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UCCE

SWEETPOTATO TIPS

Merced & Madera Counties Vol. 1, Jan, 2014

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- ✓ Production notes.

Special Note:

Methyl bromide is no longer available. Telone - Pic combinations are the drop-in substitute.

New state groundwater regs will result in nutrient management plans being required for all farms in beginning in 2015, especially those with highly leachable soils that dominate our production region.

49th Annual

SWEETPOTATO MEETING

Thursday, February 6, 2014
8:00 am - noon
UCCE Classroom
2145 Wardrobe Ave., Merced

7:30 am	Signing in, coffee, and muffins *Courtesy of Yosemite Farm Credit*
8:05	Scott Stoddard. Production research update: Variety trials and status of L-04-175 and LSU52; fertilizer x irrigation trial; Dual Magnum herbicide trials.
8:45	Sean Runyon, Deputy Merced County Agriculture Commissioner. Non fumigant VOC regulations and fumigation update.
9:15	Sean Runyon, MCAC, and Lonnie Slayton, Simplot. Telone fumigant update for 2014.
9:30	Break
10:00	Dr. Rob Mikkelsen, IPNI. Changing the way we use nitrogen fertilizer.
10:30	Gregorio Billikopf, UCCE Stanislaus. Labor management issues explored.
11:00	Daphne Pulver, Ketchum West. Sweetpotato Council of California marketing plans for 2014.
11:45	Industry survey, food safety update, comments and questions.
Noon	Lunch (pork loin & sweetpotatoes by Arnold's Catering) *Courtesy of Lonnie Slaton with Simplot*
1:00 pm	Sweet Potato Council business meeting (in Library).
1:30 - 3:30	Steve Hardgrave, Amvac Chemical Corp. Metam potassium and metam sodium environmental stewardship and label requirements. *Note: Optional and open to others, this is a make-up metam fumigation class, required for growers using a metam product in 2014.*

PRODUCTION NOTES

Hotbeds:

Weed management. We are now in our second year since phasing out methyl bromide, which means that weeds may start becoming more problematic (I estimate MeBr provided about 3 years of residual benefits). Improve weed management by using Devrinol herbicide at a rate of 12 oz per 1000 ft of bed in 5 - 6 gallons of water (sprayer calibrated at 30 gpa). Apply after bedding and before the first irrigation and prior to the emergence of weeds. Incorporate with a brief irrigation — about 10 minutes will do. This gives about 80 - 90% suppression of most weeds and is safe on your plants.

Valor/Chateau is also very effective on weeds, and is in fact better than Devrinol. But there is little room for application error: 1.5 oz/A provides excellent weed control, 2.0 oz/A will cause significant injury to sweetpotato plants. Rate: 8 grams per 1000 feet of bed, or for those with a postal scale, 2.8 oz per 10,000 linear feet. Like with Devrinol, apply before weed emergence and incorporate with a brief irrigation.

Fungicides. The main reason to use fungicides in the hotbeds are for Scurf and Stem Rot suppression, and are limited to Mertect, Botran, and Serenade Soil. More effective, however, is to use cuttings, rather than pulled plants.

LSU52. This is the new yam (tan skin/orange flesh) that many of you tried last year. It stores very well and resists rotting in the beds, but the seed needs to be pre-warmed or plant production will be poor to marginal at best. Optimal time to do this still needs to be determined, but will likely be 2 - 6 weeks. Plan on production being no better than Covington (Table 1).

Special note about LSU52: Consider vine cuttings to increase acreage. It is likely that you will get less plants out of the beds than you desire, but the vine cuttings produce very well in my tests. Furthermore, plan transplanting so that harvest is before mid-October. Last year, significant air cracking occurred in my plots when this variety was harvested late.

Table 1. Hotbed plant counts, 2013

	LSU52	Covington	Bx
Average 4 sq ft	180.9	169.0	300.0
Std Dev	*27.2*	*32.6*	*78.0*
Ft per acre	36	39	22

4 location average.
Ft per acre: estimated linear feet of bed needed to plant 1 acre at 12" plant spacing.

L-04-175. This new variety did not impress that much in 2013: production was down, roots bally, and sometimes deep. Nonetheless, Don LaBonte is moving forward with the official release, with plans to name it "**Burgundy**" in reference to its skin color. Here's a summary of characteristics:

Plant production	Average score of 3 out of 5 (5 = "excellent"), slow emergence, some rotting potential.
Vine	Comparable to Beauregard or Covington in size, more red in leaf petiole, leaves slightly lacy with green-silver coloration.
Root	Round elliptical shape with deep maroon skin, deep orange flesh. Smooth skin with few shallow eyes. Attractive when new and under the right conditions. Can get chunky. 22% D.M., high sucrose.
Yield potential	Good, but can jumbo up. About 10 days earlier than Beauregard or Diane. See Table 2.

Disease resistance	Pox: IR (Intermediate Resistance) Stem Rot: R Root Knot Nematode: R Bacterial soft rot: S (susceptible) Rhizopus soft rot: S SPFMV: No RC, but older plants lose yield, color, and become more bally.
Storage	Still evaluating — appears better than Diane.
Special note	Sucrose levels in baked roots are about twice that of Beauregard. May do better in fields where Diane grows long. Patented through LSU, license fee req'd.

175 is now named Burgandy, but if you don't like it because it's too chunky or not red enough, wait a couple more years. There are some excellent candadates in the ALT right now.

Table 2. Yield summary for Burgandy (L-04-175) red yam, Merced County all locations 2007 - 2013.

	40 lb box/A			TMY	Market	No. 1's	Culls	sites
Selection	No. 1's	Meds	Jumbos	box/A	bins/A	#1%	cull%	n
L-04-175 old	395.6	124.5	382.2	902.3	31.8	44.4%	11.6%	11
L-04 -175 G1	395.4	161.9	466.9	1024.2	36.7	44.7%	4.5%	15
L-04-175 G0	667.5	302.7	560.9	1531.3	53.9	47.9%	1.2%	24
Diane (mix G)	528.3	310.6	264.8	1103.6	39.2	47.2%	8.0%	12

Irrigation. 2013 was a dry year, and 2014 is looking even worse. Sweetpotatoes can produce a full yield on 2.4 acre-ft of water through the drip tape if managed correctly. However, this assumes residual soil moisture from either spring rains or pre-plant irrigation, and good water and soil quality with low salts such that the leaching requirement is not more than 15%. I doubt MID or TID will allocate even 1 ft of water this year, so to make the most of what little we have:

- Don't over irrigate. Easier said than done, but sandy soils can only hold about 3/4" of water per foot. So there is little need to pre-irrigate more than 2.5 - 3 inches. 24-hour irrigation sets should also be avoided because even with low-flow tape, water will be pushed past the root zone.
- Remember the crop coefficient (Kc). It begins at 0.4 after transplanting, and ramps up to 1.15 by mid season when the vines completely cover the beds. It isn't until July - August that you need 2.25 inches per week.
- Sweetpotatoes respond to deficit irrigation by sizing slower — so a good crop can still be made even on 80% water (~2 acre-ft). The big change is a reduced jumbo count.
- Cut water at the end, not the beginning. Keeping the root zone moist for the first 30 days after transplanting is necessary to initiate storage root formation.

Scott Stoddard
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