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University of California
Agriculture and Natural Resources
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# SWEETPOTATO TIPS

UCCE

Merced & Madera Counties Vol. 1, Jan, 2015

UC Coperative Extension • 2145 Wardrobe Ave. • Merced, CA 95341
(209) 385-7403 FAX (209) 722-8856 • http://cemerced.ucdavis.edu

**IN THIS ISSUE:**

- ✓ February 3, 2015 meeting agenda
- ✓ DPR units requested: 0.5 hours L&R and 1.0 "other". 3.5 CCA units.
- ✓ Production notes.

***Special Note:***

*The Telone cap is set by DPR at 92,250 lbs per township with no exceptions. At 9 gallons per acre, approximately 1,040 acres can be fumigated.*

*For sweetpotatoes, Telone at less than 9 gallons per acre is not recommended.*

*There will be a Metam stewardship class from 1:30 - 3:30 pm following this meeting (class required by CAC for growers using metam products)*

## 50th Annual

# SWEETPOTATO MEETING

**Tuesday, February 3, 2015**
**8:00 am - noon**
**UCCE Classroom**
**2145 Wardrobe Ave., Merced**

| | |
|---|---|
| 7:30 am | Signing in, coffee, and Jantz Sweetpotato muffins<br>*Courtesy of Yosemite Farm Credit* |
| 8:00 | Scott Stoddard. Review of 2014 and summary of fungicide evaluation for stem rot and Dominus fumigation trials. |
| 8:45 | Sean Runyon, Deputy Merced County Agriculture Commissioner. Non fumigant VOC regulations and fumigation update. |
| 9:00 | Brian Hegland, Dow AgroScience. Telone fumigant update for 2015. |
| 9:15 | Mr. Bob Scheuerman, Farm Advisor Emeritus. Boxes to bins, virus-testing, Garnet, and drip irrigation — looking back 50 years. |
| 9:45 | Break |
| 10:00 | Joe Nunez, Farm Advisor. Update on the use of Nimitz nematicide on carrots and tomatoes. |
| 10:30 | Tim Pearson and Mark Dessert, Agri-Control Technologies. Sweetpotato storage building ventilation, cooling, control, and energy efficiency. |
| 11:00 | Dr. Don La Bonte, LSU. Update on LSU advanced selections. |
| 11:30 | Jim Lin and Emma Crnkovich. Ketchum Inc. Marketing California sweetpotatoes. The year in review. |
| Noon | Lunch (pork loin & sweetpotatoes by Arnold's Catering)<br>*Courtesy of Lonnie Slaton with Simplot* |
| 1:30 pm | Sweet Potato Council business meeting (in Library). |
| 1:30 - 3:30 | Metam stewardship class. |

## PRODUCTION NOTES

As with all of California, Merced County had the lowest rainfall ever recorded for the 2013-14 winter, less than 5". The mountains had no snow either, and as a result the Merced and Turlock irrigation districts initially allocated only 0.5 - 1.5 acre-feet and a significantly shortened 2014 irrigation season. Faced with these challenges, last winter there was a lot of speculation among sweetpotato growers on how much land would be fallowed. Guesses ranged from 1500 - 3000 acres, which would be the first time in over 10 years that the sweetpotato industry in California would reduce acreage if this occurred.

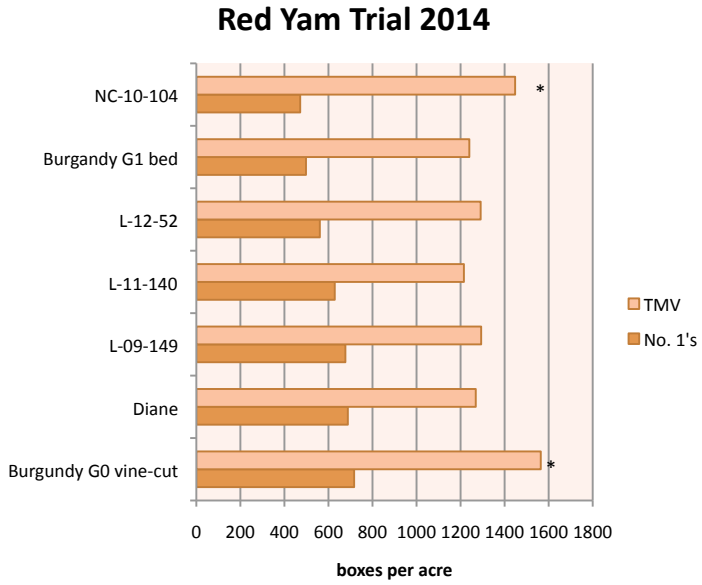
As with almonds, the market dictated otherwise. Low stocks in spring and strong prices kept most ground in production. Furthermore, by mid season, it was clear that MID and TID would be able to deliver more water than they anticipated, largely due to short season crop management and extensive use of wells. I estimate we did not fallow even 500 acres. Even so, production is down, and soon to be released NASS yield estimates should reflect this.

