

**TRANSACTIONS**  
of the  
**ILLINOIS STATE HORTICULTURAL SOCIETY**

For the year 2012  
Volume 146

Including the  
**PROCEEDINGS**  
of the  
**ONE HUNDRED FIFTY-FIFTH**  
**ANNUAL CONVENTION**

Held in Conjunction with the Illinois Specialty Crops, Agritourism and Organic Conference and  
The Illinois State Horticultural Society Annual Meeting and  
The Illinois Specialty Growers Association Annual Meeting  
at  
Springfield, Illinois  
January 11-14, 2013



Edited by Dr. Mosbah M. Kushad  
Society Data Compiled by Don H. Naylor

Published by the ISHS Society

ISSN 0892-3477

**TRANSACTIONS**  
**of the**  
**ILLINOIS STATE HORTICULTURAL SOCIETY**

**For the year 2012**  
**Volume 146**

**Including the**  
**PROCEEDINGS**  
**of the**  
**ONE HUNDRED FIFTY-FIFTH**  
**ANNUAL CONVENTION**

**Held in Conjunction with the Illinois Specialty Crops, Agritourism and Organic Conference and**  
**The Illinois State Horticultural Society Annual Meeting and**  
**The Illinois Specialty Growers Association Annual Meeting**  
**at**  
**Springfield, Illinois**  
**January 11-14, 2013**

Compiled by Don H. Naylor  
Edited by Mosbah M. Kushad  
Published by the ISHS Society  
ISSN 0892-3477

**Volume 146  
2012**

**ISSN 0892-3477**

**TRANSACTIONS of the  
ILLINOIS STATE HORTICULTURAL SOCIETY**

# TRANSACTIONS OF THE ILLINOIS STATE HORTICULTURAL SOCIETY

## TABLE OF CONTENTS

### I. ILLINOIS HORTICULTURAL SOCIETY BOARD OF DIRECTORS AND COMMITTEES

Board of Directors List 2012-2013 .....	Page 1
Board of Directors Committees .....	Page 2

### II. RESEARCH ARTICLES

Reflections on the 2012 Growing season.....	Page 3
Mosbah Kushad, university of Illinois	
BASIL ( <i>Ocimum basilicum</i> ‘Esmeralda’); Downy mildew; <i>Peronospora belbahrii</i> .....	Page 7
Mohammad Babadoost and A. DeYoung, University of Illinois	
Evaluating selected fungicides for control of powdery mildew of pumpkin, 2012. ....	Page 9.
PUMPKIN ( <i>Cucurbita pepo</i> ‘Howden’); Powdery mildew, <i>Podosphaera xanthii</i> (syn. <i>Sphaerotheca fuliginea</i> ) Mohammad Babadoost, University of Illinois	
PUMPKIN ( <i>Cucurbita pepo</i> ‘Howden’) Bacterial spot; <i>Xanthomonas cucurbitae</i> .....	Page 11
S. Thapa and M. Babadoost, University of Illinois	
Sweet Corn Tolerance to Lorox.....	Page 13
John Masiunas and Dan Anderson, University of Illinois	
Challenges and Opportunities for Cover Crops in Vegetable Systems.....	Page 15
Matthew De Jong, Vice President De Jong Bros. Farms Lansing, IL	
Are Super High Density Apple Systems Suitable in Illinois? .....	Page 16
Mosbah Kushad, University of Illinois	

### III. INDUSTRY NEWS

Twenty-fourth Annual Cider Contest .....	Page 21
Curran’s Orchard Wins 2013 Illinois Cider Contests	
Dr. Elizabeth Wahle, Cider Contest Co-Coordinator	
Patrick Curran and Steven Bock, Dennis Ringhausen Volunteer Co-Coordinators	
Kuiper’s Family Farm Hosts 2012 Horticulture Field .....	Page 23
Dr. Mohammad Babadoost, University of Illinois	
2012 Illinois Specialty Crops, Agritourism and Organic Conference Recap.....	Page 24
Dr. Rick Weinzierl, University of Illinois	
From the President .....	Page 25
Chris Eckert, Eckert’s Orchards, Belleville, Illinois	
Member Corner .....	Page 27
Rendleman Orchards Featured on Local TV Station	
Curtis Orchard, A Fall Tradition in East Central Illinois	
Notes From Home .....	Page 27
Jerry Mills, Mills Apple Farm, Marine, Illinois	

#### **IV. BUSINESS REPORTS**

Minutes, of the Board of Directors Meeting, Wednesday January 11, 2012 .....	Page 31
Minutes, of Annual Meeting, Thursday, January 12, 2012 .....	Page 32
Minutes, Board Reorganization Meeting, Thursday, January 12, 2012 .....	Page 33
Minutes, Board of Directors Meeting, Wednesday, June 13, 2012 .....	Page 34
Financial Statement for Society for 2012 .....	Page 35
HALL OF FAME AWARD .....	Page 36
Guidelines and List of Current and Past Award Winners	
C. CHRIS DOLL INDUSTRY RECOGNITION AWARD .....	Page 38
PAST PRESIDENTS LIST .....	Page 39
CONTRIBUTORS TO THE SOCIETY FOR 2012 LIST .....	Page 40
2012 ISHS ANNUAL REPORT .....	Page 41
SOCIETY MEMBERSHIP LIST FOR 2012 .....	Page 43

# I. ILLINOIS HORTICULTURAL SOCIETY BOARD OF DIRECTORS 2012-2013

## *Board of Directors*

### *District #1 (north of I-80)*

Steve Bock (MAL-14)\*  
Honey Hill Orchard  
11747 Waterman Rd.  
Waterman, IL 60556  
815/264-3337  
[honeyhill5@frontier.com](mailto:honeyhill5@frontier.com)

Raoul Bergersen (MAL-14)  
Valley Orchard  
703 Jarvis Dr.  
Winnebago, IL 61088  
815/335-7158  
[valleyorchard@verizon.net](mailto:valleyorchard@verizon.net)

Pat Curran (MAL-14)  
Curran's Apple Orchard  
614 Paris Ave  
Rockford, IL 61107  
815/398-7504  
[pcurran@tds.net](mailto:pcurran@tds.net)

Dennis Norton (DR-14)  
Royal Oak Farm  
15908 Hebron Rd  
Harvard, IL 60033  
815/648-4141  
[dmnorton@royaloakfarmorchard.com](mailto:dmnorton@royaloakfarmorchard.com)

### *District #2 (between I-80 and I-70)*

Denise Boggio, 1<sup>st</sup> V-P (MAL-14)\*  
Boggio's Orchard and Produce  
10746 N 950<sup>th</sup> Ave  
Granville, IL 61326  
815/303-2245 (c)  
[boggiosorchard@hotmail.com](mailto:boggiosorchard@hotmail.com)

Jeff Broom, 2<sup>nd</sup> V-P (MAL-14)  
Broom Orchard, Inc.  
12803 Broom Rd.  
Carlinville, IL 62626  
217/825-6993 (c)  
[jbroom@frontier.net](mailto:jbroom@frontier.net)

Dennis Ringhausen, (MAL-14)  
Joe Ringhausen Orchards  
515 W. Pearl  
Jerseyville, IL 62052  
618/535-6951  
[applehouse@gtec.com](mailto:applehouse@gtec.com)

Craig Tanner, Past President (DR-14)\*  
Tanner's Orchard  
740 State Route 40  
Speer, IL 61479  
309/493-5442  
[craig@tannersorchard.com](mailto:craig@tannersorchard.com)

### *District #3 (south of I-70)*

Chris Eckert, President (MAL-14)\*  
Eckert Orchards  
951 Green Mount Rd.  
Belleville, IL 62220  
618/779-8646 (c)  
[chris,eckert@eckerts.com](mailto:chris,eckert@eckerts.com)

Kurt Range (DR-14)  
Braeutigam's Orchard  
2765 Turkey Hill Rd  
Belleville, IL 62221  
618/234-7188  
[kurt.range@swic.edu](mailto:kurt.range@swic.edu)

Tom Schwartz (MAL-14)  
Schwartz Orchards  
P. O. Box 885  
Centralia, IL 62801  
618/322-7027  
[applejam@charter.net](mailto:applejam@charter.net)

### *Academia Adviser*

Dr. Mohammad Babadoost (14)  
Department of Crop Sciences  
1201 W. Gregory Ave.  
Urbana, IL 61801  
217/333-1523  
[babadoos@uiuc.edu](mailto:babadoos@uiuc.edu)

### *Executive Secretary*

Don Naylor\*  
Illinois State Horticultural Society  
Bloomington, IL 61705  
309/828-8929  
[ilsthortsoc@yahoo.com](mailto:ilsthortsoc@yahoo.com)  
[www.specialtygrowers.org](http://www.specialtygrowers.org)

\* Executive Committee  
DR= District Representative  
MAL= Member-at-Large

## **Committees List 2012-2013**

Following are current appointments to existing committees. They should be re-confirmed for next year. You will notice there are several topics for which there is no committee. This issue needs discussed and decisions made to strengthen the overall committee/ programmatic structure of the organization.

### **Cider Contest**

Pat Curran  
Steve Bock  
Elizabeth Walhe

### **Cider Champion For Excellence**

Chris Doll  
Brad Taylor

### **Hall of Fame**

Bob Edwards  
Chris Doll  
Jim Eckert  
Jerry Mills  
Richard Tanner

### **Industry Recognition Award**

Ken Hall  
Jerry Mills  
Wayne Sirles



## II. RESEARCH REPORTS

### Reflections on the 2012 Fruit Growing Season

Mosbah M. Kushad

Department of Crop Sciences

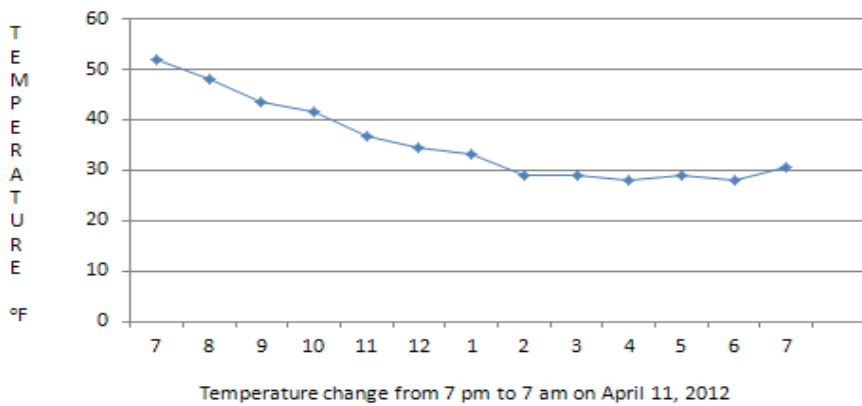
University of Illinois

The 2012 growing season was one to forget by fruit growers in the upper half of Illinois, while growers in the lower half of the state had one of their better years. The month of March was probably one of the warmest months on record with the daytime temperatures in central Illinois in the latter part of March averaging more than 60 °F and reaching as high as 75 °F on March 28<sup>th</sup>. The first part of April was also very warm with daytime temperature between April 1 and 4 reaching as high as 83 °F.

The warm weather in March and early April advanced flowering and fruit set by more than two weeks. Peaches were past shuck split, apple fruits were several millimeters in diameter. However, on April 11<sup>th</sup> and 12<sup>th</sup>, the temperature in the upper half of the state and throughout the upper portion of the country and the east coast dropped to below freezing. In the Champaign/Urbana area the temperature dropped from 53 °F at 7:00 pm on April 11<sup>th</sup> to about 27 °F between 2 am and 6 am on April 12<sup>th</sup> (see graph in the next page).

The drop in temperature in early April caused extensive damage to many fruit crops in central, western, and northern Illinois counties with varying degrees of injuries. The peach fruitlets on most varieties in central Illinois have been hit hard, especially in low lying areas, with some damage was reported as far west as Jerseyville and Hardin. Most apples, like Jonahan and Empire were also hit hard with many orchards reporting 50% to 100% loss. Golden Delicious did slightly better than Red Delicious. All the fruitlets on a young experimental block of Honeycrisp, at the University of Illinois Fruit Farm, were damaged. Some may think that Honeycrisp, a Minnesota apple, is hardier than many others, but blossoms and young fruitlets of all varieties are susceptible to frost damage. The only variety that was not damaged as hard in Urbana was Juliette from the PRI breeding program.

Of ten Asian pear variety trial, Atago, Kosui, Yoinashi, Shinsui, Olympic, Shikno, Ya Li, Siwasii, Golden Russet, and Hosui an done European variety Bartlett, only Ya Li had a reasonable crop because it bloomed later than the rest. Grapes were also hit hard, but because grapes bare crop on one year old wood, new buds started to emerge as soon as the weather warmed up, but the overall yield was affected by as much as 30%.



Most of the severe damage had occurred north of I-70. The following graph shows the temperature fluctuation from 7:00 pm on April 10 to 7:00 am on April 11 in central Illinois. During a span of seven hours, the temperature dropped nearly 32 degrees. As we all know this spring has been one of the warmest on record with the daytime temperature in central Illinois in March averaging more than 60 °F and reaching as high as 75 °F on March 28<sup>th</sup>. April was also very warm with the day temperature between April 1 and 4 averaging more than 83 °F. Similar weather pattern has been felt throughout the Midwest. In Most areas of the Midwest, farmers reporting a month ahead of schedule for bud development of most fruit trees. Extensive damage to stone fruits trees has also been observed in New York.

The normal cool weather in March and April keep the buds dormant. However, the unseasonably warm weather this year has pushed the buds to come out of dormancy. Not only that, but, the warm weather before the 27 °F freeze hit on April 11<sup>th</sup> added more the severity of the damage. Had the weather cooled gradually the damage would not have been as extensive. The Reasons are explained in the following paragraphs.

Understanding how freezing kills buds is not easy. It is complicated by the fact that different varieties harden at different rates. Hardening is a process that a plant goes through to prepare itself for the winter.



Freeze damage on apple blossoms and leaves

Cold hardiness or cold acclimation is a physiological change in the plant that allows it to tolerate, an

otherwise, injurious temperatures. Cold hardiness is believed to be genetically controlled, especially in acclimated plants. Hardiness occurs when a plant is acclimated by being exposed, for a few days, to temperatures slightly above those that normally cause injury. The cue for acclimation and eventual hardiness is cool temperature and day length. Plants start to acclimate when the days get shorter and cooler in the fall. Insect models offer the best example of cold hardiness and acclimation. Survival of the adults of an insect called Pharate (*Sarcophaga crassipalpis*) increased to 91% when they were placed at 0°C for only 2 hours and then transferred to -10°C. Acclimation can also be seen in tender plants like tomato or pepper when the temperature drops gradually versus rapidly. When the temperature drops gradually these plants can survive a few degrees lower than when there is a sudden drop in temperature.

Obviously, the warm weather in March and early April, contributed to the extensive damage that we had seen in the upper half of Illinois because flower and fruit buds are more sensitive to below freezing temperatures than dormant buds.

