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Submitted by:

**Janine Hasey**  
UCCE Farm Advisor  
Sutter, Yuba and  
Colusa Counties

**Cling Peach New Variety and Selections Field Meeting****Wednesday, June 15, 2016****8:45 a.m. - Noon****Marysville and Yuba City**

Are you interested in seeing the new cling peach variety *Kader* or two early selections – *Early #5* or *Early #6* performance in local orchards?

Tom Gradziel, UC Davis Pomologist and Processing Peach Breeder and Janine Hasey, UCCE Sutter/Yuba Counties Farm Advisor, will lead a tour of local orchards where these are growing.

**Program**

*(Times at each location are approximate but we'll try to adhere to the schedule)*

8:45 - 9:30 a.m.

***Kader* variety**

Oak Tree Farms, Craig and Sean Carberry

1261 Simpson Lane, Marysville, CA

Look for big green gate and UC meeting sign on north side about ½ mile east of Yuba River

9:45-10:30 a.m.

***Early#6* selection**

Davit Ranches, Rajeev Davit

10895 Highway 70, Marysville, CA

Look for the UC meeting sign

11:00-Noon

***Early#5* selection**

Rich McPherrin Ranch

2104 Sanders Road, Live Oak, CA

*Early#5* trees are east of the house

Below are excerpts on *Kader* and these early selections from Tom Gradziel's article in the May 2015 'Orchard Notes'

[http://cesutter.ucanr.edu/news\\_204522/Orchard\\_Notes\\_833/?newsitem=57383](http://cesutter.ucanr.edu/news_204522/Orchard_Notes_833/?newsitem=57383)

*Kader* is a recently released processing peach variety ripening just after *Carson*, though because of its ability to maintain good on-tree fruit quality can be harvested a week or more after the full-ripe stage. Trees are productive with high-quality fruit for processing and with a low incidence of pit-fragments and red pit-staining despite its maturation in the *Dixon* gap. Its high sugar content (12.9 Brix) and low acidity (pH 3.9) are both

desirable for processing as is a Brix/TA ratio of over 20 (26.9). Fruit firmness, color and maximum size potential are comparable to *Andross* though with improved Fruit Brown Rot resistance. An exceptional potential for large fruit size allows over-thinned trees to develop correspondingly larger fruit and so maintain higher yields. The lineage of *Kader* includes breeding material from Europe and Brazil as well as traditional Californian processing peach varieties. It is the result of over 20 years of breeding efforts with most of that time spent in testing its early and mature tree productivity and fruit processing quality in each of the major California growing regions. The variety *Kader* was released in the summer of 2014 and virus-free foundation stock has been made available to California nurseries for commercial tree propagation.

**Early#6** is the most recent advanced UCD breeding selection ripening in the Early-harvest season and combines processing peach breeding germplasm from California and South Africa. [The ‘Early’ designation identifies the harvest season while ‘#6’ identifies its order of release for grower testing rather than order of harvest date]. Traits incorporated from the South African germplasm include improved fruit firmness and fruit brown-rot resistance, and a suppression of red-pigmentation throughout the fruit including the fruit cavity. This suppression of red-pigmentation results in a uniform golden yellow flesh color. *Early#6* ripens approximately three days before *Andross* with desirable levels of fruit sweetness and acidity along with good fruit firmness (7.2 lbs). Trees tend to crop heavily with fruit displaying good uniformity in size, shape and color.

**Early#5** ripens with to just after *Andross* and is similar to *Andross* in fruit sweetness, acidity, firmness and color. Size of commercially thinned fruit for *Early#5* as well as *Early#6* is also comparable to *Andross*, though over-thinned fruit will not continue to size as aggressively as *Andross* and *Kader*, being more comparable to *Carson* and *Dixon*. Multiyear disease evaluations by Dr. Rick Bostock at UCD have shown significantly better resistance to brown rot than *Andross* or *Carson*, though not as good as *Kader* and *Early#6*. From early, small-scale grower testing in the Sacramento and San Joaquin Valleys, it has received high marks from both growers and processors with more extensive grower testing recommended.



