

# PLANT & PEST ADVISORY

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## White-Fleshed Peach Varieties and Plums in 2004

*Jerome L Frecon, Agricultural Agent and Gail Lokaj, Program Associate, Rutgers Cooperative Extension*

The demand for nice white-fleshed peaches continues to remain strong. Most of the best white-fleshed varieties are sub-acid, and susceptible to bacterial spot. Spring Snow has great size and beautiful red color, ripening on June 25 in 2004. Snow Prince ripens on July 10, a few days before Sugar May. Snow Prince is not quite as dark but is larger than Sugar May. Sugar May is not a sub-acid variety. NJ D80-8 is an attractive white-fleshed variety, sub-acid with good size, ripening on July 14 in 2004. NJ H4-44 ripens just ahead of NJ D80-8 but is not as large, has lower quality, and is firmer. NJ H4-44 is actually a one of the non-ethylene producing stony-hard selections from the New Jersey Agricultural Experiment Station Breeding program. Snow Beauty ripened on July 20 about 5-7 days before White Lady. Snow Beauty ripens about the same time as the older variety Snobrite, but has better size and brighter red color. It also tastes much better. Snow Bride ripens with White Lady. Both are very pretty but with all the experience we have with White Lady we do not see Snow Bride as a replacement.



*White-Fleshed Peach Varieties and Plums*

Sugar Lady has been evaluated for many years but Klondike, ripening at the same time after White Lady, is bigger and firmer than Sugar Lady. Neither variety seems to set up as heavy as White Lady. We have difficulty with brown rot on Klondike, which makes us wonder if it is more susceptible than Sugar Lady. NJ 19-28 is a beautiful bright red-skinned peach ripening with Klondike and Sugar

**SEE WHITE-FLESHED PEACH VARIETIES AND PLUMS IN 2004 ON PAGE 2**

# Peach Size

*Jerome L. Frecon, Agricultural Agent*

Some growers have asked why fruit size is not what was anticipated after pruning and thinning so hard. I think the real answer lies with the time of thinning. Bloom time on peaches in southern New Jersey was about normal, maybe a few days early in some sites. Bloom was heavy on all varieties and subsequent fruit set looked heavy. May growers took the extra steps to bloom thin with chemicals, rope thinners and brushes. A few growers even did some hand thinning during bloom. Much of this blossom thinning was focused on varieties that are more of a challenge to size and normally mature early in the season. A few growers were even pruning during later bloom and well through shuck split which can remove flowers and thin fruit.

Peaches have a two-stage growth cycle. The first flush of growth is a period of cell division followed by pit hardening followed by the final swell, which is a period of cell enlargement. Blossom thinning is a great benefit during this period of cell division. In 2004 during this first period temperatures were higher than normal and soil moisture was lower than normal on a few sites. According to degree-day information from Sky Bit we were 350 to 400 degree days above normal by June 15. We were even ahead of the early season of 2002. Temperatures in late May were 10° to 12° F degrees above normal according to New Jersey Ag Statistics. Temperatures were warm and all trees were under a lot of stress from the heat and humidity. We reached pit hardening very early and had a short period of cell division. We simply couldn't get the fruit thinned early enough to make up for this burst of warm weather and stress. We tend to thin mid-season and late varieties last because of when they normally develop. Varieties that are genetically larger get thinned last. Unfortunately, all these trees were stressed and in spite of the wet weather and sufficient soil moisture, we could not make up the size that was lost.

Naturally, there may have been other reasons for reduced size but this warm weather and early development was probably the main factor. In talking to Gary Van Sickle, of the California Tree Fruit Agreement, this is also why fruit sizes averaged ¼ inch smaller in diameter in California this season too. □

## *WHITE-FLESHED PEACH VARIETIES AND PLUMS IN 2004 FROM PAGE 1*

Lady. We also have Summer Sweet, but the variety is very susceptible to bacterial spot and brown rot, which makes it difficult to grow.