Several mechanisms have been proposed for plants that tolerate freezing. A) Some plants tolerate freezing by expelling water outside the cell into the extracellular spaces; B), by a process known as supercooling; C) by lowering their freezing point by accumulating a type of antifreezes in the form of proteins, other cryoprotectants, or by dehydration of the cells. However, most physiologists agree that the crucial factor in winter injury is not low temperature, per se, but ice crystals that form inside the cells causing their rupture. For any living organism to survive winter damage it has to prevent ice crystals from forming inside the cells. However, water freezing in the spaces between the cells (outside the cells) does not kill plants unless it is combined with ice forming inside the cells. Ice is formed around nucleating agents, which are very tiny particles inside the tissue. It is the same principle for rain formation and cloud seeding. Rain droplets form around microscopic particles—dust, smoke, salt crystals, soil and other materials that are present in the atmosphere to form rain. Inside living cells, water also condenses around microscopic particles to form ice crystals. Fortunately, there aren't many floating microscopic particles in living organisms, but unfortunately it takes only a few ice crystals to form for the plant to freeze.

Interestingly, studies have shown that Antarctic micro-arthropods, only a few millimeters long, are the largest terrestrial animals that live year round on the Antarctic Continent. They survive low temperatures by a process known as supercooling, which involves reducing their freezing point to as low as -30°C in the winter by emptying their gut of food. However in the summer, when they start feeding, these insects were found to freeze at about -6°C, because of ice nucleating agents found on the particles of food in their gut. More recent studies have also shown that, in some organisms, digestive enzymes destroy ice nucleating sites on the surface of food particles inside the guts and that allow them to survive lower temperatures. The process of supercooling can also occur in plants as well, especially in plants that have small cells, limited intercellular spaces and plants that have low free water content. Remember the few orange trees in Central Florida that survived the freeze even though every tree around them had died. These trees survived because they were able to supercool. There is nothing magical about those trees, except than they were able to supercool at that time. Supercooling is when the free water in the cell does not freeze at subfreezing temperatures. Most likely, these trees will die if they are exposed to the same temperature, unless they are able to supercool again. The reason those trees were able to survive may have been due to very limited free water in their cells at that time. Unfortunately, supercooling can only proceed to a certain steady-state level, which varies seasonally, depending on the condition of the

plant, but after which freezing and death will occur. Supercooling is also a phenomenon of freezing rain, but that is a different subject.

In the spring, water starts to move into the tissue causing them to become more susceptible to freezing injury. Young tissue including leaves and flowers tend to have much more free water (90 to 95% free water) than older tissue. The more free water in the tissue, the more likely the tissue will freeze at close to 32 F. Water movement into the tissue is much faster on warm days than on cold days. For this reason plants, even hardy ones like apples, are more likely to be damaged by spring frost. There is nothing you can do to have the plants go back to their state before the warm spell. The only thing you can do is to warm up the air to above freezing by heating or to protect the plants by spraying water. As water freezes it releases heat called heat of fusion. The released heat keeps the tissue from freezing and the ice serves as a blanket to protect the plants from deeper temperature.

2012 was also a very dry year. Some have suggested that 2012 was the third driest year on record in the Midwest. The US Government has legally declared 1,692 counties in 36 states as primary natural disaster areas with nearly as many counties on the border line. The effect of the drought on the peach and apple crop was not as bad as it was on field crops, but still significant, especially in blocks that were not irrigated. In an experimental trial Honeycrisp on several rootstocks at University of Illinois we lost several trees on Geneva 11 due to breakage of the graft union as result of drought. Other farmers also reported loss of trees on Mark and Malling 26. In areas where there was a crop, fruit size was smaller than normal in the middle of the summer but some areas received some moisture that helped increase fruit size.

## **Efficacy of selected fungicides for control of downy mildew of basil in Illinois, 2011.**

BASIL (*Ocimum basilicum* 'Esmeralda'). Downy mildew; *Peronospora belbahrii*

M. Babadoost, and A. DeYoung

University of Illinois and Van Drunen Farms Momence, IL

A trial was conducted at Van Drunen Farms in Momence, Kankakee County, IL, to evaluate the efficacy of selected fungicides and biocontrol agents for control of downy mildew of basil. The soil was sandy with pH 6.0. Soil was disk-bedded on 10 May, 2011 to incorporate a fall ryegrass cover crop. Ammonia sulfate (300 lb/A), potassium sulfate (200 lb/A), manganese sulfate (50 lb/A), boron (15 lb/A), and copper sulfate (5 lb/A) were broadcast and incorporated on 11 May, 2011. Basil cv. 'Esmeralda' was planted on 6 Jun. The herbicide Devrinol 50DF (4 lb in 20 gal of water/A) was applied over entire field on 8 Jun. During the season, weeds were controlled by cultivation and hand weeding. Twenty-seven treatments were included in the experiment which was arranged in a randomized complete plot design with four replications. Each plot consisted of four rows of basil with an area of 5 ft x 10 ft. Fungicides were applied with a backpack sprayer using 60 gal of water per acre. Severity of downy mildew (percent total area of leaves affected) was visually assessed in the middle two rows of each plot on 27 Aug and 3 Sep. After 7 Sep, temperatures decreased rapidly and conditions were not conducive for development of downy mildew anymore. Average monthly high and low temperatures (°F) were 71/49, 81/60, 88/66, and 84/59 for May, Jun, Jul, and Aug, respectively. Recorded precipitation was 12 days (4.58 in.) in May, 10 days (2.39 in.) in Jun, 5 days (2.29 in.) in Jul, 6 days (1.29 in.) in Aug, and 1 day (0.88 in.) during 1-3 Sep. The growing season in 2011 in Illinois was warmer and drier than normal.

Downy mildew was first observed in the untreated plots on 18 Aug and its severity increased as the season progressed. Overall, severity of the disease was significantly higher in unsprayed plots than the sprayed plots, except plots that received compounds aimed for use in organic production (Nordox 75WG, Nordox 75WG + Safe-T-Side, Serenade + Induce, Sonata + Induce, and Serenade + Regalia). The most effective fungicides for control of downy mildew were ProPhyt, Forum, Ranman, Revus, Zampro, Experimental-I, and Experimental-II. Applications of mixed fungicides with ProPhyt were more effective for controlling downy mildew than applications of the fungicides alone.

Treatment and rate/A <sup>y</sup>	Downy mildew severity (%) <sup>z</sup>	
	27 Aug	3 Sep
Untreated check	55.0 b <sup>x</sup>	85.0 a
ProPhyt 4L, 3 pt + Induce 90 <sup>w</sup>	2.5 d	2.5 e
Bravo Weather Stik 6 F, 2 pt + ProPhyt 4L, 3 pt + Induce 90	0.0 d	0.0 e
Forum 4.16SC, 6 fl oz + Induce 90	0.0 d	2.5 e
Forum 4.16SC, 6 fl oz + ProPhyt 4L, 3 pt + Induce 90	0.0 d	0.0 e
Gavel 75DF, 2 lb + Induce 90	0.0 d	25.0 cd
Gavel 75DF, 2 lb + ProPhyt 4L, 3 pt + Induce 90	0.0 d	2.5 e
Presidio 4SC, 4 fl oz + Induce 90	2.5 d	27.5 c
Presidio 4SC, 4 fl oz + ProPhyt 4L, 3 pt + Induce 90	0.0 d	2.5 e
Ranman 400SC, 2.75 fl oz + Induce 90	0.0 d	5.0 e
Ranman 400SC, 2.75 fl oz + ProPhyt 4L, 3 pt + Induce 90	0.0 d	0.0 e
Revus 2.09SC 4 fl oz + Induce 90	0.0 d	2.5 e
Revus 2.09SC, 8 fl oz + ProPhyt 4L, 3 pt + Induce 90	0.0 d	0.0 e
Ridomil Gold Copper 65WP, 2 lb + ProPhyt 4L, 3 pt + Induce 90	0.0 d	10.0 de
Tanos 50DWG, 10 oz + Induce 90	12.5 d	52.5 b
Tanos 50DWG, 10 oz + ProPhyt 4L, 3 pt + Induce 90	2.5 d	2.5 e
Experimental-I, 38.6 fl oz + Induce 90	0.0 d	0.0 e
Experimental-I, 38.6 fl oz + ProPhyt 4L, 3 pt + Induce 90	0.0 d	0.0 e
Experimental-II, 38.6 fl oz + Induce 90	0.0 d	0.0 e
.....		
Experimental-II, 38.6 fl oz + ProPhyt 4L, 3 pt + Induce 90	0.0 d	0.0 e
Zampro 525SC, 14 fl oz + Induce 90	0.0 d	5.0 e
Zampro 525SC, 14 fl oz + ProPhyt 4L, 3 pt + Induce 90	0.0 d	0.0 e
Nordox 75WG, 14oz	37.5 c	72.5 a
Nordox 75WG 8 oz. + Safe-T-Side, 2% (v:v) .....	47.5 bc	87.5 a
Serenade, 2 qt + Induce 90	60.0 b	80.0 a
Sonata, 2 qt + Induce 90	45.0 bc	77.5 a
Serenade, 2 qt + Regalia, 1% (v:v)	85.0 a	87.5 a
<b>LSD (P=0.05)</b>	<b>15.7</b>	<b>16.3</b>

<sup>z</sup> Severity = percent area of leaves affected.

<sup>y</sup> All treatments were spray applications made at weekly interval on 16, 23, and 30 Jul; 6, 13, 20, and 27 Aug; and 3 Sep.

<sup>x</sup> Values within each column followed with the same letter are not significantly different ( $P=0.05$ ) according to Fisher's Protected Least Significant Difference test. <sup>w</sup> Induce 90, an adjuvant, was used at the rate of 0.125% (v:v).

## Evaluating selected fungicides for control of powdery mildew of pumpkin, 2012.

PUMPKIN (*Cucurbita pepo* 'Howden')

Powdery mildew; *Podosphaera xanthii* (syn. *Sphaerotheca fuliginea*)

M. Babadoost  
Department of Crop Sciences  
University of Illinois  
1102 S. Goodwin Ave.  
Urbana, IL 61801

A trial was conducted at the University of Illinois Vegetable Research Farm near Champaign, IL, to evaluate the efficacy of selected fungicides for control of powdery mildew of pumpkin. The soil was a silt clay loam with pH 6.5. Soil was chisel-plowed on 17 Nov 2011 after soybeans had been harvested, cultivated on 27 Mar and tilled again on 27 April to incorporate nitrogen fertilizer. Nitrogen fertilizer (60 lb/A) was broadcast and incorporated on 27 Apr 2012. Herbicides Dual (II) Magnum 7.6E (1.33 pt/A) and Sandea 75WSG (0.75 oz/A), in 20 gal of water/A, were applied over entire field on 5 Jun. Jack-o-lantern pumpkin cv 'Howden' was planted on 6 Jun. Seeds were sown 18 in. apart in single-row plots, 20ft long. The plots were spaced 35 ft apart in a randomized complete block design with four replications. During the season, weeds were controlled by cultivation and hand weeding. Cucumber beetles (*Acalymma vittatum* and *Diabrotica undecimpunctata*) and other insects were managed by applying Perm-Up 3.2EC (4 fl oz/A) on 20 Jun, 17 Jul, and 14 Aug; and Capture 2EC (5 fl oz/A) on 2 and 29 Aug. Fungicides were applied with a backpack sprayer using 50 gal of water per acre. Severity of powdery mildew (percent total area of vines and leaves affected) was visually assessed on 27 Jul; 10 and 24 Aug, and 7 and 13 Sep. Severity of the disease was assessed at four locations (43 sq ft each) within each plot, and at the same locations, throughout the season. Average monthly high and low temperatures (°F) were 88/61, 95/69, 87/62, and 77/54 during 6-30 Jun, Jul, Aug, and Sep, respectively. Recorded precipitation in the field was 3 days (1.65 in.) during 6-30 Jun, 1 day (0.10 in.) in Jul, 4 days (3.05 in.) in Aug, 7 days (6.70 in.) in Sep. Also beginning 16 Jul, plants were irrigated with approximately 0.5 in. water delivered through a drip irrigation system. Overall, 2012 growing season in Illinois was warmer and much drier than normal. Plots were harvested on 3 Oct and number and weight of marketable fruit were recorded. Average area of each plot at harvest was 500 sq ft.

Powdery mildew was first observed in the untreated plots on 4 Aug and its severity increased as the season progressed. Severity of the powdery mildew was significantly higher in unsprayed plots than the sprayed plots. Except one experimental fungicide, all of the treatments controlled powdery mildew satisfactorily throughout the season. On 7 Sep (10 days after the last applications of fungicides), powdery mildew was observed in untreated plots and plots of six other treatments. No powdery mildew was observed in plots of 15 of 24 treatments on 13 Sep (16 days after final fungicide applications).

No downy mildew, gummy stem blight, Fusarium blight, or virus diseases developed in the plots. Low incidence of Plectosporium blight on vines and leaves, low incidence of bacterial wilt early in the season, and medium to severe bacterial spot on leaves and fruit toward the end of the season were recorded.

