

# UCCE SWEET POTATO TIPS

University of California  
Cooperative Extension

Merced County Cooperative Extension  
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## PLANTED AREA ANNOUNCED

According to the latest USDA estimate on planting intentions for sweet potatoes, growers intended to plant 85,700 acres of sweet potatoes this year, down 1 percent from last year and 4 percent less than 1996. Lower planting expectations in Georgia, Mississippi, South Carolina and Texas more than offset increases in Alabama, California, and New Jersey. The report indicates that heavy spring rains delayed planting preparations across the South from California to the Carolinas. California's planting was about two weeks behind normal because of February rains and wet fields. Georgia's acreage was off sharply from last year, especially among larger, certified growers. North Carolina's acreage would have been higher except for poor monetary returns from last year by some growers. A summary of acreage and prices received is listed in Table 1 below.

**Table 1. Sweet Potatoes: Area Planted by State and United States, 1996-98, and Marketing Year Average Prices Received, 1996-97.**

State	Area Planted			1998/ 1997	Prices Received	
	1996	1997	1998 (1)		1996	1997
	1,000 Acres			Percent	\$/Cwt (2)	
AL :	4.4	4.1	4.3	105	12.10	20.50
CA :	9.6	9.7	10.3	106	26.10	28.00
GA :	2.1	1.7	1.0	59	10.60	15.40
LA :	22.0	21.0	21.0	100	13.10	14.40
MS :	8.3	8.6	8.5	99	12.60	18.50
NJ :	1.3	1.2	1.3	108	17.90	20.40
NC :	33.0	32.0	32.0	100	10.70	10.80
SC :	1.9	1.7	1.3	76	14.70	15.40
TX :	5.9	6.3	5.5	87	14.40	16.20
VA :	0.6	0.6	0.5	83	10.90	11.60
US :	89.1	86.9	85.7	99	14.40	15.80

(1) Intended plantings in 1998 as indicated by reports from farmers.

(2) Dollars per hundred weight.

Source: *Agricultural Statistics, 1997, and Annual Price Summary, July 1998.* Agricultural Statistics Board, NASS-USDA.

## CALIFORNIA SWEET POTATO INFORMATION AVAILABLE ON THE INTERNET

A new UCCE publication, *Sweet Potato Production in California*, written by Don May and Bob Scheuerman, has just been posted on the World Wide Web. This concise, two page article summarizes current production practices.

You can find the on-line version of the publication by pointing your web browser to <http://danrcs.ucdavis.edu/> and clicking on the Free Publications button. The article can be read and printed using Adobe Acrobat Reader (Adobe is a program that allows you to view pdf files put on the internet, a format that is rapidly growing in popularity because of the high quality printing capability). If you don't have this program, you can download the software free from the DANR website.

If you don't have access to the Internet, this publication is also available the old-fashioned way—as a printed copy at the Merced County Cooperative Extension Office, free of charge. Our address: 2145 W. Wardrobe Ave, Merced CA 95340. Drop by and chat with Bill or Scott. We'd like to hear how your season went.

For more sweet potato information, check out <http://www.hort.purdue.edu/rhodcv/hort410/sweetp/sweetp.htm> for tips posted from universities in several states.

Another excellent internet site for information about other vegetable crops is the UC Vegetable Research and Information Center, located on the Web at <http://vric.ucdavis.edu/>. Click on "Vegetable Crop Information" to select from a variety of crops.

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- Internet information
- 1998 Variety Trial results
- Upcoming meetings
- Fall production tips
- New UCCE research associate
- Sweet Potato Council of CA



November, 1998

## SWEET POTATO VARIETY TRIAL SUMMARY

This year's sweet potato evaluation was on Tom Nakashima's farm, near Livingston, CA. Soil type was a Hilmar loamy sand, with 0 – 3% slopes. Season began cooler and wetter than normal, though plants were transplanted at the normal time. Beauregard started slow, but otherwise all plants progressed normally. Crop was grown organically and did not have any major pest problems.

Despite a slow start this season, average yields for the trial this year almost matched those of last year. Total marketable yields ranged from 1468 boxes/A for Darby, to 935 boxes/A for Beauregard. These averages are significantly different from each other at the 95% confidence level. All other yields were not significantly different from

each other. Yield and grade results are summarized in Table 2.

The varieties W317 (Clemson University, South Carolina) and NC-93-17 (North Carolina) had the greatest production of US #1's at 735 and 753 boxes/A, respectively. These values were only significantly higher than Beauregard. W317 had the highest percentage of #1's, representing 83.5% of the marketable yield. Darby produced the lowest percentage of #1's, at 49.4%. Darby produced far more jumbos than any other variety, at 711.8 boxes/A.