Blushing Star ripens just after Sugar Lady but is not sub acid. We have always been concerned about its size, but it is a high quality red-skinned peach. Sugar Giant ripened on August 14 this year. Opale ripens a few days after Sugar Giant, is not sub-acid, but has very good flavor. Sugar Giant is larger and firmer than Opale, but Opale seems to retain its firmness better. Sugar Giant is more susceptible to bacterial spot. Snowfire ripened about August 20<sup>th</sup> this year but does not set heavily and is too susceptible to bacterial spot, Lady Nancy, Snow King, Arctic Snow were first harvested on August 23<sup>rd</sup>. Snow King is very susceptible to bacterial spot and both it and Snowfire get quite a bit of brown rot because the skin cracks rendering it more susceptible, Snow Giant and September Snow are all varieties we can grow, but have yet to ripen in 2004.

Many years ago, we evaluated some of the old varieties of oriental plums and reported on them in Hort News and made suggestions in the Commercial Tree Fruit Production Guide for New Jersey. We have felt there is more potential for plum production in New Jersey because they don't activate as early in the spring and bloom later than most apricots. The good varieties have a unique and aromatic flavor with consistently higher SSC than many of the cots. The two problems we always have with plums is fruit set and tree longevity. It is difficult to compare plum varieties because nurseries propagate them on many different rootstocks. The ARS-USDA program in Byron Georgia has developed some very nice plum varieties, most of which have not been named. Most of our plum cultivars are planted among peaches, so receive no special pollination. The selection we receive to test from Byron are propagated on peach seedlings,

Black Ruby is a small, early midseason variety from Byron that has good quality that never set up may fruit. Vanier (not from Byron) is a nice quality yellow-fleshed variety that ripened to optimum quality on August 14 in 2004. It had a very heavy crop of fruit. Ruby Queen was just introduced on July 30 in Byron. Peak ripening this year was August 23<sup>rd</sup>. This dark red-juiced variety has superb quality and high SSC. It averaged 17% SSC on sampling last week, and has had 25 % SSC in 2002. It has good size, many 2 1/8 inches, and produces well with little pollination. Based on research done in New York, it has been shown to have high antioxidant properties.

## *SEE WHITE-FLESHED PEACH VARIETIES AND PLUMS IN 2004 ON PAGE 3*

# Late-Season Disease Management

*Reprinted from the Apple Production Newsletter, Volume 7, Number 8, August 2004*

Sooty blotch, flyspeck, bitter rot and bot (white) rot can cause significant losses just prior to harvest if not controlled. Some rotten fruit and sooty blotch and flyspeck may be showing up now. These rotten areas on fruit are probably a result of infections that occurred in June and July when it was warm and wet and have remained quiescent until the soluble solids began to increase in the fruit. There is little fruit to fruit spread of bot rot or black rot, but there is great potential for bitter rot to spread from fruit to fruit. While rain favors all of the diseases, foggy mornings, often accompanied by heavy dews, are ideal for sooty blotch and flyspeck, which do not need rain to increase in severity. The key to control of these diseases is to maintain a good cover spray program. When rains are more frequent than normal, and in orchards that dry slowly or those with a history of disease problems, it is important to spray every 10 days. Also it is very important to use the proper amount of fungicide/acre based on tree size and canopy density.

The tank mix of ½ rate captan + ½ rate ziram + ½ Topsin M 70W per acre provides good control of all summer diseases except Alternaria blotch on Red Delicious. The rate of both captan and ziram per acre in the mix should be 3 to 4 pounds/acre, depending on tree size. Equivalent amounts of flowable formulations can be used. Use 6 to 8 pounds of captan or ziram per acre in combination with Topsin M if either is used alone. Ziram is weak on bot rot and in orchards where it is a problem use captan + Topsin M.

The QoI or strobilurin fungicides Sovran and Flint have good summer disease activity but with the exception of Alternaria blotch on Red Delicious are no more effective than the 3-way combination of captan, ziram, and Topsin M. Where Alternaria blotch is a problem, an additional spray of Sovran or Flint may be needed in early August, especially if it stays wet. Sovran and Flint are weak on black pox and in orchards where it has been a problem, the QoI fungicides should be rotated with sprays that include Topsin M. The OoI fungicides can be used in the last cover sprays to minimize residues at harvest. Use the high labeled rate in these sprays; 3.0 oz Flint or 6.4 oz/acre Sovran. Remember only four QoI fungicides can be applied per year, and not more than two applications can be made in sequence. The preharvest interval for Flint is 14 days, Sovran 30 days.