Treatment and rate/A (application timing) <sup>y</sup>	Powdery mildew severity (%) <sup>z</sup>				Fruit yield /plot	
	10 Aug		13 Sep		3 Oct	
	Vine	Leaf	Vine	Leaf	Fruit no.	Fruit wt (lb)
Untreated check .....	0.50 a <sup>x</sup>	0.75 a	48.25 a	48.75 a	5.50 a-c	88.06 ab
Kumulus 80DF, 4 lb (1,3,5) alt Quintec 2.08SC, 4 fl oz (2,4,6) alt Kumulus 80DF, 4 lb + Quintec 2.08SC, 4 fl oz (7) .....	0.00 b	0.00 b	0.00 d	0.00 d	6.25 a-c	105.05 ab
Kumulus 80DF, 4 lb (1,3,5) alt Rally 40WSP, 5 oz (2,4,6) alt Kumulus 80DF, 4 lb + Rally 40WSP, 5 oz (7) .....	0.50 a	0.50 ab	0.00 d	0.00 d	7.25 a-c	121.50 ab
Fontelis 1.67SC, 1 pt (1-7) .....	0.25 ab	0.25 b	0.50 d	0.50 d	6.50 a-c	116.11 ab
Fontelis 1.67SC, 2 pt (1-7) .....	0.00 b	0.00 b	0.00 d	0.00 d	5.50 a-c	99.66 ab
Fontelis 1.67SC, 1 pt (1,3,5,7) alt Quintec 2.08SC, 4 fl oz (2,4,6) .....	0.00 b	0.00 b	0.00 d	0.00 d	7.50 a-c	111.32 ab
Fontelis 1.67SC, 1 pt (1,3,5,7) alt Bravo Weather Stik 6SC, 2 pt (2,4,6) .....	0.00 b	0.00 b	0.00 d	0.00 d	8.50 ab	132.88 ab
Fontelis 1.67SC, 1 pt + Bravo Weather Stik 5SC, 1 pt (1,4,7) alt Bravo Weather Stik 6SC, 1.5 pt (2,5) alt Folecur 3.6SC, 8 fl oz (3,6) .....	0.00 b	0.00 b	0.00 d	0.00 d	9.25 a	156.04 a
Experimental-I, 2.08SC, 1 pt (1-7) .....	0.00 b	0.00 b	14.00 b	16.50 b	4.00 bc	89.16 ab
Experimental-I, 2.08SC, 2 pt (1-7) .....	0.25 ab	0.50 ab	10.25 c	11.50 c	5.50 a-c	92.73 ab
Pristine 38WG, 15.5 oz (2-7) .....	0.00 b	0.00 b	0.50 d	0.50 d	6.50 a-c	106.26 ab
Quadris Top 2.71SC, 14 fl oz (2-7) .....	0.00 b	0.00 b	0.00 d	0.00 d	7.75 a-c	139.15 a
Regalia, 3 pt + Quintec 2.08SC, 6 fl oz (1-7) .....	0.00 b	0.00 b	0.00 d	0.00 d	7.75 a-c	138.99 a
Regalia, 3 pt + Fontelis 1.67SC, 1 pt (1-7) .....	0.00 b	0.00 b	0.00 d	0.00 d	6.50 a-c	94.82 ab
Procure 480SC, 8 fl oz (1,4,7) alt WGN-4617, 3.4 fl oz (2,5) alt Quintec 2.08SC, 4 fl oz (3,6) .....	0.00 b	0.00 b	0.00 d	0.00 d	5.75 a-c	92.95 ab
IKF-309, 4 fl oz (1-7) .....	0.00 b	0.00 b	0.00 d	0.00 d	8.00 a-c	139.54 a
IKF-309, 5 fl oz (1-7) .....	0.00 b	0.00 b	0.00 d	0.00 d	3.50 c	47.58 b
IKF-309, 4 fl oz (1,3,5,7) .....	0.00 b	0.00 b	0.25 d	0.25 d	10.00 a	168.74 a
IKF-309, 5 fl oz (1,3,5,7) .....	0.00 b	0.00 b	0.25 d	0.50 d	8.75 a	160.44 a
IKF-309, 5 fl oz (1,3,5,7) alt Rally 40WSP, 5 oz (2,4,6) .....	0.00 b	0.00 b	0.00 d	0.00 d	8.75 a	135.08 a
Mettle, 6 oz (1-7) .....	0.00 b	0.00 b	0.25 d	0.25 d	8.50 ab	154.83 a
Mettle, 8 oz (1-7) .....	0.00 b	0.00 b	0.00 d	0.00 d	8.50 ab	146.25 a
Rally 40WSP, 5 oz (1-7) .....	0.00 b	0.00 b	0.00 d	0.00 d	8.75 a	149.77 a
Pristine 38WG, 15.5 oz +Kocide-3000 46.1DF, 1.5 lb (1,4,7) alt Procure 480SC, 8 fl oz + Kocide-3000 46.1DF, 1.5 lb (3,6) .	0.50 a	0.50 ab	1.50 d	1.25 d	7.25 a-c	120.12 ab
LSD ( $P=0.05$ )	0.42	0.54	3.34	3.38	4.61	86.21

<sup>z</sup> Severity = percent area of vines or leaves affected.

<sup>y</sup> Application time: 1 = 16 Jul, 2 = 23 Jul, 3 = 30 Jul, 4 = 6 Aug, 5 = 13 Aug, 6 = 20 Aug, and 7 = 27 Aug.

<sup>x</sup> Values within each column followed with the same letter are not significantly different ( $P=0.05$ ) according to Fisher's Protected Least Significant Difference test.



## Evaluating efficacy of selected chemicals for control of bacterial spot of pumpkin, 2012.

PUMPKIN (*Cucurbita pepo* ‘Howden’) Bacterial spot; *Xanthomonas cucurbitae*

S. Thapa and M. Babadoost

University of Illinois

A trial was conducted at the University of Illinois Vegetable Research Farm near Champaign, IL, to evaluate the efficacy of selected compounds for control of bacterial spot of pumpkin. The soil was a silt clay loam with pH 6.5. Soil was plowed on 17 Nov 2011 after soybeans had been harvested, cultivated on 27 Mar and tilled on 27 Apr 2012 to incorporate nitrogen fertilizer. Nitrogen fertilizer (60 lb/A) was broadcast and incorporated on 27 Apr 2012. Herbicides Dual (II) Magnum 7.6E (1.33 pt/A) and Sandea 75WSG (0.75 oz/A), in 20 gal of water/A, were applied over entire field on 5 Jun. Jack-o-lantern pumpkin cv ‘Howden’ was planted on 6 Jun. Seeds were sown 18 in. apart in single-row plots, 20-ft long. The plots were spaced 35 ft apart in a randomized complete block design with three replications. During the season, weeds were controlled by cultivation and hand-weeding. Cucumber beetles (*Acalymma vittatum* and *Diabrotica undecimpunctata*) and other insects were managed by applying Perm-Up 3.2EC (4 fl oz/A) on 20 Jun, 17 Jul, and 14 Aug; and Capture 2EC (5 fl oz/A) on 2 and 29 Aug. Plants were inoculated with *Xanthomonas cucurbitae* ( $5.2 \times 10^7$  cfu/ml) on 23 Jul and 13 Aug using a backpack sprayer and spray-application of 600 ml of the inoculum suspension onto plants in each plot. Average plot area was 120 and 180 ft<sup>2</sup> on 23 Jul and 13 Aug, respectively. Chemicals were spray-applied with a backpack sprayer using 50 gal of water per acre. First application of the chemicals was either on 19 Jul (4 days prior to the inoculation) or on 26 Jul (3 day post inoculation). Then, the chemicals were applied at 7-day intervals until 6 Sep. Bacterial spots were observed on leaves 10 days after the inoculation and severity of infection increased as the season progressed. Bacterial spots were observed on fruit 17 Aug (25 days after inoculation), when fruit were approximately 15 cm in diam. Incidence (percent symptomatic leaves) and severity (percent symptomatic area of leaves) of bacterial spot were assessed on 25 Aug, and 11 and 23 Sep. Incidence and severity of bacterial spot on fruit were assessed on 23 Sep. In each plot, five vines were randomly selected and leaves of the five vines and all of the fruit in the plot were evaluated for the occurrence of bacterial spot. Average monthly high and low temperatures (°F) were 88/61, 95/69, 87/62, and 78/56 during 6-30 Jun, Jul, Aug, and during 1-23 Sep, respectively. Recorded precipitation in the field was 3 days (1.65 in.) during 6-30 Jun, 1 day (0.10 in.) in Jul, 4 days (3.05 in.) in Aug, 6 days (5.90 in.) during 1-23 Sep. Also during 16 Jul – 1 Sep, plants were irrigated with approximately 0.5 in. water every 4 days, delivered through a drip irrigation system. Overall, 2012 growing season in Illinois was warmer and much drier than normal. Average area of each plot at final evaluation of 23 Sep 2012 was 400 ft<sup>2</sup>.

Severity of bacterial spot on leaves was significantly lower in the plots sprayed with chemicals than control plots. The lowest severity of bacterial spots on leaves was in the plots sprayed with Mycoshield. Incidence of fruit infection with *Xanthomonas cucurbitae* was significantly lower in the plots sprayed with Phyton-016B (pre-inoculation spray), Badge X2 (pre-inoculation spray), Mycoshield (pre-inoculation spray), Tanos plus Kocide-3000 (pre- and post-inoculation sprays), and Actigard plus Kocide-3000 (pre-inoculation spray) than that of control plots. The lowest incidence of fruit infection (11.1%) was in the plots with Mycoshield applications that began pre-inoculation, compared to control plots with 88.8% of fruit with bacterial spot.

Treatment and rate/A <sup>z</sup>	First application of chemical <sup>y</sup>	Bacterial spot severity on leaves (%) <sup>x</sup>		Bacterial spot on fruit (%) <sup>w</sup> 23 Sept.	
		25 Aug	11 Sept	Incidence	Severity
Control (no chemical)	Pre	8.08 a <sup>v</sup>	11.49 b	88.9 a	4.33 a
	Post	6.98 b	13.00 a	85.0 ab	4.77 a
Cuprofix Ultra 40DF, 2 lb	Pre	1.82 d-f	3.72 j-m	58.3 a-e	2.31 a-g
	Post	1.76 d-f	4.93 fg	53.3 a-f	1.80 b-h
Kocide-3000 46.1DF, 1.25 lb	Pre	2.01 d-f	5.33 ef	69.0 a-d	1.20 c-h
	Post	2.18 c	6.44 cd	64.4 a-d	3.37 a-f
Nordox 75, 1.25 lb	Pre	1.98 d-f	4.09 h-k	55.6 a-f	0.93 e-h
	Post	2.08 c-e	5.00 fg	64.4 a-d	3.03 a-f
Phyton-016B, 25 fl oz	Pre	2.18 cd	5.20 ef	23.3 ef	0.07 h
	Post	2.00 d-f	6.07 d	62.2 a-e	1.97 b-h
Badge X2, 1.25 lb	Pre	1.87 d-f	4.73 f-h	25.0 d-f	0.93 e-h
	Post	1.81 d-f	3.75 i-m	80.5 ab	3.60 a-e
Mycoshield, 1 lb	Pre	1.50 f	3.23 l-n	11.1 f	0.20 gh
	Post	1.60 ef	2.80 n	61.1 a-e	3.53 a-e
Kasumin 2L, 1 qt	Pre	1.87 d-f	4.80 fg	60.0 a-e	0.13 h
	Post	2.0 d-f	5.88 de	44.4 a-f	1.43 c-h
Agrimycin 17WP, 0.5 lb	Pre	2.06 c-f	4.30 g-j	46.7 a-f	3.97 a-c
	Post	2.01 d-f	6.93 c	60.0 a-e	1.13 d-h
Agion E, 3 gallon	Pre	2.01 d-f	3.57 k-m	58.3 a-e	0.83 e-h
	Post	2.02 d-f	4.05 h-k	72.2 a-c	1.23 c-h
Tanos 50DWG, 10 oz + Kocide, 1.25 lb	Pre	1.80 d-f	4.07 h-k	26.7 d-f	2.27 a-h
	Post	2.56 c	4.43 g-i	42.2 b-f	2.63 a-h
Quintec 2.08SC, 6 fl oz + Kocide-3000 46.1DF, 1.25 lb	Pre	2.07 c-f	6.47 cd	69.4 a-d	3.03 a-f
	Post	1.70 d-f	5.23 ef	77.4 a-c	3.73 a-d
Dithane M45, 2.5 lb + Kocide-3000 46.1DF, 1.25 lb	Pre	2.0 d-f	3.90 i-l	72.2 a-c	3.77 a-d
	Post	1.75 d-f	4.08 h-k	75.5 a-c	2.907a-g
Actigard, 10 oz + Kocide-3000 46.1DF, 1.25 lb	Pre	1.74 d-f	3.13 mn	33.3 c-f	0.20 gh
	Post	1.72 d-f	3.17 mn	82.2 ab	0.73 f-h
LSD ( $P=0.05$ )		0.53	0.70	45.0	2.78

<sup>z</sup> All compounds were spray-applied on 19 Jul (only pre-application), 26 Jul, 2 Aug, 9 Aug, 16 Aug, 23 Aug, 30 Aug, 6 Sep.

<sup>y</sup> Pre = plants received an application of the chemicals on 19 Jul, 4 days prior to the inoculation of plants with *Xanthomonas cucurbitae* on 23 Jul. Post = application of the chemicals began on 26 Jul, 3 days after the inoculation of plants.

<sup>x</sup> Percent symptomatic area of leaves.

<sup>w</sup> Incidence = percent symptomatic fruit; severity = percent affected area of fruit.

<sup>v</sup> Values within each column with a letter in common are not significantly different ( $P=0.05$ ) from each other according to Fisher's protected LSD test.

## **Sweet Corn Tolerance to Lorox**

John Masiunas and Dan Anderson

*Department of Crop Sciences, University of Illinois, 1201 W. Gregory Dr., Urbana, IL 61801*

### **INTRODUCTION**

Sweet corn is the most important vegetable crop in Illinois. It is grown for both fresh market and processing on approximately 50,000 acres. Illinois, Minnesota, and Wisconsin produce 98% of processing sweet corn in Midwest and half of U.S. processing sweet corn. Weed management in sweet corn is problematic. Atrazine is the key herbicide for broadleaf weed management in sweet corn. It is versatile, applied PRE, POST or PRE + POST to a majority of sweet corn fields. The future of atrazine has been called into question due to continued review by the USEPA with the latest registration review starting this year. Atrazine use has been restricted in areas of sandy soils in Wisconsin and near surface water in other areas. Weed resistance to atrazine is also a problem.

Lorox has potential as an atrazine substitute for sweet corn. It controls many common weeds in sweet corn including galinsoga, lambsquarters, pigweed and waterhemp, common ragweed, and smartweed. Compared with atrazine, Lorox has good crop rotation characteristics, with any vegetable crop being able to be planted 4 months after application. The last published research on Lorox in sweet corn dates to 1960's and 1970's and does not reflect current cropping systems or varieties. Our objective was to determine crop tolerance and weed control from applications of Lorox to a late planting of sweet corn.

### **MATERIALS AND METHODS**

The study was conducted on the Cruse Tract Irrigated Vegetable Crop Research Farm in Champaign, IL on a Flanagan silt loam (fine Montmorillonitic, mesic Aquic Agridoll). The soil pH was 6.6, soil organic matter was 4.3%, cation exchange capacity was 14.5 meq/100 g, extractable phosphorus was 29 ppm, and soluble potash was 193 ppm. The experiment was a randomized complete block design with 4 replications.

'Synergy' sweet corn {[Se x (Se x Sh<sub>2</sub>)] bi-color synergistic} was planted on June 29. The plots were 25 feet long and four sweet corn rows spaced 30 inches apart with seed spaced 8 inches apart within the row. Sweet corn was planted on June 14. Herbicides were applied on June 15 using a tractor mounted sprayer delivering 28 gpa at 30 psi.

Emergence was counted in 20 feet of one of the two center rows on June 23. Sweet corn height was measured at 13 (June 30), 18, and 42 days after planting from all the plants in the center 10 feet of the center two rows. Sweet corn height as measured from the soil line to the growing point. Injury was visually rated on a scale of 0 to 10 (10 = plant death), 13 days after planting. Yield was determined on August 12 by counting all marketable ears in the center 10 feet of the center two rows.

Weeds were determined by counting the weeds by species in 6 square feet at the center of the plots. Weeds were counted on 118, 32 and 42 days after planting.