2015-2016	762
2014-2015	486
2013-2014	1016
2012-2013	1150
2011-2012	1051
2010-2011	1014
2009-2010	854
2008-09	1116
2007-08	1108
2005-06	780
2004-05	994
2003-04	886
2002-03	779
2001-02	761

*Chilling hours recorded for hours below 45° F model at our office on Garden Highway starting November 1 and ending on February 28 (February 29 in 2004, 2008, 2012, 2016)*

Chandler walnut had a relatively short leaf-out and bloom and the peach bloom was very good this year compared to the low chill effects seen in 2014-15, such as staggered leaf-out and bloom in Chandler.

### Normal timing for peach harvest predicted

Full bloom was February 26, 2016 which ties the earliest peach bloom ever. Even though this date was really early and you may think that means early harvest timing, it is the temperatures following bloom those first 30 days that determine when peach harvest will begin. On the average, we accumulate about 6000 growing degree hours (GDH) during the first 30 days after bloom. We had some cool temperatures in March resulting in a GDH<sub>30</sub> of 6,352 which is near the average, therefore more normal harvest timing is predicted for 2016. Compare to 2015 when we had a very warm spring with the highest growing degree hours (7,955) since using the model to predict peach harvest in the Sacramento Valley. Harvest was one of the earliest last year. Reference date is May 9 for 2016, same date as 2015. However, the average reference date size is 34.8 mm this year compared to 33.7 mm in 2015.

The table below lists full bloom dates and growing degree hours 30 days after bloom using the Sutter County Verona CIMIS weather station for 2013-16. Prior years were calculated using the Nicolaus CIMIS station except in 2012. The table also includes the general harvest timing from 2004-2015 and the prediction for 2016.

Year	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
<b>Full Bloom</b>	Feb 26	Mar 6	Mar 11	Mar 13	Mar 8	Mar 14	Mar 12	Mar 16	Mar 10	Mar 9	Mar 14	Mar 3	Mar 9
<b>GDH<sub>30</sub></b>	6,352	7,955	6,510	7,397	4,621 (Colusa)	4,963	5,060	6,117	5,548	7,420	4,375	6,153	7,788
<b>Harvest Timing</b>	Predict Normal to slightly early	Very early	Normal to slightly early	Early	Later than normal	Later than normal	Later than normal	Slightly later than normal	Normal	Early	Very late	Normal	Very early

### Sizing Peach Fruit

The rate of early fruit development is very dependent on the weather; the warmer the weather, the faster the fruit develop with a demand for carbohydrates 5 to 10 times higher than during a cooler spring. Anything limiting carbohydrate accumulation by the fruit can ultimately lead to smaller fruit. During cool springs, fruit takes much longer to develop and there is more time to accumulate necessary carbohydrates for fruit development and to obtain larger size. When thinning peaches, sizing peach fruit is generally more difficult when GDH<sub>30</sub> days after bloom are **above** 6,000 whereas it is generally a better fruit sizing year when springtime temperatures are cooler and GDH<sub>30</sub> is **below** 6,000. In 2016, there is more time to adequately size fruit with a GDH<sub>30</sub> near the average, a reference date size 1.1 mm larger than last years on the same date, and more normal harvest timing predicted.

## Hail Storm on May 5, 2016

Golf ball size hail hit a narrow band of Sutter County from Dingville, to George Washington and Township past Highway 20 ending south of Pease Road on May 5. It left a wake of shattered fruit and nuts on the trees with most crop knocked to the ground. There were so many peaches on the ground that it looked like a very heavy fruit thinning had just occurred. As I write this on May 13, damaged walnuts continue to drop every day since the storm. The damage is still being assessed but there are some orchards with a total loss. This is certainly the worst hail storm and damage I've seen in my long career here. (See photos below).