Necrotic leaf blotch can be a problem on Golden Delicious if ziram (or thiram) isn't used in the cover sprays beginning in mid-June and extending through early to mid-August. If captan or one of the QoI fungicides are used in these cover sprays, include 1 pint/acre of El-Max Super Zinc Fl. It contains 39.8% zinc oxide, which has effectively suppressed necrotic leaf blotch. Other zinc formulations may suppress the disease but haven't been tested.

Sooty blotch and flyspeck tend to creep in late in the season, once harvest has begun. Depending on your orchard (small trees, open canopy or large trees, thick canopy) and its location (good drying site, poor drying site) you can expect 14 to 21 days of residual activity out of the 3-way tank mix above or the QoI fungicides Sovran and Flint. Captan alone provides only about 10 days of residual activity. The residual activity of the mixes can be lengthened by increasing the rate of Topsin M 70W to ¾ pounds per acre.

Submitted by Jerome L. Frecon, Agricultural Agent. □

*WHITE-FLESHED PEACH VARIETIES AND PLUMS IN  
2004 FROM PAGE 2*

It normally ripens on August 25. We expect to see other promising varieties. We picked two advanced USDA-ARS selections in the adjoining picture with Ruby Queen that have excellent flavor and a heavy crop this year.

We have not had much success with the older varieties of pluots and Apriums from California. All of the ones we have tested do not set, have a prolific shot holing in the leaves and even though they are high in SSC don't have the quality of the plums we evaluate. We have made a new planting of some of the newest commercial selections with the hope that we see improvements. □

# Apple Maturity Update for North-Central New Jersey

Win Cowgill, County Agricultural Agent

Growers should be observant as we approach Gala and McIntosh harvest in North-Central Jersey. Apple maturity appears to be well ahead of last years harvest dates.

From observations and maturity tests on the below selected cultivars conducted Tuesday August 24<sup>h</sup>, we continue to be ahead of last years harvest dates. All fruit was picked on 8/23, with the exception of the Warren county fruit picked on 8/20.

## Summer Apples

### Gala

Background color has historically been one of the best indicators of maturity for Gala. Fresh market Galas should be harvested when the background color is turning from a yellow to a cream color. SI index with the Gala Starch chart can be a guideline as well.

Southern NJ Gala harvest is about complete, Central Jersey growers began last weekend, North Jersey growers will begin this week to spot pick Gala cultivars

Some strains are already showing good red color development. Good sugar levels are present with brix development at 11-11% but size can improve some yet.

Warren-Belvidere	Retain	Pressure	Brix	Starch-Iodine
Gala-Imperial	Yes	17	11.5	7
Hunterdon-Glen Gardner	Retain	Pressure	Brix	Starch
Crimson Gala	No	23	11%	1
Hunterdon-Snyder Farm	Retain	Pressure	Brix	Starch
Treeco-42 Gala	No	20	11%	4
Treeco-42 Gala	Yes	21	11.5%	2.6
Brookfield Gala	No	25	12%	1
Buckeye Gala	No	25	14%	2.5
Galaxy Gala	No	21	11.5	4

Gala is still running earlier than last year, maturity development has slowed somewhat. Growers need to be conscious of gala maturity this year if they have plans to hold it for any length of time. Multiple pickings must be used on Gala to get consistent fruit quality and size, the first pick is usually a skim of the ripest fruit.

### McIntosh

Growers in Central and North Jersey should watch their Mac's closely for maturity development and drop. It is too late to treat Macintosh blocks with Retain. Applications of NAA can be used instead for stop drop. Many blocks are colored nicely sugars are developing. Central Jersey Mac harvest has begun with the Hudson Valley, NY picking Macs heavily as well.

