**Fruit Maturity**

**2011 McIntosh Starch index, Highmoor Farm, Monmouth ME**

Fruit NOT treated with ReTain or other growth regulators

<table>
<thead>
<tr>
<th>Date</th>
<th>Spurtype McIntosh</th>
<th>Standard (Rogers) Mac</th>
</tr>
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<tbody>
<tr>
<td>Thur., Aug. 25</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Thur., Sept. 1</td>
<td>2.0</td>
<td>4.4</td>
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</tbody>
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**Starch Index interpretation for McIntosh**

- 3.0 – 4.0: McIntosh maturity becoming suitable for long term CA storage.
- 4.0 – 5.0: Optimum McIntosh maturity for long-term CA storage
- 5.0 – 6.0: McIntosh suitable for short-term CA storage, but may be too ripe for long-term storage.
- 6.0 – 8.0: McIntosh are ripe and should be marketed immediately or stored for less than 2 months.

**Zestar!** are on the verge of becoming over ripe and are mostly on the ground anyway.

**Honeycrisp** are at average starch index of 1.0

The heavy crop at Highmoor Farm is affecting starch levels in fruit. Blocks with a heavy crop have advanced readings, but not advanced maturity.
**MCP Effect on Fruit Firmness and Rot**

Effects of 1-Methylcyclopropene on Firmness Loss and the Development of Rots in Apple Fruit Kept in Farm Markets or at Elevated Temperatures

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**Summary:** Many of the apples grown in the southeastern United States are sold to consumers through direct farm markets and roadside stands. Fruit in these markets may be exposed to high temperatures (>68 °F), which cause the fruit to ripen quickly, limiting their shelf life and consumer appeal and increasing their susceptibility to decay pathogens. Studies were undertaken in 2009 and 2010 to determine the effects of a 1 ppm postharvest 1-methylcyclopropene (1-MCP; aka SmartFresh) treatment on the maintenance of flesh firmness and the incidence of rots in fruit held at elevated temperatures for up to 8 weeks.

1-MCP-treated fruit of three apple cultivars (Ginger Gold, Gala, and Golden Delicious) held in three retail farm markets in the southeastern United States maintained their firmness for 3 to 5 weeks. The firmness of non-treated ‘Ginger Gold’ fruit declined to less than 12 lbs. after 1 week in each market, whereas the firmness of treated fruit remained greater than 16 lbs. after 3 weeks. Treated Gala fruit maintained their firmness at 14 lbs. during 4 weeks in each farm market, whereas the firmness of non-treated fruit declined to less than 12 lbs. after 2 weeks. The firmness of non-treated Golden Delicious fruit declined to less than 12 lbs. after 1 week in each farm market, whereas treated fruit maintained their firmness for up to 4 weeks. Golden Delicious fruit treated with 1-MCP exhibited almost no loss of firmness during 4 weeks at 32, 50, or 70 °F, or even up to 8 weeks at 32 or 50 °F.

The incidence of fruit rots increased with temperature, and 1-MCP reduced the incidence of fruit rots after 4 weeks at 70 °F in 2009 or after 8 weeks at 70 °F in 2010. These data show that 1-MCP may be of great benefit to producers who sell their fruit directly to the consumer by delaying the loss in firmness and reducing the incidence of rots in fruit kept at elevated temperatures.

**Orchard Fuel Calculator**

Penn State has an Orchard Fuel Use Calculator online

**New England Fruit and Vegetable Conference**

The lists of speakers and registration information for the 2011 New England Fruit and Vegetable Conference in Manchester NH is online at [http://www.newenglandvfc.org/](http://www.newenglandvfc.org/)
Brown marmorated stink bug (BMSB)

Please note that the few detections of BMSB in Maine have all been traceable to individuals hitchhiking on materials recently imported from Pennsylvania. At present, there are no known established BMSB populations in Maine. Even though BMSB is not currently a pest in Maine, given its potential severity this information presented to help growers be ready if/when it does reach pest status in Maine orchards.

Figure 1. BMSB on mature nectarine

Figure 3. BMSB damage on Pink Lady apple

Fig. 2. Current Distribution of BMSB in the United States.