### **RESULTS AND DISCUSSION**

Emergence and stand establishment were not affected. There was no injury from any treatment. At 13, 18, and 42 days after treatment there were no significant differences. At 13 days after treatment the

height ranged from 9.83 in the Control to 10.9 in the Dual + Lorox + atrazine. At 18 days after treatment height ranged from 14.23 in the Control to 16.53 in the Dual + atrazine. At 42 days after treatment height ranged from 75.1 in the Dual + Lorox at 1.9 + 0.75 to 85.63 in Dual + atrazine.

There few weeds in the area of the plots. The dominant weeds were velvetleaf and purlane. The control ranged from 3.3 to 10 weeds/ 6 square feet. There were no significant differences between the treatments for the 18 and 32 DAP counts. At 42 DAT, the only difference was between the control and the other treatments.

Table 1. The effect of treatments on sweet corn emergence, growth, injury, and yield.

Treatment	Rate lbs/ acre	#/20ft row	cm growth DAP			Injury	ears/ 20ft
			13	18	42		
Dual Magnum	1.9	22.83	10.37	14.87	83.93	0	32
Dual Magnum + Atrazine	1.9 + 1.0	23.5	10.23	16.53	85.63	0	36
Dual Magnum + Callisto	1.9 + 3 fl oz	22.5	10.53	15.23	79.17	0	33
Dual Magnum + Lorox	1.9 + 0.50	23.17	10.3	14.5	77.73	0	40
Dual Magnum + Lorox	1.9 + 0.75	22.17	10.53	14.87	75.1	0	35
Dual Magnum + Lorox	1.9 + 0.875	22.83	10.33	14.77	80.33	0	26
Dual Magnum + Lorox	1.9 + 1.0	23	10.67	15.37	78.27	0	29
Dual Magnum + Lrx + atraz	1.9 + 0.75 +.50	22.83	10.9	15.57	76.87	0	29
Dual Magnum + Lrx + Cllstr	1.9 + 0.75+3floz	22	10.2	14.77	82.77	0	35
Control		22.83	9.83	14.23	78	0	42
LSD		NS	NS	NS	NS	NS	NS

Table 2. Weed control from the treatments.

Treatment	Rate lbs/ acre	weeds 6 square feet DAP		
		18	32	42
Dual Magnum	1.9	0	0	0.67
Dual Magnum + Atrazine	1.9 + 1.0	0.33	0.33	0.87
Dual Magnum + Callisto	1.9 + 3 fl oz	0	0	0.17
Dual Magnum + Lorox	1.9 + 0.50	0	0.17	0.33
Dual Magnum + Lorox	1.9 + 0.75	0	0	0
Dual Magnum + Lorox	1.9 + 0.875	0.17	0.83	1
Dual Magnum + Lorox	1.9 + 1.0	0	0.17	0.05
Dual Magnum + Lrx + atraz	1.9 + 0.75 +.50	0.33	0.67	0.075
Dual Magnum + Lrx + Cllstr	1.9 + 0.75+3 floz	0	0	0.17
Control		3.3	3.3	10.0
LSD		NS	NS	2.0

## **Challenges and Opportunities for Cover Crops in Vegetable Systems**

Matthew De Jong,  
Vice President De Jong Bros. Farms  
Lansing, IL

Our farm has been around for over 75 years. I am the 3<sup>rd</sup> generation to run the farm. Intensive vegetable production has depleted organic matter and soil fertility. The predominant soil type is Watseka loamy fine sand.

One huge problem the business has faced is maintaining profit in the face of shrinking acreage. As each generation or ownership retired, ground was used to fund the retirement. A shrinking land base caused the previous generation to reduce the number of crops grown and focus on the profitable ones. This resulted in no diversity or rotation. In order to sustain yields, increasing amounts of chemical inputs were used.

Vegetable production, specifically small seeded vegetables like lettuce, onions, radishes, and greens need a relatively clean seedbed to germinate and compete against weeds. Moldboard plowing is the mainstay to produce that level and moist seed zone.

The result of years of high intensive agriculture that puts little back into the soil coupled with intensive tillage caused degradation of soil structure and soil organic matter. Even though problems were not noticeable at first, erosion, nutrient deficiency, lack of water retention, and the lack of pathogen suppression have become increasingly noticeable in the last few years.

Although I am not saying that cover crops can be the cure all, nevertheless I do believe that cover crops can help improve soil health and subsequent crop health and hopefully yield. Looking at natural ecosystems, the few things I notice is that there is diversity, mutually beneficial growth habits, soil health generally suppresses large destructive pathogenic outbreaks and natural 'vegetative productive ecosystems' tend to fill in bare spots, for example a prairie.

There can be difficulties in using cover crops. The foremost is competition with vegetables. Once you decide to use cover crops, you can have issues with population establishment, nitrogen immobilization from too carbonaceous residue, or weed seed generation from improper killing techniques. Also residue can retain water, making it difficult to plant your cash crop.

Opportunities for cover crops are weed control, fertility improvement, Moisture retention, and erosion control. In our operation we raise brassicas. Hence the use of mustards for weed suppression is not an option. Our main goals then are diversity, the growth habit (spatial and sprawling vs. erect), season of growth, and do they protect the soil.

Depending on the time between harvest and planting of the next crop different combos could be used. With short season crops that we raise there are a number of options for cover crops, even in 40-50 day fallow periods. In 2011, we tried a number of combinations specifically looking at cereal rye and hairy vetch, tillage radish, Millet, Sorghum Sudan grass, Buckwheat and soybeans.

The spring and summer results were that the soybeans and Sorghum Sudan grass reacted well to heavy rainfall after planting and emerged well. I would recommend these if the window before planting was larger. A shorter window might include a millet and or buckwheat.

The fall showed that for nitrogen fixation hairy vetch and rye did very well and reduced our nitrogen inputs by 70%. Probably could have reduced by 100% for first cut greens. The regrowth after second cutting showed nitrogen deficiencies. The tillage radish experiment is an ongoing experiment to plant spinach quicker in the spring to speed up the harvest to better fill the gap in supply for our spinach bagging operation. There are many different cover crops that with planning can be used to fit into a niche into a vegetable operation. It may take a different mindset, but the benefits are amazing in the short term with nutrient and water retention, which is of great importance for sandy soils.

## **Are Super High Density Apple Systems Suitable in Illinois?**

Mosbah Kushad, University of Illinois

On a recent trip to New Zealand, I was amazed at how many new orchards are being established using a super high density system called the “Tall Spindle”. The system involves planting trees at very close distances using spacing of 3-4 ft between trees and 9-11 ft between rows for a total of between 1,000 to 1,500 trees per acre. Many of the New Zealand orchards are supported by two to three sets of double high tensile wires anchored to wooden end posts. The most commonly used rootstock in this training system is Malling-9 and its clones. Bud-9 also works but because of its low vigor, it may pose future problems unless used with high vigor varieties.

The logic behind this system is that it encourages early and high yield in a very short time after the establishment of the orchard. It is designed primarily to get fruits into the market early, especially with new varieties, in order to get the best prices. Data from Massachusetts reported yields of up to 1,000 bushels per acre in the first five years of tree growth with peak yield project to be substantially higher in later years. To achieve higher yield, new trees coming from the nursery have to have many well placed feathers with a graft-union shank of more than 4 to 5 inches. The difference between the tall spindle and the central leader is that the tree is not headed at planting, allowing the leader to grow into a tall tree. Another important management practice is that immediately after trees have been planted, a team of workers tie-down each suitable feather into either horizontal with the ground or pointing downwards. Any branches that reach half the size of the leader are removed to ensure that the leader remains the dominant branch in the canopy. Some growers use Apogee to reduce tree growth and encourage lateral branches.

The central leaders of most of the trees that I saw in New Zealand were allowed to grow untouched, reaching up to 12 to 15 feet in height. However, the top portion of the leaders, on some of these trees, has started to bend-down from the weight of the fruits. The system also calls for tips of the branches in the upper half of the tree to be pinched to allow more lateral buds to open and to reduce the pinched branches’ vigor. Maintaining a single leader, tying branches to a horizontal or blow angle, removing forks on branches, and removing branches that reach more than half the diameter of the leader continues throughout the life of the tree, making the final shape of the tree to look more like a tube than a traditional pyramid.

This training system is gaining popularity in Europe, Canada, and in the US in Washington State, NY, and Michigan. However, in the US a slightly different approach is being used where 3 to 4 permanent scaffolds in the lower third of the tree are maintained so that the tree has a more compact pyramid shape similar in looks to the vertical axe system.

In the US, this systems in being used with Fuji, Honeycrisp, and Gala, while in New Zealand growers are using it with that country’s bred varieties like Pacific Rose, Envy, Eve, jazz, and Pink Lady. Will this super high density training system work in Illinois? Preliminary observations from a trial of Honeycrisp at University of Illinois, using several rootstocks, suggest that it can be successful with some cultivars. Low vigor varieties like Fuji or spur type varieties seem to be ideal for this system because of their limited vegetative growth. However, the biggest concern with this system is tree vigor. In areas with very rich soil and in years of crop failure, it is likely that an imbalance is likely to happen making the task of maintaining the spindly shape of the tree difficult

# Pumpkin and other Cucurbit Crops Handling and Storage

Mosbah M. Kushad, Horticulturist

Department of Crop Sciences, University of Illinois

Cucurbit crops vary widely in their harvest time and storage requirements depending on cultivar and location. For example, Jack-o-lantern harvest in Illinois usually starts in mid September to October. While cantaloupe harvest starts as early as mid. July and continues as late as the end of September. Cucurbit crops also vary in their storage requirement. Some are extremely sensitive to low temperature storage, like summer squash and zucchini, while others, like pickling cucumber, are more forgiving. In this article, I will try to highlight some of the important practices that you can follow to keep your pumpkin and other cucurbit crops from being damaged postharvest.

**When to harvest.** Fruits harvested at the correct stage of maturity will keep longer in storage, have better quality. Harvest pumpkin when they reach maturity or full color. For those that have pick-your-own operations, cut the vine off of mature fruits to cure fruit, stiffen the handle, reduce disease infection, and slow down shrinkage. Pumpkin will continue to develop color after harvest, but pay attention to maturity. Fully green fruits will develop some color but those fruits will not store as well as fruits that are harvested mature. Cucumbers are harvest immature in order to keep that crisp and juicy texture and to keep the seed coat from hardening. Squash and summer squash grow very quickly when the temperature is between 77 and 95°F. Picking is recommended every day, every other day, or every 3 to 4 days after pollination in order to maintain the fresh and tender flesh and glossy skin look. Cantaloupes or more appropriately muskmelons are generally considered climacteric fruits. In other words they produce ethylene and may continue to ripen after they reach a physiological stage of maturity. However, some non netted melons are possibly non climacteric and so they will not ripen much after harvest. Several parameters are used to determine when to harvest muskmelons. Some older cultivars emit fragrant aroma “musk”, when fully ripen, which has been added into the name. Other factors that have been used to measure muskmelon maturity include development of fully netted skin, yellow or orange ground color, percent soluble solids, development of the abscission zone, and days from antheses. However, the most widely used factors in determining maturity for harvest of muskmelon fruits is the full slip state of the fruit from the vine. Muskmelon fruits will soften if kept at room temperature but their sugar level will not increase. Most consumers perceive a soft muskmelon to be sweeter than a hard one even when their sugar levels are similar. In contrast to pumpkin, and muskmelon, watermelon will not continue to ripen after harvest. Therefore, knowing when to harvest watermelon is important. Most pickers use darkening of the small tendril next to the fruit as an indicator of maturity. Crews of most large farms often pick fruits when the ground color (the side of the fruit in contact with the soil) of the rind turns yellow. Days from planting, usually 75 to 95 days, is used as approximate indicators of harvest maturity. Among consumers, watermelon maturity attracts more attention than any other fruit. Thumbing, shaking, squeezing, and rolling are but a few of the ways consumers use to pick a ripe watermelon. My father’s sure way to pick a ripe watermelon was to hold one end of the fruit between the palms of both hands, usually the end away from the stem, and squeeze while sticking his ear to listen for a crackling sound. If he heard a crackling sound then he is “certain and definite” that the fruit is ripe. I am not sure if there is watermelon afterlife and if there is he is out there squeezing the daylight out of them.

**Handling and transportation.** Bruising by mishandling the fruit at harvest and during transportation is one of the most serious problems for all cucurbits varieties. Throwing or dropping the fruits in a bin or stacking too many fruits on top of each often result in unnecessary bruises that affect quality and the cosmetic look of the fruit. Bruised fruits do not store as long and develop bitter taste in storage. Bruised

fruits are also more susceptible to chilling injury. To avoid bruising, train your pickers to handle the fruits properly, avoid stacking fruits too high on top of each other, and avoid storing stacking fruits on top of hard surfaces like concrete. Another important harvest factor that affects quality is keeping the fruit in the sun for a long period. Fruits that have been kept in the sun for more than one hour soften quickly and do not keep long in storage.

**Curing after harvest.** Curing of certain cucurbits, like pumpkin and hard rind squashes, is a standard practice to harden the peel in order to increase shelf-life and reduce disease infection. Curing of pumpkin also helps the handle stay firm. Do not cure certain types of squash, like acorn and delicate cultivars, so they don't lose their quality due to the high temperature. Curing is usually done by holding the fruit at 80 to 85°F and about 90% relative humidity for 7 to 10 days in storage, depending on the weather conditions before harvest. Pumpkin can also be cured in the field by placing them in windrow. Dry and warm, but not hot, weather before harvest, reduces the need for longer curing time.

**Handling.** Fruit should be harvested early in the morning and placed in the shade soon after harvest. It is best to store pumpkin and other fruits in a cooler. However, any cool space is better than keeping the fruits outside exposed to direct sunlight. There is a misconception among growers that pumpkin should not be stored on a concrete floor. This can only be true if the fruit temperature and the floor temperature are widely different. Moisture (sweating) often builds on the underside of the fruit when the floor temperature is significantly lower than the fruit temperature or visa versa. To prevent this from happening, keep the fruits on a wagon or in boxes for a day before placing them on the floor until the temperature of the fruit and the floor evens up. Another important practice is to avoid stacking pumpkin fruits more than four high. Bruising is not always visible. As it was mentioned earlier, bruised fruits do not store as long as healthy fruits and the taste of edible bruised fruits is not as good as non bruised fruits. Bruising can be prevented by training pickers to handle the fruit properly and to use soft surfaces to place the fruits on. Bruising is more severe in summer squash, slicing cucumber, netted and non netted muskmelons. More importantly, firm fruits are damaged more by bruising than soft or ripe fruits. The damaged area in bruised fruits rots much faster than the rest of the fruit, which leads to rot development.

### **Storage.**

Selecting the appropriate storage temperature not only maintains quality but also keeps the fruit in good shape for the longest time possible. Most cucurbit crops can be stored together under similar conditions although a more refined storage temperature and humidity will lengthen the storage period. Also, the shelf-life of different cucurbits will vary depending on the cultivars. The following table lists ideal temperatures for storing different cucurbits.



Table 1. Ideal storage temperatures and percent humidity for several cucurbit species.