Warren-Belvidere	Retain	Pressure	Brix	Starch-Iodine
Macintosh-MacSpur	Yes	15	10%	3

Hunterdon-Glenn Gardener	Retain	Pressure	Brix	Starch-Iodine
Rogers Red Mac	No	18	11%	3

Hunterdon Snyder Farm	Retain	Pressure	Brix	Starch-Iodine
Macintosh-R	Yes	16	12.5%	3
Macintosh-RedMax	No	16	13	3
Macintosh-Linda Mac	No	15.5	12.4	3.2

Morris-Harding Twp.	Retain	Pressure	Brix	Starch-Iodine
Macintosh-RedMax	Yes	16	11.5	3.6

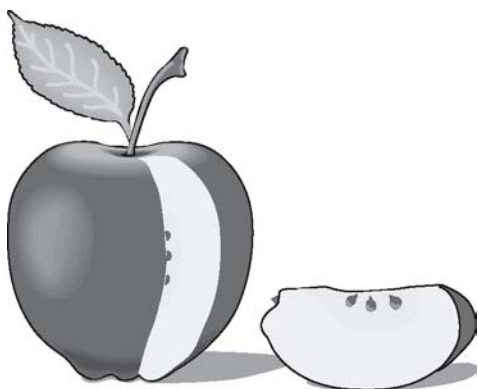
### HoneyCrisp

Honeycrisp is beginning to develop red color, it maybe a good color year for NJ Honeycrisp with another night of temperatures in the fifties again this week in Hunterdon County.

**Note:** Growers should note that Honeycrisp can drop severely and the tendency is to pick it early with red color development. If picked prematurely it may not develop the full array of flavor that this apple is noted

for. It will be then hard to demand the premium price it well deserves. A lousy eating Honeycrisp is a lousy apple.

Morris-Harding Twp.	Retain	Pressure	Brix	Starch-Iodine
Honeycrisp	Yes	17	12	3
Hunterdon-Snyder Farm	Retain	Pressure	Brix	Starch
Honeycrisp	Yes	15	12	2
Hunterdon-Pittstown		Pressure	Brix	Starch
Honeycrisp – M26 (high vigor)	No	16	11	5
Honeycrisp-B9 low vigor	No	16	12	3.6



#### Cortland

Cortland is an apple that has increased in popularity with newer strains being highly colored. Cortland is usually picked one week after Macs (remember Macs can be picked over 3 weeks if stop drop is used. Normally around mid-September at the Rutgers Snyder farm. They do not starch test well but SI testing can be used as guideline, target a starch of 5-6.

Hunterdon-Pittstown	Retain	Pressure	Brix	Starch
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Cortland-RedCort	No	18	11	1
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Morris-harding Twp.	Retain	Pressure	Brix	Starch
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Cortland-RedCort	Yes	18	11	1
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**Retain®:** Reminder Retain® should be applied 28 days before anticipated harvest and with a 21 day Pre-Harvest Interval (PHI). If blocks were not treated with Retain®, it is not too late this season to apply for late September apples like Red Delicious and Empire, only October maturing apples such as Suncrisp, Fuji, Stayman. □

# Fruit IPM

Dean Polk, Fruit IPM Agent

## Peach

✓ **Oriental Fruit Moth (OFM):** A 4<sup>th</sup> brood is starting to emerge in southern counties. This is from 2 - 6% hatched as of this writing. Given the timing for treating previous generations, an insecticide should be applied for any late variety that is more than 7 to 10 days from picking. Be careful to observe the PHI on the material used. A 4<sup>th</sup> brood is from 1 - 2% emerged in central counties. Therefore, the same recommendation applies to orchards in that part of the state. No 4<sup>th</sup> emergence is present in northern counties as of this date.

✓ **Tufted Apple Budmoth (TABM):** Trap counts still indicate fairly low pest pressure. Historically, this is really a pest only in southern counties and some areas in central counties. All treatments should have been applied in southern and central counties. Any north Jersey farm with a history of any budmoth damage should plan on the remaining treatments outlined below.

## Apple

✓ **Tufted Apple Budmoth (TABM):** Timing in the above table under "Peach" should also be observed for apples. Spray volume is particularly important at this time of year. Make sure to use at least 100 gal. of water per acre if TABM has been a problem on your farm.

