



Issue 22, September 21, 2004

## Upcoming meetings/events

Date	Meeting/Event	Location	Time	Information
November 15	Fireblight Workshop	Goffstown, NH (UNH Cooperative Extension, Hillsborough County)	TBA	George Hamilton (603) 641-6060
December 15-16	New England Fruit Meeting	Manchester, NH	TBA	Duane Greene (413) 545-5219

## Vendor wanted

The food service director for public schools in Middleborough, MA is looking for a vendor of local apples and produce. Interested grower(s) are encouraged to get in touch with Lynn Petrowski at 508-946-2045.

## Horticulture

Apple harvest is well underway across Massachusetts. Weather has generally been cooperative, with alternating periods of warm days and cool nights. Pre-harvest drop of **McIntosh** has been average. McIntosh destined for CA storage should have been picked by now in most areas as starch-index values have reached 6+. **Honeycrisp** and **Gala** harvest should also be complete now except at higher elevations. **'Redcort'** **Cortland** is ready to pick this week, with **Macoun** and **Empire** following suit later this week. Warm temperatures forecast this week will hasten maturity.

Following are the results from apple maturity testing in Belchertown. Note that apple maturity test results are also be posted on the UMass Fruit Advisor as they become available:

- <http://www.umass.edu/fruitadvisor/clements/articles/2004harvest/2004harvest.html>

Date	Location	Cultivar	Drop	Size (in.)	Color (% red)	Firmness (lbs.)	Soluble Solids	Starch Index*	Taste	Disorders	Comments
9/15	Belchertown	McIntosh	some	3.1	65	13	13.5	5.3	good	drop	Rogers/Pioneer
9/15	Belchertown	Brookfield Gala	nil	2.8	80 striped	19	15	5.5	very good	some splits	last pick
9/16	Belchertown	Honeycrisp	few	3.6	45 striped	13	15	6.9	good, sweet		last pick
9/17	Belchertown	AceyMac		3.1	65	12	13	6.2	good, sweet		a little soft
9/17	Belchertown	Redcort	none	3.6	85	13.9	14	2.5	ok, a little green		ready for pick next week
9/20	Belchertown	Rogers McIntosh	some	3.1	65	13.4	12	6.2	ok, a little bland, soft		should be at the end for CA McIntosh; ReTain-treated
9/20	Belchertown	Redcort	none	3.8	80	14.3	15	2.5	very good, sweet	some bitter pit	ready to go; does not starch test well
9/20	Belchertown	Macoun	none	3.4	60	15.5	13	2.9	a little green		ready for 1 <sup>st</sup> pick this week
9/20	Empire	Royal Empire	none	3.1	95	17.2	14	3.5	a little green		ready for pick later this week

\* using the Cornell 'Generic Starch-Iodine Index Chart for Apples'

## Does 1-MCP (SmartFresh™) provide adequate scald control?

Sara Weis, Department of Plant, Soil, and Insect Sciences, UMass Amherst

1-MCP, marketed as SmartFresh™ by AgroFresh (<http://www.rohmhaas.com/agrofresh/>) is a newly registered material that delays many aspects of senescence in apples. It is applied as a gas directly after harvest in an airtight chamber such as a CA room or a refrigerator trailer. The active ingredient, 1-methylcyclopropene, competes with ethylene for binding sites in the apple, and thus blocks ethylene from its normal role in promoting ripening and senescence. Apples treated with 1-MCP remain firmer throughout storage and marketing than untreated fruit. Some cultivars are more affected than others. Since ripening is delayed, it is important that fruit have attained acceptable maturity before harvest so as to have some flavor and, in the case of a cultivar like Gala, aroma, as the production of these will be delayed by 1-MCP treatment. It is also important that fruit are not overripe at the time of treatment as the ripening effects of ethylene will already be initiated and irreversible. That said, 1-MCP can be a valuable tool in extending storage life of many apples. In addition to its effect on ripening, 1-MCP has been shown to inhibit superficial scald development, and there has been some hope that it may erase the need for diphenylamine (DPA) drench for scald control. This would result in saving the treatment cost of DPA and time involved in drenching, as well as eliminating the need for a fungicide treatment. Over the past three years we have collected data regarding 1-MCP treatment effects on scald development in Massachusetts. They are summarized here:

CORTLAND: Cortland is the most commonly grown cultivar in Massachusetts with the most severe superficial scald susceptibility. With only two years' data, it is difficult to assess whether 1-MCP offers adequate scald control for Cortland. Early harvested fruit is the most susceptible, but is also the most desirable for long term storage. In the 2002-2003 storage season, Cortland harvested September 19 in Belchertown, MA (early harvest) and stored until mid-January 2003 developed scald on 75% of untreated fruit and on 9% of 1-MCP treated fruit. In 2003 untreated, early harvested Cortland from three orchards across Massachusetts had developed scald on 47% of fruit by mid-December and on 85% of fruit by the end of January. With 1-MCP treatment, these percentages were reduced significantly to 2% and 5%, respectively.

DELICIOUS: Of 'Redchief' Delicious apples harvested on October 1, 2001 at Belchertown, MA and stored in 32<sup>o</sup> F. air until June 2003 only 3% of 1-MCP treated fruit developed superficial scald following the cold storage and one week at room temperature as compared to 23% of untreated fruit. (Note this storage duration is not recommended for commercial use!) The following year, fruit were only kept until March, and no 1-MCP treated fruit developed scald, though 70% of untreated fruit harvested on October 1<sup>st</sup> in Belchertown, MA (an early Delicious harvest) did develop scald. 1-MCP appears to be a very good scald control treatment for Delicious.

