area, but if the recordings are repeated too often in the same place (or at unnatural volumes), the target birds may still eventually learn to ignore them.

For this reason, recorded calls ideally should only be activated when birds are present, rather than being played continuously. Bird distress or alarm calls should also be reinforced by visual deterrents, since many birds will initially respond to an alarm or distress call by investigating its source: if there is no appropriate visual stimulus (e.g. a predator 'kite' or similar) to reinforce the calls, they are likely to be more quickly ignored. Interestingly, there are anecdotal reports that taped bird alarm/distress calls can attract predatory birds such as red-tailed or other hawks: a significant (and free!) enhancement to the program.

Bird deterrents based on visual or auditory signals should mimic real dangers as closely as possible if

they are to be effective. Even so, their impact will depend on various aspects of the biology of the target birds, including the time of year in relation to the bird's breeding cycle, the type of surrounding habitat/distance to cover, and the availability of alternative food sources. For maximum effectiveness, both alarm and distress calls should be used at the right times and places. In general, early-ripening varieties of susceptible crops are most at risk from bird damage. Deterrent devices should be in place and operational just before the earliest fruit reaches its most vulnerable stage – usually as it starts to ripen and soften. It is much harder to repel birds once feeding patterns have been established in the crop.

Flights of fancy? The use of drones as bird deterrents

With the magnitude of potential losses due to birds (a single starling may consume up to 9 ounces of blueberries per day), it is not surprising that commercial companies are constantly seeking new and improved methods of bird control. With the rapid advances in drone technology, some companies are already offering drone-based bird-scarers, at least one of which emits bird alarm calls as it flies. Several development teams have also incorporated a hawk-like silhouette for the drone (fulfilling the need for a visual 'reinforcer'), and at least one model now includes flapping 'wings' – much more difficult to engineer and to make convincing.

However, recent research suggest that if such drones are regularly flying in pre-determined (regular) patterns, they may still suffer the problem of waning effectiveness over time as birds habituate to their presence. Ideally, the flight pattern and 'behavior' of the drone should mimic that of local predatory birds. For example, a fixed-wing glider-type drone is being developed that is programmed to mimic the typical hunting flight of Cooper's hawks by gaining altitude behind tree cover and then swooping down over the target site (guided by GPS co-ordinates).

Nevertheless, problems remain. For cost-effective operation, drones also need to be able to dock and re-charge at regular intervals without supervision: still something of a challenge. Furthermore, there are now increasing reports of hawk attacks on drones. Although some of the videos and pictures of such attacks look a little dubious, there seem to be enough genuine cases to question the wisdom of the whole approach.

For now, it is perhaps a better and more cost-effective idea to obtain some lumber and invest your



winter evenings in the construction of nest boxes for the American kestrel: now is the ideal time to make and install them. Properly constructed and correctly placed, they provide an

inexpensive, effective alternative to drone technology, with the added bonus of helping a beneficial native species that has been declining in recent years. Be sure to site the nest boxes appropriately: about half a mile apart, facing east, 10-30 ft above ground, and ideally in mixed landscapes that include both young and old orchards and open fields or pasture.

Further resources:

Kestrel nest box plans are available at the links below. Ready-made boxes are also available for purchase from numerous vendors at approx. \$45-50 each; some county Soil and Water Districts also sell them (often more cheaply!))

https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_063830.pdf
<http://www.nectkestrels.com/American%20kestrel%20nest%20box%20plans.pdf>

Cornell Program Trains New Farm Owners for Business Success

Kat McCarthy, Cornell University

Please visit the [link here](#) for information about a new program (USDA Grant awarded to Cornell) from the College of Agriculture and Life Sciences that provides a crucial skillset beginning farmers need to scale up and achieve the 10-year milestone of remaining in business, by preparing them to hire, manage and retain skilled employees.

Niagara County Grower Jim Bittner Wins CCE's 2017 Friend of Extension Award

Craig Kahlke

We are very pleased that Jim, a longtime supporter of Cornell Cooperative Extension, has won this award! As a member of many committees and organizations, Jim has tirelessly worked for all of

our causes in agriculture. Be sure to congratulate Jim when you see him. Please [click the link here](#) for the Fruit Growers News article about Jim.

Aprovia Fungicide

The New York State Department of Environmental Conservation recently registered the following products, both of which contain benzovindiflupyr, a new active ingredient for New York State:

- Aprovia (EPA Reg. No. 100-1471) – registered for various diseases on lowbush blueberries, grapes, and pome fruit.
- Aprovia Top Fungicide (EPA Reg. No. 100-1476) (also contains difenoconazole as an active

ingredient). Registered for various diseases on several crops (including lowbush blueberries, grapes and gooseberries).

Note the following restrictions for these products:

- All are restricted-use in New York State.
- Aerial application is prohibited.

See product labels for further details (available from the [NYSDEC's product registration website](#))

REMINDER: Statewide Survey on Apple Decline!

Many thanks to all of you who have taken the time to complete our survey on any declining apple blocks that you may have. We really appreciate your input!