✓ **Codling Moth (CM):** A 3<sup>rd</sup> generation in southern counties is 6-10% emerged. The 3<sup>rd</sup> brood is from 3-4% emerged in central counties. It should be 1-2% emerged in northern counties by 8/31-9/1. First a little on timing from the second generation: The degree day model calls for treatments at 1250 and again at 1550-1600 DD (standard insecticides) for the 2<sup>nd</sup> generation. This corresponded to 4-5% hatched, and again at 46-59% hatched this season. Based on this, a treatment would have been applied in southern counties late last week. If that was not done, then it should be applied as soon as possible, with a second treatment due around Labor Day. Treatments in central counties are due now, and again shortly after Labor Day. The first treatments in northern counties should be applied by 9/2-4. ☐

	TABM Timings - Application and Insecticide Type – Brood 2		
County Area	OP's, Carbamates, Spintor, Pyrethroids (Conv.)		Intrepid
	4 alt mi d sprays	2 complete sprays	2 complete sprays
Southern	Completed	Completed	Completed
Central	Completed	Completed	Completed
Northern	3rd - 8/24-25, 4 <sup>th</sup> – 9/1-3	8/28-31	8/28-31

## Insect Trap Captures

### Tree Fruit – Southern Counties

WeekEnd	STLM	TABM-A	CM	AM	OFM-A	DWB	OFM-P	TABM-P	LPTB	PTB
16-Apr								1		
23-Apr	167				6		39			
30-Apr	101	0	0		96		45	0		
7-May	44	5	5		73		23	11		
14-May	446	10	7		35		13	19		
21-May	149	39	10		29		19	47	78	5
28-May	226	39	8		9	19	6	62	49	7
4-Jun	460	32	4		0	14	4	43	33	2
11-Jun	762	19	2		2	37	5	24	45	4
18-Jun	1042	15	3		4	25	8	14	30	5
25-Jun	1729	4	3		3	30	14	4	62	7
2-Jul	732	1	1		3	25	8	2	43	4
9-Jul	879	1	1		4	30	5	3	25	3
16-Jul	427	4	2		3		6	9	40	4
23-Jul	1106	3	2		2	25	9	8	25	6
30-Jul	2062	5	4	1	11		16	11	22	10
6-Aug	1814	4	7	1	13	15	14	6	45	10
13-Aug	519	6	3	0	10	12	8	7	24	3
20-Aug	453	6	2	0	12	8	10	5	52	1

Tree Fruit – Northern Counties

WeekEnd	STLM	TABM-A	CM	AM	OFM-A	DWB	OFM-P	TABM- P	LPTB	PTB
16-Apr										
23-Apr										
30-Apr										
7-May	1240						48.8			
14-May	1160	5.0	5.9				49.7	4.2		
21-May	128.8	14.2	14.8		7.3	2.0	25.9	13.3		
28-May	22.5	28.7	14.9		0.0	11.0	26.4	37.0		
4-Jun	32.3	45.4	5.0		0.0	16.0	6.2	42.4		
11-Jun	468.2	39.4	9.8		0.0	12.0	12.1	34.8	5.7	0.0
18-Jun	541.8	35.1	8.1		0.0	12.3	19.1	46.0	4.1	0.5
25-Jun	520.0	20.2	3.9		0.0	3.0	21.2	24.3	2.4	0.1
2-Jul	420.8	10.3	2.0		0.0	0.8	14.7	8.1	4.6	0.6
9-Jul	533.5	3.3	2.5		0.0	1.8	15.1	3.4	7.2	0.7
16-Jul	170.7	1.4	3.1	0.0	0.0	6.0	12.0	3.0	1.9	1.2
23-Jul	268.0	1.5	5.6	0.3	0.0	0.3	18.3	2.9	2.4	1.3
30-Jul	462.50	3.0	4.9	0.20	0.0	1.0	15.6	6.3	3.4	2.1
6-Aug	452.3	3.4	11.3	0.4	0.0	12.3	21.8	6.5	4.2	5.3
13-Aug	446.3									
20-Aug	725.6	2.9	3.5	0.0	0.0	0.5	17.4	2.6	5.0	6.4

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