Cucurbit Species	Ideal Storage Conditions		Approximate Shelf-Life
	Temperature °F	Relative Humidity (%)	
Cucumber pickling	40	95+	7 to 8 days
Slicing cucumber	50-55	85-90	10 – 14 days
Summer squash	50 - 55	95+	7 – 14 days
Winter Squash	45 - 50	50- 70	60 – 90 days
Pumpkin	55 – 60	50 - 70	60 – 90 days
Watermelon	50 - 60	90 - 95	14 – 21 days
Netted muskmelon* cantaloupe	40 – 45	95+	8 to 12 days
Non netted melons- Casaba, Crenshaw, honeydew, etc.,	45 – 50	85 - 90	15 – 20 days

Adopted from Kader, 2002 with modification. \*Storage of netted muskmelons in the commercial trade ranges from 37 to 41°F, however, chilling injury is a serious problem when the fruits are kept at these temperatures for more than a few days. Casaba keeps longer at 50 ° F.

The above storage temperatures are ideal and so any changes from the above temperatures will reduce the shelf-life as well as the quality of the fruit due to either chilling injury or rapid softening.

**Chilling injury.** Chilling injury is an injury to the skin and outer flesh of mostly fruits of tropical origin when they are exposed to sub-optimal temperatures. Chilling injury can also occur in subtropical and temperate fruits like apple and pears. The injury is characterized by indentations or pitting on the skin of the fruit. In severe cases the fruit surface will turn brown or soggy. Chilling injury is irreversible but it can be reduced or prevented by storing the fruit at optimal temperatures and in some cases conditioning the fruits at 70 °F for a few hours before they are placed in storage can reduce the symptoms. Chilling injury is different from freezing injury, although the symptoms are somewhat similar. Storing fruits under the optimal temperatures listed Table 1 does not cause chilling injury.

### Tips for storing pumpkins.

- Harvest fruits at optimum maturity using either date from transplanting or when the rind color reaches full orange color but the color is dull.
- Avoid bruising fruits when picked. Train pickers to treat pumpkins as living tissue, which they are, not dead one.
- Harvest during the coolest time of day and avoid harvesting immediately after a rain storm.
- Harvest fruit with firm handles. Fruits without handles do not store as well.
- Move fruits out of the sun or cover them with cloth but not with plastic.
- Use the right size bins. Too many fruits on top of each other will cause bruising, which can damage the fruit after a few days of harvest.
- Cure pumpkin and several other types of squashes before storage, but do not cure acorn squash.

- Store fruits in the coolest place possible if you do not have a refrigerator. If you have a refrigerator then store at the correct temperature.
- Avoid storing pumpkins with crops that require low temperature storage like apple, carrots, and pickling cucumber.
- Do not place hot fruits from the field on concrete surfaces so they do not sweat and do not store wet fruits on concrete.
- Wash fruits before storage and preferably add about 100 ppm chlorine to the wash water.
- Inspect fruits regularly and remove rotted ones.
- Do not harvest diseased fruits or damaged fruits.
- If fruits are harvested green then they should be stored at 60° F and not at 50 °F. Low temperature will cause some chilling injury and reduce color development. Green fruits can be turned into orange color by spraying them with a 200 ppm ethrel or ethephone. However, ethrel sprayed fruits do not store for very long so do not spray ethrel too early.

## I. INDUSTRY NEWS

### CURRAN'S ORCHARD WINS ILLINOIS CIDER CONTESTS

Dr. Elizabeth Wahle, Cider Contest Coordinator, University of Illinois Extension Educator

The Illinois State Horticulture Society sponsored its 24<sup>th</sup> Annual Illinois Cider Contest, held in conjunction with the Illinois Specialty Crops, Agritourism and Organic Conference on January 10<sup>th</sup> in Springfield, Illinois. Curran's Orchard, located at Rockford, IL, produced the No.1 overall rated cider at this year's contest, making this Pat Curran's first time winning top honors in both the National and Illinois contests. Pat pressed his winning cider for this year's contests with a Lake States Rack and Cloth Press using Jonagold, Honeycrisp, Golden Delicious and Jonathan as the core apple varieties in his blend.

Second Place Illinois and National Cider went to Trevor and Dalton Grissom of Grissom's Lost Creek Orchard at Greenup, IL. Jim Hill of Hill Bros. Orchard at Grand Rapids, MI took home 3<sup>rd</sup> place in the National Cider contest and Tom Schwartz of Schwartz Orchard at Centralia, IL took thirds in the Illinois Contest. Midwest Cider of Merit, 1<sup>st</sup> Runner-up, was awarded to Brian and Mike Edwards of Edwards Apple Orchard West at Winnebago, IL. Joe Ringhausen of Joe Ringhausen Orchards at Fieldon, IL, was awarded the Midwest Cider of Merit, 2<sup>nd</sup> Runner-up, and the Midwest Cider of Merit, 3<sup>rd</sup> Runner-up, went to Jenna Hance and Gerald McArtor of Jonamac Orchard at Malta, IL.

Judges evaluated the entries using a 25- point rating scale for cider quality characteristics. The judges conducted "blind" evaluations where only a randomly chosen sample number identified each cider entry. The judging team was made up of a diverse group, including: Andrew Holsinger and Sonja Lallemand, University of Illinois Extension; Dan Becker, grower; Bill Wright, cider enthusiast; Harry Alten, Illinois Specialty Growers Association; Alan Yust, Fluence Agrichem; Brad Paulson, Rupp Seed, Inc.; Debbie Moore, Moore Tourism; Susan Rick, DuPont; Patrick Steppuhn, Hummert International; and Andrew Gunther. The Illinois State Horticultural Society (ISHS) has annually conducted the contest since the contest started in 1990. The contest presents awards in three different categories: National, Illinois and Midwest Cider of Merit. National awards are open to all US producers, and Illinois awards are open to all Illinois producers. The Midwest Cider of Merit awards are open to Illinois producers plus producers from other adjoining states that do not place in the National or Illinois categories.

ISHS also sponsored the 11<sup>th</sup> Annual Hard Cider Contest where contestants vied for the top honor. Jon Karr from The Orchard in Emporia, KS, was awarded the Champion Hard Cider Award, using a blend of Jonathan, Ozark Gold, and Gala. Each hard cider was individually awarded points based on characteristics like clarity, color, bouquet, balance of alcohol, acidity, sweetness, sugar/acid balance, body, flavor, astringency and bitterness, any off-flavors, and the overall quality.

The ISHS gratefully acknowledges the dedication and hard work of our judging team. Plus a special thanks to Sangamon County Master Gardeners Bill Budd, Steve and Sharon Petrelli, and Barb Hedden for their help running the contest. Thank you! Most importantly, thanks are extended to all who entered the contest this year. Start planning now for the next contest in 2014.

A summary of more contest notes is outlined below.

<b>National Awards</b>	Firm	Address	Cultivar Blend
First Place	Curran's Orchard	Rockford, IL	Golden Delicious, Jonagold, Honeycrisp, Jonathan
Second Place	Grissom Lost Creek Orchard	Greenup, IL	Jonagold, Golden Delicious, Jonathan, Fuji, GoldRush, Gala
Third Place	Hill Bros. Orchard	Grand Rapids, MI	McIntosh, Jonathan, Ida Red, Golden Delicious, Gala, Jonagold
<b>Illinois Awards</b>			
First Place	Curran's Orchard	Rockford, IL	See above
Second Place	Grissom Lost Creek Orchard	Greenup, IL	see above
Third Place	Schwartz Orchards	Centralia, IL	Fuji, Red Delicious, Golden Delicious
<b>Midwest Cider of Merit</b>			
First Runner-up	Edwards Apple Orchard West	Winnebago, IL	Gala, Golden Supreme, Jonamac, Jonagold
Second Runner-up	Joe Ringhausen Orchard	Fielden, IL	Jonathan, Golden Delicious, Red Delicious, York, Gala
Third Runner-up	Jonamac Orchard	Malta, IL	Jonathan, Golden Delicious, Cortland, McIntosh, Gala
<b>Hard Cider</b>			
Champion	The Orchard	Emporia, KS	Jonathan, Gala, Ozark Gold,

**Hort Day a Big Success**  
by Mohammad Babadoost  
University of Illinois

The 2012 Illinois Horticulture Field Day was held on Thursday, June 14 at the Kuiper's Family Farm located near Maple Park in Kane County. The Field Day was sponsored by the Illinois State Horticultural Society ( ISHS), the University of Illinois at Urbana-Champaign (UOUC), and the Illinois Specialty Growers Association (ISHS). Kim and Wade Kuiper hosted the meeting. More than 120 people including growers, fruit industry personnel, Extension specialists and educators from the UIUC and Southern Illinois University attended the meeting.

The Kuiper's Family Farm is a 230 acre entertainment operation. The Kuiper's began their farm operation in 1998 when they opened a 71 acre pumpkin patch. Shortly thereafter, they purchased the Pine-Apple Orchard just across the road, formerly owned by Tom and Dorothy Milnmow. Kuipers have added several building since 1998 to house their many activities. It has been one of the fastest growing orchard based operations in Illinois in the past ten years; it is truly a fun-farm for the family.

During the field tour, Wade Kuipers provided details on apple production, managing freezing temperatures, and pest management in the apple orchard, production of Christmas trees, establishing and maintaining a playground for children, and marketing of their farm products. During the tour, educators provided updates on the production and pest management of fruit and other crops in the state.

While one group of participants was on the field tour, another group attended the marketing presentations offered by Kim Kuiper and her associates. Located near the Chicago metropolitan area, the Kuiper's use various approaches to entertain/satisfy various ethnic groups visiting the farm. Kim has tremendous experience in marketing the farm products and entertaining farm visitors.

At lunch, Chris Eckert, president, provided ISHS updates; Don Naylor, Executive Secretary introduced exhibitors, and the exhibitors discussed their facilities for improving fruit production; and Diane Handley, Manager of the Illinois Specialty Growers Association gave an update on their activities.

After lunch, 42 people visited the Aquaviva Winery and Vineyard located a short distance from Kuiper's on Highway 38. Modern Aquaviva Winery and nearby vineyards along with a beautiful Italian cuisine restaurant were established recently by Vito and Joe Brandonisio. Sergio Benavides, winemaker at the Aquaviva Winery led the two-hour tour through the winery and vineyard. The participants in the tour expressed their appreciation to Sergio for providing very valuable information on grape production and wine making, and to Vito and Joe for hosting the tour.

## **2012 Illinois Specialty Crops, Agritourism, and Organic Conference Recap**

by Rick Weinzierl

Conference Co-Coordinator, U of I

The 2012 Illinois Specialty Crops Agritourism, and Organic Conference was held January 11-13 at the Crowne Plaza Hotel in Springfield and included programming for the Illinois Specialty Growers (with tracks devoted to fruits, vegetables, and herbs), the states' agritourism industry, and organic growers. The overall effort featured four all-day workshops on January 11, devoted to getting started in local food systems (for new growers), scaling up local food systems, expanding farmers' market opportunities, and legal issues for specialty crop producers. These were followed by six to seven tracks of concurrent sessions on Thursday and Friday, January 12-13.

Over 200 people attended the workshops on January 11. Interest from new growers and those wanting to increase the scale of their operations was apparent in Wednesday's workshops, and many of those growers stayed on to attend the remainder of the conference. Farmers' markets remain an important part of many growers enterprises, and Wednesday's workshop provided great connections for growers and market managers from around the state. Among legal issues addressed on the 11<sup>th</sup> were business planning, taxation, labor management, and food safety, including updates on food-borne pathogens, GAPs, and produce traceability.

On Thursday, January 12, the opening session featured Chef Michael McGreal of Joliet Junior College, back by popular demand. His cooking demonstrations featured local foods were a hit as always. The remainder of the January 12-13 program featured concurrent programs on tracks on fruits, vegetables, herbs, agritourism, and marketing, emerging issues and opportunities, and organic production. Among the topics covered as "emerging issues and opportunities" was Farm to School programs, selling to institutional dining services and food hubs, along with the use of social networks to connect consumers. Registration for the workshops on January 11 plus the two-day program with multiple concurrent sessions exceeded 600- despite dismal weather, slick roads, and overall terrible travel conditions on January 12.

Invited guest speakers in the fruit track included Steve McArtney from North Carolina State University taking on managing alternate-year bearing in apples and on effective use of stop-drop chemicals in apples, as well as Wade and Kim Kuipers describing the production and marketing operations of Kuiper's Family Farm near Maple Park, IL. The fruit track also included updates on peach insect management by Rick Weinzierl; management of fire blight by Mohammad Babadoost; a review of apple and peach rootstocks by Mosbah Kushad; a review of blueberry production by Jeff Kindhart; and a discussion by Bill Shoemaker on new risks for herbicide injury in fruit crops with the likely increase in use of phenoxy herbicides in the near future.

The vegetable program began with a discussion of using drip irrigation systems to deliver systemic insecticides- insecticides that then move up into plants via the vascular system to control insects above the ground. Russell Groves, of the University of Wisconsin provided insights and recommendations. An afternoon session was devoted to understanding pesticides used in vegetable crops, with Russel Groves reviewing new insecticides, Mohammad Babadoost, of the U of I, discussing protectant versus systemic fungicides, and Steve Weller, of Purdue University, providing insights and recommendations for herbicide selection and use. Friday' morning's program focused on high tunnels, with reviews of

research and demonstration projects at Dixon Springs and St. Charles by the U of I's Jef Kindhard and Bill Shoemaker, respectively; a discussion of tomato varieties and grafting by SanJun Gu of the University of Missouri; and an overview of organic production of tomatoes and peppers in high tunnels by Brad Halbrook of Shelbyville, IL.

The final afternoon session focused on pumpkins, with updates and recommendations on weed management by Steve Weller from Purdue University, Mohammad Babadoost, and insect management by Rick Weinzierl.

**From the President  
by Chris Eckert**

**March, 2012**

The winter of 2012 has been a mild one. While anxiety about tender buds runs high, the warm temperatures have made winter pruning much more enjoyable. On a tour of our orchards in mid-February, swelling peach and Red Delicious buds were evident, but nothing has moved to the point of breaking dormancy yet. Strawberries show more signs of growth. We have removed tarps on our plasticulture fields to slow plants down. Crowns have pushed new growth and tend buds are exposed. With a cold stretch forecast, we are pulling tarps over the berries again to protect tender buds. It looks like a long spring of concerns over frost damage.

The Illinois State Horticultural Society meetings at the Springfield conference this January was well attended and very informative. Steve McArtney from North Carolina State University presented two talks on the use of growth regulators on apples. Our state researchers also provided great presentations on a variety of subjects. We found the information on the impending fruit fly and stink bug challenges particularly interesting.