There were very few culls in this year's test, and all potatoes classified as culls were done so because of Scurf. Only L94-75 had a significant amount of loss due to scurf.

**Table 2. Yield and grade for the Collaborator Variety Trial, Merced, 1998.**

SELECTION	US #1's		CANNERS		JUMBOS		TOTAL MARKET- ABLE	US #1's	CULLS			
	----- Boxes per Acre (40 Lbs.) -----							%	Box/A			
1. Beauregard	464.1	b	225.3	cd	239.5	bc	935.1	b	61.1	bc	29.8	b
2. L94-96	695.8	ab	278.3	bcd	85.4	c	1059.4	ab	83.0	a	0.0	b
3. NC-C75 (Carolina Ruby)	716.3	ab	239.6	cd	437.8	b	1393.6	ab	64.1	bc	70.0	ab
4. NC-93-17	753.5	a	425.3	a	149.1	c	1327.9	ab	69.8	ab	0.0	b
5. W287	626.5	ab	434.3	a	276.6	bc	1337.3	ab	59.8	bc	0.0	b
6. L94-75	506.8	ab	234.3	cd	291.9	bc	1032.9	ab	62.0	bc	148.3	a
7. Darby	576.3	ab	180.3	d	711.8	a	1468.3	a	49.4	c	0.0	b
8. W317	735.4	a	194.4	cd	216.8	bc	1146.5	ab	83.5	a	0.0	b
9. W337	567.4	ab	389.3	ab	236.5	bc	1193.1	ab	59.6	bc	0.0	b
10. L95-95	529.4	ab	327.0	abc	126.8	c	983.3	ab	67.4	b	0.0	b
<b>AVERAGE</b>	<b>617.1</b>		<b>292.8</b>		<b>277.9</b>		<b>1187.8</b>		<b>66.0</b>		<b>24.8</b>	
<b>LSD (0.05)</b>	<b>229.0</b>		<b>118.1</b>		<b>247.0</b>		<b>449.6</b>		<b>14.1</b>		<b>102.0</b>	
<b>C.V.</b>	<b>25.6</b>		<b>27.8</b>		<b>61.3</b>		<b>26.1</b>		<b>14.7</b>		<b>283.6</b>	

US #1's: Roots 2" to 3.5" in diameter, length of 3" to 9". Must be well shaped and free of defects.  
 Cannery: Roots 1" to 2" diameter, 2" to 7" in length.  
 Jumbos: Roots that exceed the diameter, length, and weight requirements of the above two grades, but are of marketable quality.  
 % US # 1's: Calculated by dividing the weight of US #1's by the total marketable weight (culls not included).  
 Culls: Roots must be 1" or larger in diameter and so misshapen or unattractive that they could not fit as marketable roots in any of the above three grades.

Means followed by the same letter are not significantly different at the 95% confidence level (Duncan's Multiple Range Test).

All the varieties in the trial were yam types, with moist, orange flesh and copper to red skins. We noted that W317 and Carolina Ruby (NC-C75) were attractive, with smooth dark skins, good shape, and good internal flesh color. NC-93-17 was too long, and W337 and L95-95 had rough skins and large lenticles. Root descriptions are listed in Table 3.

More data are being collected on how well these varieties store. The complete report should be available in January.

**Table 3. 1998 Collaborator's Variety Trial root descriptions.**

Selection	Root Description
1. Beauregard	Copper color skin. Mostly smooth. Blocky but good shape, with indented lenticles. Some netting on skin. All culls were from Scurf.
2. L94-96	Copper color skin. Mostly smooth. Blocky to slightly round, but otherwise good shape overall. Shallow lenticles.
3. NC-C75	(Carolina Ruby) Deep, rose-copper skin. Smooth. Round fusiform, nice shape. Small lenticles. Attractive potato.
4. NC-93-17	Deep copper color skin. Smooth. Very long, carrot shape with deep lenticles. Slight amount of Scurf.
5. W287	Dark red skin. Very smooth. Nice taper and nice fusiform shape overall. Indented lenticles.
6. L-94-75	Rose-copper skin. Not smooth to bumpy appearance. Long fusiform shape. Large, deep lenticles. Not an attractive potato. All culls scurf.
7. Darby	Deep copper to rose-copper skin. Very smooth. Shape ranges from bally to long. Some netting on skin. Not many lenticles.
8. W317	Dark red skin (red-purple). Smooth to very smooth. Round fusiform shape. Shallow lenticles. Nice looking potato.
9. W337	Light copper skin. Rough. Long, fusiform shape. Long, large lenticles. Not attractive.
10. L95-95	Rose copper skin. Mostly smooth. Nice, fusiform shape. Large, indented lenticles.