Severe Agricultural and Nuisance Problems Present
Nuisance Problems Only
Detected

Figures 1, 2, & 3 from “The Challenges Posed by the Invasive Brown Marmorated Stink Bug, Halyomorpha halys (Stål), to U.S. Agriculture”. Prepared by Tracy Leskey, Insect Behavior and Chemical Ecology Laboratory, USDA-ARS, Appalachian Fruit Research Station, Kearneysville, WV. February 3, 2011
“Pressure from Stink Bugs Continues in Apple Orchards
Dr. Greg Krawczyk and Dr. Larry Hull, Penn State Fruit Research and Extension Center.

Fresh injury on apple fruits caused by feeding of brown marmorated stink bug. Photo by Greg Krawczyk.

“The brown marmorated stink bug (BMSB) continues to represent an unprecedented threat to our apple crop. The incessant feeding of growing nymphs and maturing adults poses a significant economic risk to maturing fruit as each probing or feeding by BMSB eventually results in a visible injury. A single BMSB adult or nymph in the orchard can potentially cause injury to many fruit. Another complicating element is the fact that fresh injuries from stink bug feeding are initially almost undetectable, but after only a few days, the injury can become very apparent. Since their actual feeding occurs under the skin of the fruit, it is only after the affected cells start drying that the symptoms of their feeding (i.e., corking) become visible (see picture). Also, since no fungal pathogens are transmitted during BMSB feeding, the affected area remains dry and no decay is observed. If BMSB feeding occurs just prior to harvest, it is quite possible that affected fruit will exhibit no visible signs of injury, but the characteristic depression on the fruit surface will develop after a period of time in storage.

Based on our experiences from last season, we expect that stink bug feeding will continue at least until mid-October this year. BMSB adults will continue feeding as long as weather permits or until they begin moving towards their overwintering sites. This late season feeding can be very intensive, as adult stink bugs are trying to accumulate enough resources to survive the winter. While the BMSB adults are in their overwintering shelters, they do not feed so all resources need to be gathered before moving into their shelters.”

“Fortunately, not every orchard will experience the same high pressure from the brown marmorated stink bug. Based on our current observations (through late August), the highest numbers of brown marmorated stink bugs were observed on the edges of orchards bordering with woods or various agronomic crops. We have seen hundreds if not thousands of BMSB in some soybean and corn fields, although not every soybean/corn field has high populations. But definitive, cautious scouting and monitoring of the vegetation surrounding an orchard should
be very helpful in deciding if any special stink bug control treatment(s) is necessary. It is important to remember that the absence of stink bugs during the season, does not guarantee that they will not become abundant in the orchard just before harvest. BMSB is not an orchard resident pest and what management tactics were utilized to control BMSB during the season in any particular block cannot guarantee or prevent new individuals from infesting/re-infesting the site just prior to harvest.

In order to manage possible infestations, a careful monitoring program needs to be employed. If injured fruit or stink bugs are detected, then the decision will have to be made about the best approach to manage the problem. Insecticides still remain the most effective BMSB management tool, but none of them will protect fruit from some level of damage. Early detection of feeding BMSB will help to limit the damage but not eliminate it completely. The most effective products will control only the individuals present in the orchard at the time of the application (i.e., direct contact activity), but they will not stop newcomers from at least initially probing the fruit. Remember - each probing equals an injury.

Most of the effective insecticides provide only a few days of residual protection (ed. - against adult BMSB). The results of our currently conducted residual bioassays revealed that most of the recommended insecticides provide sufficient residual control of BMSB nymphs for at least 7 or even 12 days after the application (higher rates of product usually provide longer residual activity).”

**Closing Words**

I intend to live forever. So far, so good.

Steven Wright

Where brand names are used it is for the reader’s information. No endorsement is implied nor is any discrimination intended against products with similar ingredients. Always consult product label for rates, application instructions, and safety precautions. Users of these products assume all associated risks.

Orchard Radar weather and pest tracking models at [http://pronewengland.org/AllModels/DecisionModels.htm](http://pronewengland.org/AllModels/DecisionModels.htm)

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