Here are some points to keep in mind for growers with hail damaged orchards:

- Have your crop insurance adjuster come out again in July to reassess crop loss from initial assessment. This will be particularly important in walnuts since damaged nuts may continue to drop into June.
- For peaches that may have some crop left, there is concern that damaged fruit remaining is more susceptible to brown rot infection. According to UC Plant Pathologist Jim Adaskaveg, green fruit at the present stage is quite resistant to brown rot infection and with the warm weather, wounds will heal quickly. However, he is recommending a preventative brown rot spray two weeks before harvest even if rain is not predicted. Start monitoring affected orchards four weeks before harvest when fruit is susceptible to brown rot infection. If rain is predicted, apply a preventative spray as you usually would to protect the peach crop.
- Report your crop losses and damage to the Sutter County Ag Commissioner who is assessing impact from the hail. There has to be at least thirty percent production loss for a crop countywide to be declared a disaster however, which will be unlikely since it only affected a small part of the county. Prunes were already declared a disaster in both Sutter and Yuba Counties due to very low fruit set.

## May 5, 2016



Photo taken by  
Torbin Ulrich



Photo taken by  
Jasbir Bains



Peaches with fresh hail damage –  
Photo taken by Jasbir Bains

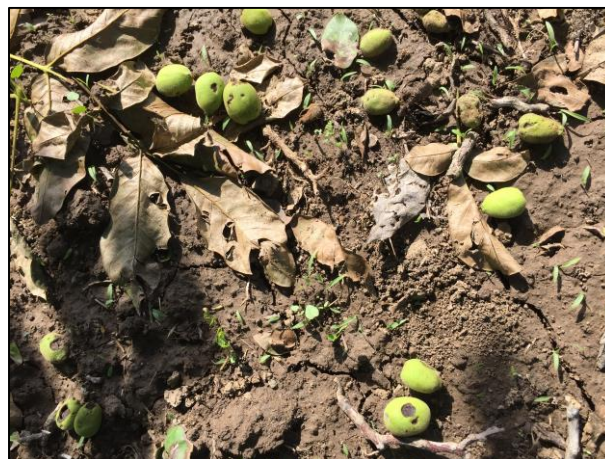
**May 6, 2016**

Hail damage to peaches and walnuts - Photos below taken by Janine Hasey



**May 12, 2016**

Damaged walnuts dropping  
one week later.



Cooperative Extension Sutter-Yuba Counties ♦ 142A Garden Highway, Yuba City, CA 95991-5512  
Office (530) 822-7515 ♦ Fax (530) 673-5368 ♦ <http://cesutter.ucanr.edu/>

## Freeze Damage in Young Walnuts

Around mid-April, several growers in the Sacramento Valley and San Joaquin County reported no growth on current season wood (e.g. no budbreak on primary scaffolds) on young walnut trees. These trees were often random or in one area of an orchard (Photo right). Affected trees I've looked at in Sutter County appear to be freeze damage. Primary limbs or trunks had the typical brown tissue on the southwest side with budbreak occurring below the affected areas (Photos below). Based on the CIMIS weather station in Verona in Sutter County, late last November there were temperatures down to 24 and 25°F. Young walnut trees are particularly sensitive to cold temperatures in the fall below 28°F. Unhardened trees are especially vulnerable. In one affected orchard, the grower continued irrigating the trees through October pushing growth rather than withdrawing irrigation in September until a terminal bud was set on the trunk. It is not surprising that some freeze damage occurred here.



With freeze damaged wood, budbreak can be quite delayed and deadwood in affected trees should not be pruned until June. Protect exposed areas where buds are breaking from sunburn by painting the southwest side of trunks or limbs with tree paint or white latex paint 50:50.

There may be other causes for delayed budbreak and dead limbs this season and some predisposing factors as to why one tree will be damaged while another nearby tree is not. One of these other causes is oil damage which from afar resembles freeze damage. The bark tissue however, is more black than brown and it occurs on all exposures. The photos on next page show oil damaged young walnuts in an orchard interplanted with peaches.





Oil damage in walnuts interplanted with peaches. Note blackish primary branches on all exposures. Photos by Janine Hasey.

## Website Resources

The Peach Pest Management Guidelines were updated recently  
<http://www.ipm.ucdavis.edu/PMG/selectnewpest.peach.html>

Video clip: How to monitor for webspinning spider mites in peach and nectarine  
[https://www.youtube.com/watch?v=Wg\\_IAqZiSAM](https://www.youtube.com/watch?v=Wg_IAqZiSAM)

Video clip: How to monitor shoot strikes in peach and nectarine  
<https://www.youtube.com/watch?v=hfsqSVOG-zE>

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