I also had the opportunity to go to Hershey Pa, last week for the Mid-Atlantic Fruit and Vegetable Conference. There were some great talks about peach production and high density apple plantings. We are excited about increasing the density of apples and moving toward a tall spindle training system but worry about how vigorous Illinois soils and longer growing season challenge this very tight planting system. The National Peach Council, on which I serve as President, held our annual meeting in Hershey. We discussed lobbying efforts in Washington to benefit peach growers throughout the country. One effort that has paid off for our industry was the changes made to the national crop insurance program for peaches. Growers can now insure "non'contiguous" acreage similar to apples. Please contact your insurance provider to learn more about the change. We also commissioned research on consumer trends in peaches. This presentation is available to all on the National Peach Council website, <http://nationalpeachcouncil.org>.

The Illinois State Horticultural Society is excited to present Summer Field Day 2012, hosted by Kuiper's Family Farm, [www.kuipersfamilyfarm.com](http://www.kuipersfamilyfarm.com), in Maple Park, IL on Jun 14, 2013. This will be a great opportunity to see a first-class retail farming operation. Please watch for more information as we get closer to the date. Until then, have a great spring and keep thinking, "no frost."

**From the President  
by Chris Eckert**

**June, 2012**

Greetings. Spring 2012 has been an emotional roller coaster. This is the warmest start in history. In ST. Louis, the mean temperature for March was 61.1, and the average is 46.3. This incredible start to the season had all of us in bloom incredibly early. Most farms report bloom dates 3-4 weeks earlier than normal. This was followed by relatively normal temperatures in April. Three nights posed frost threats April 11, 12, and 23. It appears I-70 is the break between damage and no damage. Here on our farms in St. Clair County, we have seen no frost injury. Coldest temperatures occurred on April 12 when it dipped to 31.6. We watered strawberries three nights and saw no damage. Our Grafton farm, located 35 miles north, had temperatures of 29-7 on the highest elevations. Frost damage was moderate to severe on lower elevations of the farm. What a difference a couple of degrees can make.

In talking with other growers in the ISHS, I found that most perennial crops suffered severe frost injury in the central and northern regions. Apples were especially hard hit in the north. South of I-70 damage was minor to none. Blackberry and grape growers in the central and northern regions also saw freeze injury, but the severity is not known at this time.

The mild winter and early spring has not been all bad. Strawberries have been especially productive this spring. Harvest started in Cobden on April 12-15 depending on varieties planted. Growers in that region have reported plants yielding as much as two quarts (3 lbs.) each. Here in Belleville, we have also experienced the most productive plants since we have been growing plasticulture berries. Our production was unfortunately cut short by the hailstorms that swept through the St. Louis region on April 28.

The southern Illinois peach crop looks especially heavy this year. All growers were challenged to complete pruning before bloom. Peaches in Belleville were in full bloom on March 15, a full three weeks ahead of normal. We did not complete pruning until March 25. I know of no growers who were able to bloom this season due to the unprecedented early timing. That said it appears peaches naturally thinned themselves. Combine that with a cool April before pit hardening, and fruit size looks impressive. Our challenge now is marketing a crop that is ripening earlier than customers are accustomed to buying. In looking at peaches this weekend, I see fruit beginning to swell and color. We may pick our first peaches on Memorial Day weekend.

I can remember my grandfather saying he has no use for Las Vegas; he does all the gambling he can stand right here on the farm- how true.

The Illinois State Horticultural Society is excited to present Summer Field Day 2012 hosted by Kuipers Family Farm in Maple Park on June 14. This will be a great opportunity to see a first class retail farming operation. Please join us for a great time to meet growers from around the region.



**Editors Note: Member Corner**, a feature is designed to acquaint growers with other Illinois orchards around the state.

## *MEMBER CORNER*

### **Rendleman Orchards Featured on Local TV Station**

Alto Pass, Illinois

In July 2011, Ren Sirles was interviewed by KFVS 12, with resulting dialog being aired on the local CBS Station.

Ren of Rendleman Orchard in Alto Pass says he is proud to do what he does. “We have been farming here now for a 137 years.” Said Ren Sirles. Ren, who co-owns Rendleman Orchards with his wife, Betty, and son, Wayne, still oversee every step of the harvest and raising of crops.

Ren got his taste for farming at the very young age of seven. That is when he started working full time on the harvest. “We used to raise cattle, hogs, milk cows, and chickens just like a typical farm would – almost self-sustaining,” Sirles said. “Then we went to specialty crops, mainly apples and peaches, at the time. And the work was all done by mules and small tractor.”

Ren’s grandfather, Grover Rendleman, started the farm back in 1873. What sets their farm apart from a traditional farm is they raise specialty crops on very hilly ground, if you can farm one acre out of two, it is very good piece of ground to farm on” Sirles said. “But with ours, we concentrate a lot of production on very small acres.” The tractors have replaced the mules in the fields. They’ve added squash, zucchini and cucumbers to their peach and apple crops. “That is one of the reasons why we went to vegetables as it does diversity us.” Sirles said, “compared to the fruit trees which you have one shot and one shot only.”

Ren says there is one thing though that has not changed on the farm in over a century. “The harvesting is still done exactly as it has been done a hundred years ago,” he said. “It is still a man or a woman picking with two hands, putting the product in a bucket to be brought in and packed.”

There is one other thing that sets farming on Rendleman Orchards apart from a traditional farm. “The biggest difference, I would say, is row crop farming. We do have to work the year round,” he said. “In the winter we have to prune our trees, in the spring we come in and start raising our crops, all the way up into the summer. Then we harvest, of course. We harvest all the way to the end of October. And then we start the cycle again.”

It is a cycle of farming Ren has kept going for nearly 70 years. He is now preparing the next generation of Sirles to keep the farm alive in the future. “We have to worry just as much about our fruit going to the store as the people from China. The chain stores are very large and they are looking global. I do not know exactly where it is going, but know it is getting more difficult to understand the marketing situation to be able to move your product.” Rendleman Orchards has figured out how to do that for more than 130 years.

## *MEMBER CORNER*

### **Curtis Orchard, A Fall Tradition in East Central Illinois**

by Randy Graham  
Curtis Orchard

Curtis Orchard in Champaign, Illinois, is part of a Centennial Farm founded in the early 1878's when George Curtis moved there from Indiana. Ninety years later in the 1960's, his great grandson lived on the farm raising corn, soybeans, and hogs. Unfortunately, the 150-acre farm was not large enough for Paul to support his family so he returned to the U of I for a PHD in plant physiology and became a faculty member at the local community college.

Another major change occurred in 1975 when Paul had a born again Christian conversion. He began to reassess every facet of his life, including the family farm. Over times of prayer with his wife, Joyce, a new vision for the farm began to emerge. Paul had always loved apples, and he began to believe that if he grew a few, perhaps people from Champaign-Urbana would come out to purchase them. He also learned that during the course of his lifetime, the percentage of people living on a working farm had declined to less than 2%. He felt that his family could be ambassadors for agriculture to help people reconnect with a family farm.

The only problem was – Paul had never raised apples. He decided to pay a visit to Curt and Larry Eckert in Belleville, Illinois to ask their advice. They were very helpful and encouraged Paul and Joyce to start a u-pick orchard. As a result, he and Joyce planted 700 apple trees in 1977. He still did not know how to raise apples, but the 700 twigs in the ground did not look like much so he and Joyce planted another 1,300 the next year.

As the first tiny apple crop was ripening on the trees in 1980, a hailstorm swept through the orchard and damaged much of the fruit. Paul and Joyce were faced with their first major crisis. They had planned to sell all of the fruit as #1 fruit right off the tree. They had never considered that not every fruit would be top quality, even in a good year. A quick decision was made to buy a cider press, and they inadvertently launched what quickly became a major value-added product for them. In fact, they re-introduced cider to the Champaign-Urbana area. The U of I had ceased its cider production in the 1960's.

Another event occurred in 1980 that would ultimately affect the farm. The Curtis' daughter Debbie started dating Randy Graham, and he began helping out part-time while finishing his degree at the U of I. The two were married in 1981, and Randy joined the business full-time upon graduation. The Graham's are now co-owners of the business, and several of their five children hold key positions. Their daughter-in-law, Sarah, is the full time product manager, daughter Rachel Coventry works full-time as store manager, son Cameron is full-time grounds keeper and outdoor activities manager, and daughter Juliana and oldest son Aaron work part-time on busy fall weekends. Chris Curtis, has served a number of years as the office manager. In addition, to family members, the orchard provides seasonal employment for over 90 people in the area.

Joyce Curtis commented on the growth over the years. "When we started the orchard, it was partly to provide a farm experience for local families, but it was also partly to make the farm more profitable for our own family. I never dreamed that such a small farm could provide employment to so many. We really do have a lot of high quality employees in our area.

Through the years, Curtis Orchard has hosted over 2 million visitors from the local area and around the world. In 2011, more than 160,000 people visited the farm, mostly in September and October. As interest in the farm has grown, the family has added activities for the whole family are fun and educational. These include a corn maze, farm playground, and mini-golf area, petting zoo, pony rides, inflatable slide, and obstacle course, face painter, kettle corn, u-pick pumpkin patch, country store, bakery and restaurant.

The orchard now nurtures over 4,500 apple trees representing 30 varieties and nearly 20 acres of pumpkins. Although expanding tree plantings is no longer possible due to land limitations, the business side of the orchard continues to grow. This year's changes include over 3,700 sq. ft. of new retail and office space including a 925 sq. ft. dedicated school tour area to host the 7,000+ school children on tours each year.

Paul and Joyce Curtis are in their 70's now but continue to work at the orchard full-time. They were honored to receive the State of Illinois "Excellence in Agri-Tourism award on behalf of Curtis Orchard at the state fair this year. Speaking of the award, Paul said, "Illinois is home to a great many outstanding agri-tourism businesses, so we are deeply honored to be recognized for Curtis Orchard's success in this area. I am grateful that over the years many other families involved in agri-tourism have become our close friends. Many have helped and advised us in way we could never repay. I know of no other industry where businesses which outsiders would view as competitors are able to work together and even form close, lasting friendships.

Editor's Note: Published in September 2012 Illinois Specialty Growers News

## **Notes from Home**

by Jerry Mills  
Mills Apple Farm

June, 2012

This year's weather may be one for the books.

Warm periods in the winter, plus a mild winter to begin with confused the trees, the bugs and this orchardist. Bloom came on weeks before normal in the case of the peaches and at least ten days early for the apples. Now we have inch and a quarter apples and the Golden's have decided to bloom again. Many trees went unpruned.

Confusion continues to this day. We tried to time spraying according the schedule, but the schedules were garbled. Some growers were afraid to purchase chemicals until they were sure they had a crop. I went all out and so far things are clean. Even thinning worked moderately well.

Now we and many others in southern Illinois have hail damage. Mine is minor, providing I don't get fire blight in the damaged tissues. I sprayed for it. We were helped because the dense tops on the unpruned trees protected the fruit.

Deep ruts in the orchards are almost impassable with my four-wheel drive John Deere tractor. The

tracked skid steer loader will be the answer for herbiciding when it stops raining.

On the good side we were able to plant apple trees, cherry trees, pecans, and Christmas trees under almost ideal conditions, between periods of rain. Actually the cherries don't count. They were in high tunnels....It is so nice in there, working while the storms raged outside.

Summer Hort. Day promises to be a good one. I am anxious to see Kuiper's place where the owners had foresight and courage to do what needed to be done without taking years to do it. Hope see you all there.

## **IV. BUSINESS REPORTS**



### **ILLINOIS STATE HORTICULTURAL SOCIETY**

#### **MINUTES**

Board of Directors Meeting  
Wednesday, January 11 2012

The meeting was called to order at 7:35 p.m. in the Lincoln room at the Crowne Plaza Conference Center in Springfield, Il.

The board discussed appointment of committees that will take place during the re-organization meeting. It was decided to expand membership on the committees with further discussion at the summer field day.

The board projected future field meeting sites so planning may begin. The following locations and dates for the next 5 years include:

- 2012- Kuiper's Family Farm (confirmed)
- 2013- University of Illinois (not confirmed) and Curtis Orchard (confirmed)
- 2014- Schwartz Farms (confirmed)
- 2015- Stark Nursery and entertainment orchard (not confirmed), Boggios as alternate
- 2016- Bock Orchard (confirmed)

#### **MOTIONS**

A motion was made by Chris Eckert, seconded by Jeff Broom, and it carried to place the minutes on file.

A motion was made by Denise Boggio, seconded by Chris Eckert, and it carried, to approve the Treasurer's Report as printed.

A motion was made by Dennis Ringhausen, seconded by Steve Bock, and it carried, to increase the Executive Secretary salary to \$5,000 effective immediately, and to initiate automatic annual increases of \$150 per year beginning in 2013.

A motion was made by Jeff Broom, seconded by Raoul Bergersen, and it carried, recommend Rick Weinzierl for the Industry Recognition Award at next special growers conference.

A motion was made by Jeff Broom, seconded by Raoul Bergersen, and it carried, to recommend one or more of the following: Ren Sirles, Bill Flamm, Larry Flamm, Ken Hall, and Joe Ringhausen for the Hall of Fame Award at the next special growers conference.

The meeting adjourned at 8:35 p.m.

*Approved: 6-13-12*



## ILLINOIS STATE HORTICULTURAL SOCIETY

### MINUTES

Annual Meeting

Crown Plaza Hotel — Springfield, IL

Thursday, January 12, 2012

President Craig Tanner called the 2012 Annual Meeting to order at 4:02 p.m.

A motion was made by Chris Eckert, seconded by Denise Boggio, and it carried, that the minutes of the January 12, 2012 Annual Meeting be accepted as printed.

A motion was made by Denise Boggio, seconded by Chris Eckert, and it carried, to accept the Treasurer's Report.

A motion was made by Steve Bock, seconded by Mike Edwards, and it carried, to elect the slate of nominees for the 2012-2014 board of directors.

A motion was made by Craig Tanner, seconded by Dennis Ringhausen, and it carried, to adjourn the meeting at 4:16 p.m.

Treasurer's Report. Income for 2011 totaled \$ 9,006 (up \$566 from a year ago) including: a \$ 2,290 payment from I. S.G.A. for 78 (71 year before) memberships in the Society; \$ 3,975 member contributions (up \$525); \$2,265 meeting registrations (up 95); \$320 cider contest; and \$156 for transactions sales.

Expenses for the year totaled \$ 7,124 (down \$784 from year ago) including: \$68 for cider contest; \$1,450 field day; 194 for postage; \$ 135 office supplies; and \$3,739 for salary.

Membership. Membership was reported at 78 members up seven from the previous year.

Summer Field Day. The date has been tentatively set for June 14, 2012 at Kuiper's Family Farm and a co-host is tentatively planned for a nearby winery, Aquaviva Winery.

Cider Contest. The winners will be announced late today at the banquet this evening with details published in the transactions and crop research report. Elizabeth raised a question about the definition about what states are considered to be Midwest. Previously it was just states adjoining Illinois but Michigan (adjoins only by water) has a contestant. A second discussion should be held regarding the continuance of the hard cider portion due to the consistent low number of entries (3-4). There were suggestions to offer a class on how to make hard cider, peach and other vinegars, apple brandy, etc.