## FALL PRODUCTION TIPS

**Curing.** While it is not always done, curing the newly harvested crop significantly reduces shrink losses during storage. Curing sweet potatoes promotes healing of the nicks and scratches received during harvest, which slows down moisture loss. Work by Bob Scheuerman and researchers at North Carolina have also shown that curing reduces the amount of storage rots. They recommend curing if you expect to store potatoes for more than one month.

The key to a good cure is controlled high temperature and humidity. Keep the temperature at 80 - 85°F and the

relative humidity near 90%. Typical curing cycle is 4 to 5 days.

**Storage.** Storage life is maximized by keeping sweet potatoes at a temperature of 55 - 60°F and relative humidity of 85 - 90%. Storage below this temperature can cause chilling injury, while conditions above 61°F can cause pithiness and internal cork. Internal cork is a virus disease that causes dark, pithy areas and necrotic (dead) spots on the inside of the root.

Contact the Merced County Cooperative Extension for more information about curing and storage of sweet potatoes.

**Soil Sampling.** Now is the time of year to sample fields for nutrient analysis and nematodes. For a sample to be useful, however, good sampling procedures should be followed. Below are some tips for proper soil sampling:

### Sampling for nematodes:

- (1) After harvest, sample the top 12 to 18 inches of moist soil, discarding dry soil and debris from the top couple of inches.
- (2) Sample with a soil sampling tube or shovel. Take 10 to 20 sample cores from various locations in the field, put in a bucket, and mix well.
- (3) The sample should be representative of your field and problem areas. In other words, don't include too many acres in a single composite sample (no more than 10 acres).
- (4) Keep the samples in plastic bags to prevent them from drying out. Store in a cool place if necessary, such as the refrigerator, and out of direct sunlight.
- (5) ID each bag with the proper label and field site location. Keep a copy for your records before sending them off for analysis.

### Sampling for nutrient analysis:

- (1) Sample to the bottom of the plow zone, typically about 12 inches deep. Unlike for nematodes, do not discard the upper part of the sample.
- (2) Sample with a soil sample tube or shovel. Take 10 to 20 samples from various areas in the field, put in a bucket, and mix well.
- (3) Soil samples should be taken to represent areas suspected of being deficient, or to represent the entire field. Avoid field borders and checks.
- (4) Unlike samples for nematodes, soil samples need to be air dried before submitting for analysis. Spread a portion of the mixed sample (about 1 to 2 cups worth) on a table, outside in a well ventilated area, but not in direct sunlight. Don't let the sample get wet. In 2 to 3 days, it should be dry enough to mail.

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- (5) ID each bag with a label and field site location.  
Keep a copy for your records before sending them off for analysis.

Contact your UCCE Farm Advisor or visit the Merced County Office for more information on proper soil sampling techniques and/or certified labs which do soil analysis.

#### **SWEET POTATO CONFERENCE AND UPCOMING MEETINGS**

The annual national sweet potato conference is scheduled for January 24, 25, and 26, 1999, in Lafayette, Louisiana.

The Merced County UCCE annual sweet potato meeting is scheduled for January 20, 1999, at the county office on Wardrobe Avenue in Merced. A letter will be sent later with the program agenda. Some of topics we plan to discuss: results of the 1998 Variety Trial, upcoming research plans and ideas, the process of cleaning up seed stock, and other pertinent issues. As usual, this will be a morning meeting with refreshments. All are invited to attend. Contact Bill Weir for more information at 385-7403.

#### **NEW UCCE RESEARCH ASSOICATE**

Scott Stoddard began last spring as a new employee with the Cooperative Extension Service in Merced County. Scott was hired as a research associate to help Dr. Bill Weir with vegetable and field crops. One of his main responsibilities is to assist with sweet potato research and advising. Scott is looking forward to helping in a position essentially vacant Since Bob Scheuerman retired 5 years ago.

#### **SWEET POTATO COUNCIL OF CALIFORNIA**

The council will soon be 22 years old this January. This is a voluntary growers organization that helps the industry through promotion, education, and funding for seed improvement and variety "cleaning". The Council is currently getting ready to have two popular varieties cleaned up by UC Davis, and considering a new promotional campaign. All growers, shippers, and supporting industry are encouraged to become members. Contact Bob Weimer for more information.

Bill Weir  
UCCE Farm Advisor

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