MCINTOSH: Scald is not usually a serious problem on McIntosh. We stored 1-MCP treated McIntosh in refrigerated air until late February, *much later than is recommended*, to see if scald control could be maintained for that long. Scald in February was completely controlled by 1-MCP in the 2001 season (97% of untreated fruit vs 0% of 1-MCP treated fruit), and was reduced from 70% of fruit to 30% of fruit in 2002. Following storage through December in 2001, 2002, and 2003, very little scald appeared regardless of treatment.

FOR ALL CULTIVARS which are susceptible to superficial scald, susceptibility increases as the storage period increases. Earlier harvested fruit are more susceptible to scald. In seasons which do not feature significant night temperatures below 50<sup>o</sup> F. before harvest, scald susceptibility is greater (<http://www.umass.edu/fruitadvisor/clements/scaldpredictor.html>). High temperatures preceding harvest have also been associated with greater scald susceptibility.

ALSO TO NOTE: The AgroFresh people are committed to seeing that their product produces results. SmartFresh™ is expensive and they want it to work. Therefore, they want to see that it is being applied in a manner consistent with recommendation, and will want to test treatment chambers for tightness.

### **Apple crop insurance changes for 2005**

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Important changes to the apple crop insurance program administered by USDA's Federal Crop Insurance Corporation have been made for the 2005 apple crop. Following is a nice summary of the changes for Massachusetts fruit growers by Jeremy Forrett of Crop Growers Insurance Services. You can also download a summary of changes for the apple crop provisions and provision details at USDA's Risk Management Agency website: <http://www.rma.usda.gov/>. Crop insurance is an important tool to prevent production losses due to weather and some other uncontrollable circumstances and should be a part of every fruit growers' risk management strategy.

**The “New” Apple Crop Insurance Program**  
**“Protecting Your Capital Investment”**  
*By: Jeremy Forrett of Crop Growers Insurance Services*

**Sales Closing Date: November 20, 2004 for the 2005 crop year**

*The Apple Crop Insurance Program has been improved for the 2005 crop year thanks to the hard-work of many Northeast apple growers. These improvements include:*

- *Raising the minimum grade from U.S. Cider Grade to U.S. No. 1 Processing*
- *Revised the insured perils to specify unprevented causes of loss (hail, wind, excess sun causing sunburn and frost or freeze causing russetting)*
- *Revised the Fresh Fruit Quality Option to provide quality adjustments for all insured perils*

*When it comes to protecting the capital investment of an apple orchard, growers must explore all of the available options. The Federal Crop Insurance Program has many options such as Buy-up coverage, Unit Structure and the Fresh Fruit Option. With the changing weather patterns you owe it to yourself to explore these options.*

**Catastrophic coverage (CAT):** *Provides a 50% production guarantee with losses paid at 55% of the Federal Crop Insurance maximum indemnity price, cost is \$100 per crop per county. **No consideration for loss of grade.** Apples grading U.S. No. 1 Processing or better whether harvested or left on the tree will count as production.*

**Apple Crop Insurance Established Price:** *Massachusetts 2005 crop year \$11.90 bushel*

**Buy-up coverage levels:** *You can choose how much of your production history you would like to guarantee, from 50% to 75%, at 100% of the established price.*

**Government subsidy**

*The percentage the government pays of your premium.*

<b>Coverage Level</b>	<b>50/100</b>	<b>55/100</b>	<b>60/100</b>	<b>65/100</b>	<b>70/100</b>	<b>75/100</b>
<b>Federal Subsidy</b>	<b>67%</b>	<b>64%</b>	<b>64%</b>	<b>59%</b>	<b>59%</b>	<b>55%</b>
<b>Your Portion of Premium</b>	<b>33%</b>	<b>36%</b>	<b>36%</b>	<b>41%</b>	<b>41%</b>	<b>45%</b>

**Unit Structure**

*You are able to divide your orchard into optional units if, for each optional unit you have different Farm Serial Numbers or your orchard consists of non-contiguous land. Optional units may be established by varietal group in accordance with section 14 of the crop provisions. Optional units may also be established by Irrigated and Non-irrigated practices, with special requirements met, see special provisions.*

**Apple Quality Options**

**Fresh Fruit Option**

*This option takes into account quantity and QUALITY of your apples. If 50% of your apples do not grade U.S. Fancy due to a covered peril it is a 70% loss. If 65% of your apples do not grade U.S. Fancy due to a covered peril it is a 100% loss. You can still get the best price possible for your apples; the settlement is not effected by your ability to market the salvage.*

**This fact sheet is a general overview and should not take the place of the Crop Provisions and/or Special Provisions.**

**Note:** this will be the last Healthy Fruit issue for the 2004 growing season. The UMass Fruit Team hopes information contained in Healthy Fruit in 2004 has helped you produce a ‘healthy’ and profitable fruit crop, and we wish your continued success during the remainder of the harvest and marketing season. We look forward to returning in 2005. In the meantime be sure to look into the UMass Fruit Advisor on the web (<http://www.umass.edu/fruitadvisor/>) for current information and updates. Also, don’t hesitate to contact any member of the UMass Fruit Team if you have a production or marketing question, or suggestion for improving Healthy Fruit in the future.

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