Transactions. Transactions will be available at the summer field day and online.

*Approved: 1-10-2013*



# ILLINOIS STATE HORTICULTURAL SOCIETY

## MINUTES

Board of Directors Re-organization Meeting  
Thursday, January 12, 2012

The reorganization meeting was called to order at 4:18 in the Crowne Plaza Conference Center Board Plaza A in Springfield, IL.

## MOTIONS

### 1. Depository

A motion was made by Raoul Bergersen, seconded by Denise Boggio, and it carried, to adopt the following resolution:

“Resolved that Busey Bank of Bloomington, IL is hereby designated a depository of this corporation, and that a checking or deposit account be maintained with Busey Bank, subject to the terms and conditions contained in the Deposit Accounts Agreement and Disclosure, said account to be entitled.”

### 2. Authorized signatures

A motion was made by Steve Bock, seconded by Denise Boggio, and it carried, to adopt the following resolution:

“Be it resolved that Don Naylor, Executive Secretary; Chris Eckert, President; and Craig Tanner, Past President be authorized to sign checks for payment of bills of the Society.

The original motion was amended by Denise Boggio, seconded by Craig Tanner, and it carried, to: “Be it resolved that Don Naylor, Executive Secretary and Chris Eckert President, be authorized to sign checks for payment of bills of the Society

### 3. Reappointment of Secretary-Treasurer

A motion was made by Jeff Broom, seconded by Denise Boggio, and it carried to adopt the following resolution:

“Be it resolved that Don Naylor is designated as the Secretary-Treasurer and shall collect all moneys due the Society, pay all bills for the Society and to provide fiscal accountability to the board and membership on a regular basis.

Board members present included: Steve Bock, Raoul Bersersen, Denise Boggio, Jeff Broom, Dennis Ringhausen, Craig Tanner, and Chris Eckert.

The meeting adjourned at 4:32 p.m.

*Approved: 6-13-12*



ILLINOIS STATE HORTICULTURAL SOCIETY  
**MINUTES**  
Board of Directors Meeting  
Wednesday, June 13 2012

The meeting was called to order at 8:24 p.m. at Aquaviva located near Maple Park, IL.

**MOTIONS**

A motion was made by Pat Curran, seconded by Craig Tanner, and it carried to place the minutes on file.

A motion was made by Pat Curran, seconded by Raoul Bergersen, and it carried, to approve the Treasurer's Report as printed.

A motion was made by Pat Curran, seconded by Denise Boggio, and it carried, to initiate and present on an annual basis an Industry Recognition Award- Academia. (Pat Curran and Don Naylor will prepare award guidelines.)

A motion was made by Tom Schwartz, seconded by Kurt Range, and it carried, to initiate and present on an annual basis an Industry Recognition Award- Member of the Year. (Pat Curran and Don Naylor will prepare the award guidelines.)

A motion was made by Pat Curran, seconded by Denise Boggio, and it carried, to present the Industry Recognition Award- Academia to Rick Weinzierl at the 2013 Specialty Growers Conference held in January.

A motion was made by Pat Curran, seconded by Denise Boggio, and it carried, to present the Industry Recognition Award- Industry to Tom Schwartz during the 2013 Specialty Growers Conference held in January.

A motion was made by Pat Curran, seconded by Craig Tanner, and it carried to select Randy Graham of Curtis Orchard to be awarded the Cider Champion for Excellence during the 2013 Specialty Growers Conference.

A motion was made by Craig Tanner, seconded by Denise Boggio, and it carried to add to the Hall of Fame.

Attendance. Board members in attendance included: Raoul Bergersen, Denise Boggio, Jeff Broom, Pat Curran, Dennis Ringhsausen, Tom Schwartz, and Craig Tanner. Absent was Jeff Broom, Chris Eckert, and Dennis Norton. Guests were: Tom and Pat Range, Wade and Kim Kuiper.

A motion was made by Craig Tanner and it carried, to adjourn the meeting at 10:34 p.m.

*Approved: 1-9-13*



**ILLINOIS STATE HORTICULTURAL SOCIETY**  
**2012 Balance Sheet**

	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
<b>Assets:</b>					
Through December 31, 2012	\$8,624	\$8,320	\$8,852	\$10,734	\$10,421
<b>Liabilities: (est)</b>					
Through December 30, 2012	\$1,052	\$1,200	\$1,300	\$1,541	\$1,500
<b>Net Worth: (est)</b>	\$7,572	\$7,120	\$7,552	\$9,193	\$8,921
<b>Change in Position (est)</b>	-\$1,218	-\$452	\$432	\$1,641	-\$272

<b>INCOME</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013 Budget</b>
Bank Interest	\$0	\$0	\$0	\$0	\$0	\$0
Cider Contest	\$310	\$390	\$360	\$320	\$330	\$300
Contributions	\$2,580	\$3,645	\$3,450	\$3,975	\$3,800	\$3,500
Dues	\$2,610	\$2,430	\$2,140	\$2,290	\$2,415	\$2,400
Exhibitor						
Fees	\$825	\$0	\$0	\$0	\$0	\$0
Grants	\$0	\$0	\$0	\$0	\$0	\$0
Mtg. Regis.	\$2,180	\$2,010	\$2,370	\$2,265	\$2,900	\$2,500
Miscel.	\$200	\$22	\$0	\$0	\$0	\$0
Other*	\$0	\$0	\$0	\$0	\$43	\$0
Sales, Cider	\$0	\$0	\$0	\$0	\$0	\$0
General	\$0	\$0	\$0	\$0	\$0	\$0
, Trans	\$202	\$208	\$120	\$156	\$90	\$120
<b>Total</b>	<b>\$8,907</b>	<b>\$8,705</b>	<b>\$8,440</b>	<b>\$9,006</b>	<b>\$9,578</b>	<b>\$8,820</b>

<b>EXPENSE</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013 Budget</b>
Bank charge	\$20	\$0	\$0	\$0	\$10	\$0
Cider Contest	\$80	\$0	\$98	\$68	\$95	\$150
Dues	\$790	\$790	\$750	\$0	\$290	\$300
Equipment	\$1,802	\$0	\$0	\$0	\$274	\$0
Grant Reimb.	\$0	\$0	\$300	\$300	\$300	\$300
Insurance	\$0	\$0	\$0	\$0	\$0	\$0
Meetings,						
ann.	\$60	\$199	\$85	\$0	\$123	\$150
Mtgs, SHFD	\$1,370	\$1,405	\$905	\$1,450	\$1,592	\$1,500
Miscel.	\$257	\$0	\$0	\$0	\$0	\$100
Office, copies	\$141	\$45	\$34	\$113	\$32	\$100
Office, gen	\$64	\$0	\$0	\$6	\$0	\$100
Office, postal	\$223	\$180	\$93	\$194	\$140	\$200
Office, supl	\$84	\$31	\$89	\$135	\$134	\$100
Other	\$10	\$10	\$10	\$0	\$100	\$100
Printing	\$31	\$139	\$21	\$26	\$70	\$200
Publications	\$2	\$569	\$250	\$0	\$500	\$250
Public Rel.	\$0	\$0	\$0	\$0	\$0	\$0
Reimb-E.D.	\$379	\$791	\$363	\$0	\$997	\$500
Reimb-gen	\$0	\$0	\$0	\$0	\$0	\$0
Ind. Support	\$0	\$0	\$0	\$0	\$0	\$0
Salary	\$3,889	\$3,829	\$3,829	\$3,739	\$4,058	\$4,100
Sales exp	\$0	\$0	\$0	\$0	\$0	\$0
Subscr.	\$0	\$0	\$0	\$0	\$0	\$0
Taxes	\$997	\$1,081	\$1,081	\$1,093	\$1,176	\$1,500
Telephone	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$10,199</b>	<b>\$9,069</b>	<b>\$7,908</b>	<b>\$7,124</b>	<b>\$9,891</b>	<b>\$9,650</b>
<b>Inc over</b>						
<b>(Exp)</b>	<b>(\$1,292)</b>	<b>(\$364)</b>	<b>\$532</b>	<b>\$1,882</b>	<b>(\$313)</b>	<b>(\$830)</b>

Financial Note: Financial Statement is reconciled with Busey Bank statements



## ILLINOIS STATE HORTICULTURAL SOCIETY

### HALL OF FAME

The following Guidelines were established June 6, 1966 shortly after the award was established. They were published in Transactions # 100: page 7 & 8.

#### Guidelines

- A. To be recognized and made a member of the Illinois State Horticultural Society Hall of Fame, a candidate must have the following qualifications:
1. Be a past or present citizen of Illinois.
  2. Be a member of the Illinois State Horticultural Society.
  3. The contribution must be related to the production and marketing of Illinois Fruit.
- B. Years of service should not necessarily be a consideration. For example, if a man or woman spends 40 years in Illinois without making an outstanding contribution or performing above and beyond the normal call of duty, then he should not be eligible for this award. On the other hand, if a man makes a significant contribution early in his career, he should be so recognized.
- C. A Hall of Fame award need not be given annually. It should be presented only when appropriate.
- D. A standing committee including the Society Secretary, should be appointed by the Board of Directors of the Illinois State Horticultural Society, with an annual review and change, if necessary of its membership. The committee is to select the candidate or candidates and report to the Board. The Board should pass upon the selection before it can be officially recognized by the Society.
- E. There need be no limit upon the number of candidates chosen within any one year. This is especially true if an award is not to be presented annually. A limit can be imposed at the discretion of the Board if and when the Hall of Fame is brought up to date. For posthumous awards, a certificate will be presented. All others will receive a plaque.
- F. Criteria to be used in evaluations:
1. Leadership.
  2. Outstanding original discoveries.
  3. Outstanding ability to perform service.
  4. Publications (especially of University people).

5. Affiliation in National Horticulture organizations.
6. Affiliation in State Horticulture organizations.
7. Outstanding service (over and above normal duties).
8. Breadth of motivation to unselfishly help the Illinois fruit industry
9. Interest in participating and contributing to the Illinois State Horticultural Society meetings.

G. This recognition program will be called the "Illinois State Horticultural Society Hall of Fame."

**CURRENT MEMBERS OF HALL OF FAME**  
 "For Outstanding Service to the Illinois Fruit Industry"

MR. STEWART C. CHANDLER	1964	DR. HARRY W. ANDERSON	1965
MR. DAVE B. PERRINE	1966	DR. THOMAS BURRILL	1966
DR. W.S. HULL	1966	MR. ALVIN O. ECKERT	1966
MR. W.S. PERRINE	1966	DR. MAXWELL J. DORSEY.	1966
MR. CURT E. ECKERT	1967	DR. RICHARD V. LOTT	1967
DR. RICHARD V. LOTT	1967	DEAN JOSEPH C. BLAIR	1967
MR. ARTHUR BRYANT SR.	1967	DR. ARTHUR S. COLBY	1967
MR. HENRY M. DUNLAP	1967	PROF. W. P. FLINT	1967
MR. HARRY W. DAY	1968	MR. PAUL C. STARK	1968
DR. DWIGHT POWELL	1969	MR. JOHN L. BELL SR.	1971
MR. LESTER R. STONE	1974	MR. CORNELL H. ECKERT	1975
MR. EDWARD D. Mc GUIRE	1976	MR. FRANK W. CHATTEN	1977
MR. CLAUD J. BOYD	1978	MR. JOHN D. SURGEION, JR.	1979
MR. ALSON MEYERS	1980	DR. JAMES D. MOWERY	1981
MR. JOHN TANNER	1982	DR. ROSS A. KELLY	1983
DR. ROY K. SIMONS	1984	MR. ROBERT M. EDWARDS	1985
MR. C. CHRIS DOLL	1986	DR. RONALD H. MEYER	1988
DR. DANIEL B. MEADOR	1991	MR. MARION A. KOELLER	1993
MR. JAMES A. ECKERT	1993	MR. DANIEL D. McGUIRE	1996
MR. FRANK W. OWEN	1996	MR. BERNARD E. COLVIS	1997
MR. J. BOND HARTLINE	1998	MR. THOMAS MILNAMOW	2003
MR. RICHARD J. TANNER	2004	MR. JERRY MILLS	2006



## ILLINOIS STATE HORTICULTURAL SOCIETY

### C. CHRIS DOLL INDUSTRY RECOGNITION AWARD

The ISHS C. Chris Doll Industry Recognition Award recognizes and honors individuals who have made exemplary contributions and influenced the fruit tree industry either as a current or retired industry activist, or as an industry supporter.

#### **Purpose.**

- To recognize individuals and for outstanding achievement or enhancement to the fruit industry.
- To demonstrate to ISHS members and others that ISHS values such achievement.
- To motivate ISHS members and others, improve and enhance meetings and conferences.
- To encourage volunteerism in ISHS and the industry through recognition of service, new and innovative ideas or practices.

#### **Criteria for Nomination.**

- Numerous years as an industry educator, practitioner or supporter.
- Active involvement and outstanding contributor/volunteer at local, state and national levels including relevant positions held on committees and boards, and/or academic rank.
- Professional/career achievements and designations, including articles and publications, speaking, general involvement in industry meetings, or other activities.
- Recognition as a mentor by their peers (students, new members, growers, new staff, etc).
- Quality and impact of education program/research development and participation level.
- Involved in community service (local, state, national) relating to the industry.