Yields were reduced in 2014 a little from deficit irrigation, but in reality it was a very good year for most varieties. It was not lack of water, but early harvest that is responsible. I estimate that 20 - 25% of planted acres were dug early, in July and August, before the crop had time to fully develop. Early crops yield 8 - 24 bins per acre, but the average is around 15 bins, or at least 50% less than what that field would have delivered in October. Thus, state yields were 50% reduced on 25% of the acreage, which gives us 87.5% of average yield, or 30 bins per acre (USDA reports this as 300 cwt per acre).

This is likely a conservative number, though, since Covington and Diane had above average production and there is some early harvesting every year. So yield is probably closer to 32 bins/A, from 18,500 acres, for total production of 592 million pounds. This is similar to 2009 production, and almost twice what the state harvested just 10 years ago.

**Burgundy** (**175**) disappointed, however. Production was low in most fields, especially compared to Diane. Shape was also too bally most of the time. The reason is that the plant sets light — typically only 2 - 4 roots per plant. This was not observed in my evaluation trials >4 years ago, which suggests the mother plant may be different. This is very likely, actually, as the mother plant at UC Davis is not the same as my starting material since it was sent to UC Davis directly from LSU (my initial stock was long ago discarded).

Thus, I have started a Burgundy hill selection process, and will evaluate the plants from 10 very good hills that I happened to come across last season. This is the start of a 2-year process to see if this variety can be improved.




**G1 Burgundy plants from the bed did not yield well in either the Collaborators or the Red Yam trial. Of potential new reds, only L-09-149 will be advancing in 2016.**

**LSU52 UPDATE.** L-06-52, which I have evaluated since 2008, will be released this year as a new, patented yam-type variety from the LSU breeding program. Don LaBonte and I decided to name it "Bellevue", after the road that connects Atwater and Merced. Not only does the name have a local connection to where this was first evaluated in the Advanced Line Trial, but it has a similar ring to it as many of the LSU varieties, such as Beauregard, Bienville, and Bayou Belle. Also, "good view" in French is "bonne vue".

I have seen this variety produce what many would consider a "perfect" sweetpotato, at least visually: not too round and not too long, with exceptionally smooth orange/tan skin remarkably free of lenticels and eyes. It can yield very well, but is not as consistent as Covington. Some important characteristics:

- Propensity to jumbo. Similar to Beauregard, so plant spacing should be 9 - 12".
- Poor plant production. About half that of Beauregard, and plants grow slow. Bellevue needs extra pre-sprouting time in the seed room, at least 2 weeks, before going into the hotbeds.
- Stores well, usually better than Covington (I have not compared it to Beauregard). Last year, moisture loss from Nov - July was 12.5%.
- Resistant to root knot nematode, scurf, and stem rot.
- Moderate resistance to Pox, and low resistance to insect damage. Organic producers may experience high levels of wireworm damage, especially compared to Burgundy or Murasaki.
- Susceptible to air-cracking, especially when harvested after October 15 or on cold mornings.

**Table 1. Summary, Bellevue cracking evaluation at late season harvest (2014).**

| HARVEST | | Temperature (F) | | % AIR CRACKING* | | |
|---|---|---|---|---|---|---|
| DATE | TIME | AIR | SOIL 4" | #1's | Jumbo | Med |
| 16-Oct | 11:00 | 64 | 68 | 18.6% | 31.9% | 11.5% |
| 17-Oct | 15:00 | 81 | 69 | 5.3% | 13.8% | 10.1% |
| | | | | | | |
| 22-Oct | 14:30 | 75 | 67 | 14.4% | 18.1% | 9.6% |
| 5-Nov | 14:30 | 69 | 64 | 7.6% | 16.2% | 4.4% |

* Based on randomly selected roots from 200 ft of bed during mechanical harvest.

A trial done with Bob Weimer this year illustrates the potential severity of air cracking that can occur with Bellevue. Roots were randomly sampled from a 200 ft section of one field in a commercial field over 4 late harvests to see if temperature affected the amount of cracking. Cracking was reduced in the afternoon as compared to the morning, but the November harvest was actually less than mid October (Table 1). Jumbos are more likely to crack than the smaller sizes.

**Phosphorus and Boron Trial**

This was a rate trial done with Paul Espinola in a Covington field. Overall yields were excellent, 40 - 65 bins/A depending on location. However, there was little yield response to phosphorous fertilizer up to 150 lbs $P_2O_5$ per acre, not surprising since the soil tested > 40 ppm at this location. About 30 lbs/A of $P_2O_5$ was contained in the canopy at harvest, and another 30 - 35 lbs/A was removed in the roots. As boron increased from 0 to 3 lbs/A, plant concentration increased as well, but there was no yield response. Impact on storage will also be evaluated later this spring.

Scott Stoddard
Farm Advisor