There is still time to complete the survey if you have not already done so, or to mail back any printed copies. Please include information on all of your affected blocks: the more data we have, the greater our chances of identifying any common factors, and the better idea we will have of where to focus future research efforts.

The survey can be completed either on-line or by mail. For the web-based option, please click [here](#). (Full link is: https://docs.google.com/forms/d/e/1FAIpQLSd7_n

[wzokf-MDigDEO4Ku3c8oYHTSdMkY0vU73HB3OgvgaLA/viewform](#)). For those who would prefer a printed version of the survey, please contact Tess at (585)-261-0125 or by email at: tg359@cornell.edu. Please return printed copies to: Tess Grasswitz, Lake Ontario Fruit Team, 12690 State Route 31, Albion, NY. 14411.

Please be assured that your specific farm information will be kept strictly confidential.

Acknowledgement: This statewide apple decline project has been funded by NYS apple producers under the auspices of the NYSDAM New York Apple Research & Development Program, to whom we are greatly indebted for their support.

Mark Your Calendars

Meeting Title	Becker Forum - Farm Employment Practices - Planning for the Future
Date	January 15
Time	All day
Location	Holiday Inn-Liverpool, Thruway Exit 37, Syracuse, NY
Cost	\$95
Brief Description of Meeting	Yearly forum on important topics in agriculture
Registration/Contact for Information	Registration for the Becker Forum online at: https://nysvga.org/register-for-meeting-online/

Meeting Title	Empire State Producers Expo
Date	January 16-18
Time	All Day, Multiple Sessions
Location	*New Location this year! Free parking, easy access. SRC Arena & Events Center (on the campus of Onondaga Community College) 4585 W Seneca Turnpike, Syracuse, NY 13215
Cost	\$45 for 1-day registration, \$90 for 2-3-day registration, other events extra
Brief Description of Meeting	State-wide educational meeting for the commercial Fruit & Vegetable Industries
Registration/Contact for Information	LOF Enrollees should have received promotional mailers with the last newsletter. Full Program and Registration Available Online at: https://nysvga.org/register-for-meeting-online/

Meeting Title	LOF Winter Fruit Schools
Date	February 5 and 6
Time	All Day
Location	Feb 5 (Lockport, Niagara CCE) Feb 6 (Newark, Newark Garden Hotel)
Cost	Advanced Registration: \$30 for LOF Enrollees; \$95 for Non-LOF Enrollees (for non-enrollees \$65 will be put toward enrollment) At the Door: \$35 for LOF enrollees; \$105 for Non-LOF Enrollees (for non-enrollees \$65 will be put toward enrollment)
Brief Description of Meeting	Regional winter education meetings for commercial tree fruit & small fruit industries in Western NY
Registration/Contact for Information	Kim Hazel - Telephone: 585-798-4265 ext. 26 or Email: krh5@cornell.edu Speakers and titles in this issue. Web site registration available: http://lof.cce.cornell.edu/events.php Sponsorship available now at: https://lof.cce.cornell.edu/sponsor_event.php?event_id=875 and https://lof.cce.cornell.edu/sponsorship.php

Meeting Title	FSMA Grower Training Courses
Date	Multiple, See Last newsletter (Issue 14, page 1 for more details) January 16, 20-21, 30, March 16
Time	All Day
Locations	Syracuse (Expo), Saratoga Springs (NOFA-NY), Lockport (CCE Niagara), Newark (CCE-Wayne)
Cost	Varied, See individual Registrations
Brief Description of Meeting	Federal requirement for most fruit and vegetable growers. See events listing on our website for dates/times/registrations/more info : https://lof.cce.cornell.edu/events.php
Registration/Contact for Information	Click on the link above for the individual meetings. For questions, contact Craig Kahlke at 585-735-5448, or cjk37@cornell.edu

Cornell Cooperative Extension

Lake Ontario Fruit Program

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Albion, NY 14411

Fruit Notes

YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

Fruit Specialists



Craig Kahlke | 585-735-5448 | cjk37@cornell.edu
Team Leader, Fruit Quality Management

Areas of Interest: Fruit Quality and factors that affect fruit quality before, during, and after storage,
Crops: Blueberries, Raspberries / Blackberries, Strawberries, Apples, Apricots, Cherries, Nectarines, Peaches, Pears, Plums



Mario Miranda Sazo | 315-719-1318 | mrm67@cornell.edu
Cultural Practices

Crops: Blueberries, Raspberries / Blackberries, Strawberries, Apples, Apricots, Asian Pears, Cherries, Currants,
Gooseberries, Nectarines, Peaches, Pears, Plums



Tessa Grasswitz | 585-261-0125 | tg359@cornell.edu
Integrated Pest Management (IPM)

Areas of Interest: IPM of tree fruit and berry pests, biological control, pollinators, and impact of climate change.
Crops: Blueberries, Raspberries / Blackberries, Strawberries, Apples, Apricots, Asian Pears, Cherries, Currants,
Gooseberries, Nectarines, Peaches, Pears, Plum

For more information about our program visit us at lof.cce.cornell.edu