#### **RECIPIENTS OF THE C. CHRIS DOLL INDUSTRY RECOGNITION AWARD** "For Outstanding Service to the Illinois Fruit Industry"

C. CHRIS DOLL      2008

**Illinois State Horticultural Society  
PAST PRESIDENTS**

Dr. E. S. Hull 1856-57	C. R. Overman 1858-1859	Sammuel Edwards 1960
Dr. J. A. Kennicott 1861	O. B. Galusha 1862	George W. Miner 1863
Smiley Shepard 1864	John P. Reynolds 1865	Parker Earle 1866
Elmer Baldwin 1867	A. M. Brown 1868	Tyler McWhorter 1869
Willard C. Flagg 1870	Arthur Bryant 1871	James E. Starr 1872
M. L. Dunlap 1873	Robert Douglas 1874	Dr. E. S. Hull 1875
A. C. Hammond 1876	Dr. A. G. Humphrey 1877	J. W. Robison 1878
T. J. Burrill 1879	Parker Earle 1880	C. N. Dennis 1881
E. Hollister 1882	O. B. Galusha 1883	John M. Pearson 1884-1885
Arthur Bryant 1886	E. A. Riehl 1887	Milo Barnard 1888
H. M. Dunlap 1889	Jabez Webster 1890-1891	T. E. Goodrich 1892
Henry Augustine 1893-1894	T. E. Goodrich 1895-1897	Henry M. Dunlap 1898-1902
H. A. Aldrich 1903-1905	George J. Foster 1906-1907	R. O. Graham 1908-1910
F. D. Voris 1911-1912	J. Mack Tanner 1913	W. S. Perrine 1914-1916
A. W. Brayton 1917-1919	J. R. Lambert 1920-1921	F. H. Simpson 1922-1923
J. B. Burrows 1924-1925	L. M. Smith 1926-1927	W. R. Soverhill 1928-1929
John A. Garnier 1930-1931	Alvin O. Eckert 1932-1933	George M. Schoff 1934-1935
George L. Smith 1936-1937	C. F. Heaton 1938-1939	O. G. Jones 1940-1941
Logan N. Colp 1942-1943	Hugh L. Hale 1944-1945	Frank E. Penstone 1946-1947
David B. Perrine 1948-1949	Dr. Dwight Powell 1950-1951	Lester R. Stone 1952-1953

## **PAST PRESIDENTS, conti**

Curt Eckert 1954-1955	Frank Chatten 1956-1957	Paul Mallinson 1958-1959
J. Bon Hartline 1960-1961	John Surgeon 1962-1963	John Tanner 1964-1965
Richard Crowell 1966-1967	Cornell Eckert 1968-1969	Daniel McGuire 1970-1971
Allen Meyers 1972-1973	John L. Bell, Jr. 1974-1975	James A. Eckert 1976-1977
Bernard E. Colvis 1978-1979	Robert M. Edwards 1980-1981	William R. Broom 1982-1983
Harold Tanner 1984-1985	William Hartline 1986-1987	Tom Schwartz 1988-1989
Richard Tanner 1990-1993	Jerry Mills 1994-1997	Tom Milnamow 1998-2000
Randy Graham 2001-2003	Patrick Curran 2004-2005	Dennis Ringhausen 2006-2007
Steve Bock 2008-2009	Craig Tanner 2010-2011	

### **2012 Contributors to the Society**

**Our thanks to the following voluntary contributors to the Hort Society for 2012.  
Generous contributions supplement funds without which the Society  
could not continue to operate at current levels.**

#### **Rhodium Level- above \$500**

1. Kurt Christ, Christ Orchard
2. Larry Eckert, Eckert Orchards
3. Richard Tanner, Tanner's Orchard

#### **Platinum Level- up to \$500**

1. Ken Hall- Edwards Apple Orchard
2. Jerry Mills- Mills Apple Farm

#### **Gold Level- up to \$250**

1. Robert Blain- River Front Berry Farm
2. Chris Doll- Doll Horticultural Services

3. Mike Edwards- Edwards Orchard West
4. Bob Edwards- Edwards Apple Orchard
5. James Hong- All Season Farm and Nursery
6. Stefan Lang- Lang's Orchard
7. Bob Malham- Malham Orchard
8. Brad Mazanek- Richard Mazanek Orchard
9. Richard Mazanek- Richard Mazanek Orchard
10. Jane Weir- Weir Fruit Farm

### **Silver Level- up to \$100**

1. Pat Curran- Curran's Apple Farm
2. Dale Jefferies- Jefferies Orchard
3. Loyd Nichols- Nichols Farm and Orchard



*Celebrating 157 years*

---

# 2012 ISHS Annual Report

- Co-sponsor of Illinois Specialty Crops Conference that includes a nationally recognized Cider/Hard Cider Contest.
- Work closely with the University of Illinois ACES on educational programs.
- Received strong grower support for the industry with voluntary donations totaling more than \$3,800 that is used to support ISHS programs and the Illinois fruit industry locally, statewide and nationally.
- Supported state and national issues through membership in the Illinois Specialty Growers Association, the National Peach Council, and the U. S. Apple Association. Presently ISHS has a seat on the NRCS Technical Committee.
- Sponsor of the 2012 annual summer field day at Kuiper's Family Farm near Maple Park, IL.

- Publish Transactions of and Proceedings of the Society coupled with the Fruit and Vegetable Research Report. Now available online.
- Initiated efforts to revitalize the industry, seeking state grants to market and promote Illinois orchards with publication of a promotional brochure.
- Recognition of industry leaders through the Hall of Fame Award, Champion for Cider Excellence, the C. Chris Doll Industry Recognition Award for Industry. Created two new awards: the Industry Recognition Award for Academia and the Member of the Year Award.
- Participated in the Illinois State Fair Agri-Expo. A popular farm market promotion for fair attendees.
- The Society celebrated 150 years of operation at the specialty grower's conference and at the 2008 summer field day
- Employ services of a professional organization manager to carry on day to day operations of the Society.

Serving Illinois Fruit Growers Since 1856



## 2012 MEMBERS OF THE SOCIETY

	<b>F NAME</b>	<b>L NAME</b>	<b>BUSINESS</b>	<b>ADDRESS</b>	<b>CITY</b>	<b>ST</b>	<b>ZIP</b>	<b>TELEPHONE</b>
1	Mark	Abendroth	Abby Farms	132 N Kansas, P.B. Box 362	Edwardsville	IL	62025	314/232-3808
2	Mohammad	Babadoost	U of I Dept. of Crop Sciences	1102 S. Goodwin Ave.	Urbana	IL	61801	217/333-1523
3	James	Bailey	Okaw Valley Fruit Farm	R. R. #2, Box 124	Sullivan	IL	61951	217/728-8269
4	Raoul	Bergersen	Valley Orchard	703 Jarvis Dr	Winnebago	IL	61088	815/398-0527
5	Larry J.	Bigard	Larry Bigard Orchard	10505 N. 1400th St	Newton	IL	62448	618/783-3251
6	Robert	Blain	River Front Berry Farm	2799 N 1700 East Rd	Martinton	IL	60951	815/428-7382
7	Steve & Kathy	Bock	Honey Hill Orchard	11747 Waterman Rd	Waterman	IL	60556	815/264-3337
8	Denise	Boggio	Boggios Orchard	10746 N 950th Ave	Granville	IL	61326	815/339-2460
9	Ronald H.	Brinker	Brinker's First Fruit Farm	424 Olde Cabin Rd	Greenville	IL	62246	618/664-0780
10	Jeffrey M.	Broom	Broom Orchard	12803 Broom Rd.	Carlinville	IL	62626	217/854-6501
11	Kurt	Christ	Christ Orchard	4321 N. Texas Rd	Elmwood	IL	61529	309/446-9751
12	Molly	Christ		4321 N Texas Rd	Emnwood	IL	61529	309/446-9751
13	Dale	Conrady	Blackwood's Berry Farm	27244 Hettick Scottville Rd.	Hettick	IL	62649	217/436-2510
14	Cty F. B.	Cook	Cook County Farm Bureau	6438 Joliet Rd.	Countryside	IL	60525	708/354-3276
15	Leslie	Cooperband	Prairie Fruits Farm, LLC	4410 N. Lincoln Ave	Champaign	IL	61822	217/643-2314 815-398-7504
16	Patrick D.	Curran	Curran's Apple Farm	641 Paris Ave.	Rockford	IL	61107	7504
17	Chris	Curtis	Curtis Orchard, Ltd.	3902 S. Duncan Rd	Champaign	IL	61822	217/359-5565
18	Rick	Davis	Oakland Farms	P. O. Box 222	Ashmore	IL	61912	
19	C. Chris	Doll	Doll Horticultural Services	4681 Drda Ln	Edwardsville	IL	62025	618/656-1605
20	Joe	Doll	Doll's Orchard	573 Doll's Orchard Ave	Pocahontas	IL	62275	618/669-2414
21	Chris	Eckert	Eckert Orchards, Inc.	951 S. Green Mount Rd	Belleville	IL	62220	618/235-3876
22	Jim	Eckert	Eckert's Country Store & Farm	951 S. Greenmount Rd	Belleville	IL	62220	618/235-3876
23	Mike	Edwards	Edward's Orchard West	8218 Cemetary Rd	Winnebago	IL	61088	815/963-2261
24	Bob	Fielding	Camp Creek Farm & Orchard	3753 N 1100th Ave	Lynn Center	IL	61262	309/521-7099
25	Richard	Flavin	Flavin Farms	101 Fandel Lane	Metamora	IL	61548	309/383-4934
26	Harvey	Gahl	Gahl's Apple Orchard	15704 Witwer Rd	South Beloit	IL	61080	815/389-1946
27	Tammer	Geil	Geil Homestead	2060B Cty Rd 125E	Mahomet	IL	61853	217/586-3895
28	Laurie	George	Univ of ILL Extension	1404 E Main	Salem	IL	62881	618/548-4846
29	Joshua	Greene		21027 Centerville Rd	Poplar Grove	IL	61080	618/732-8762
30	Ken	Hall	Edward's Apple Orchard	7061 Centerville Rd	Poplar Grove	IL	61065	815/765-2093
31	Gary	Hiller	Garden Patch Farm & Orchard	14154 N 159th	Homer Glen	IL	60491	708/301-7720
32	James I.	Hong	All Season Farm & Nursery	14510 Route 176	Woodstock	IL	60098	815/337-6653
33	Dale	Jefferies	Jefferies Orchard Shelby County Community Services	5036 Muench Rd	Cantrall	IL	62625	217/487-7845
34	Pete	Jesgarz		1810 W S 3rd St	Shelbyville	IL	62565	217/774-5947
35	Vatren	Jurin	Brandt Consolidated	2935 S Koke Mill Rd	Springfield	IL	62711	217/626-1123
36	Daryl	Keylor	Kathy's Kitchen	201 N Pitt	Virginia	IL	62691	217/452-3035
37	Jim	Klasing		1239 Mt Tabor Ave	Greenville	IL	62246	217/537-3668
38	Robert A.	Knoernschild	Centennial Farms	199 Jackson	Augusta	MO	63332	636/228-4338
39	Sonja	Lalleman	Univ of Ill Extension	402 Ava Rd	Murphysboro	IL	62966	618/687-1727
40	Stefan	Lang	Lang's Orchard	17411 Secor Rd	Woodstock	IL	60098	815/568-7547
41	Jennifer	Lester	Lester	4671 E. Crosson	Macon	IL	62544	217/433-5292
42	Robert	Lightfoot	Lightfoot Orchard	64 Lightfoot Rd	Murphysboro	IL	62966	618/687-3234
43	Sara	Lipe	Lipe's Orchards	2932 Springer Ridge Rd 2875 Plummer Pk Pl, "P.O. Box 177	Carbondale	IL	62901	618/985-5481
44	Rita	Lipscomb	Plummer Supply, Inc.		Bradley	MI	49311	416/792-2215
45	Kelley & Brenda	Logan	Baxter's Vineyards	2010 E. Parley, P. O. Box 342	Nauvoo	IL	62354	217/453-2528
46	Robert L.	Malham	Malham Orchard	17218 Shipman Rd	Carlinville	IL	62626	217/854-2815
47	Gerald L.	McArto	Jonamac Orchard, Inc.	19412 Shabbona Rd	Malta	IL	60150	815/825-2265
48	Carole	McLaughlin	Slingerland Rock River Farms	250 Mississippi	San Francisco	CA	94107	415/515-1298

	<b>F NAME</b>	<b>L NAME</b>	<b>BUSINESS</b>	<b>ADDRESS</b>	<b>CITY</b>	<b>ST</b>	<b>ZIP</b>	<b>TELEPHONE</b>
49	David	McLaughlin	Richland Community College	One College Park	Decatur	IL	62521	217/875-7211
50	Glenn	Meyer	G & C Meyer Farm	4370 Rockcastle Rd	Steelville	IL	62288	618/965-3800
51	Fredric	Miller	Joliet Junior College	1215 Houbolt Rd	Joliet	IL	60431	815/280-2740
52	Jerry M.	Mills	Mills Apple Farm	11477 Pocahontas Rd	Marine	IL	62061	618/887-1037
53	John	Mohr	Gowan Company	1096 CR 500 E	Trilla	IL	62469	309/365-2085
54	John R.	Moran	Moran Orchard	1096 Cty Rd 500 E	Trilla	IL	62469	217/895-3408
55	Lori	Murray	Murray's Orchard	703 N. Kirkwood	St. Louis	MO	63122	314/965-0066
56	Terrt	Neutz Hayden	Twin Silos Farm	1090 Bucks PondRd	Monticello	IL	61856	217/493-4169
57	Lloyd E.	Nichols	Nichols Farm & Orchard	2602 Hawthorne Rd.	Marengo	IL	60152	815/568-6782
58	Dennis	Norton	Royal Oak Farm, Inc.	15908 Hebron Rd	Harvard	IL	60033	815/648-4141
59	Lawrence E.	Peceniak	Peceniak's Apples on Oak	16146 Oak Ave	Lockport	IL	60432	815/726-0386
60	Kurt	Range	Southwestern Illinois College	2500 Caryle Ave.	Belleville	IL	62221	618/234-7118
61	Thomas B.	Range	Braeutigam's Orchard	2765 Turkey Hill Ln	Belleville	IL	62221	618/233-4059
62	Joe/Dennis	Ringhausen	Joe Ringhausen Orchards	24748 Reddish Rd.	Fieldon	IL	62031	618/376-6772
63	Thomas	Ringhausen	Tom Ringhausen Orchards	303 Mortland, Box 201	Hardin	IL	62047	618/576-9302
64	Irvin	Sager	Sager Farms	5251 Kell Rd	Kell	IL	62853	618/822-6637
65	Thomas	Schwartz	Schwartz Farms	P. O. Box 885	Centralia	IL	62801	618/532-8058
66	Mike	Seneczko		23504 W Williams Ct	Plainfield	IL	60544	815/609-3718
67	Wayne D.	Sirles	Rendleman Orchards	P.O. Box 159	Alto Pass	IL	62905	618/893-2771
68	Sarah	Song	FCAE	6438 Joliet Rd	Countryside	IL	60525	708/579-6057
69	Craig	Tanner	Tanner Orchard, Ltd.	740 State Rt 40	Speer	IL	61479	309/493-5442
70	Richard	Tanner	Tanner Orchard, Ltd.	726 State Rte 40	Speer	IL	61479	309/493-7781
71	Donna	Theimer	Joliet Junior Collge	1215 Houbolt Ave	Joliet	IL	60431	
72	Brian	Traughben		235 McClellan Blvd	Davenport	IA	52803	
73	Joas	Troyer	Echo Valley ORchard LLC	4140 Dutch Ridge Rd	Carbondale	IL	62093	618/884-2471
74	Elizabeth A.	Wahle	UIUC Coop Ext Serv	200 University Pk Dr, Ste 280	Edwardsville	IL	62025	618/288-4584
75	Keith	Weigel	Weigel's Orchards	R. R. #1, Box 111	Golden Eagle	IL	62036	618/883-2405
76	Jane	Weir	Weir Fruit Farm	R. R. #1, Box 25	Gladstone	IL	61437	309/627-2106
77	William	Whiteside	Horticultural Consultant	624 Shabbona Trail	Batavia	IL	60510	630/879-7573
78	Dennis	Wills		804 Ranchwood Dr	Shorewood	IL	60404	
79	Ronald	Wolfe	Wolfe Farms	1657 N 1125 E R	Monticello	IL	61856	217/762-7180
80	Dennis	Zellerman	Edgewood Orchards	1628 Edgewood Orchard Ln	Quincy	IL	62305	217/224-5414