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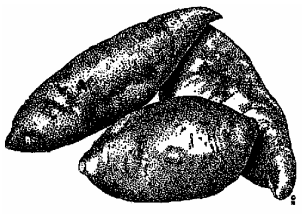

SWEET POTATO TIPS

LATEST USDA SWEETPOTATO YIELD AND PRODUCTION STATISTICS

According to the latest *Crop Production* publication (USDA-NASS Jan., 1999), California harvested 9,100 acres in 1998, with average yields of 512 boxes per acre. This is a little down from the 10,300 acre estimate earlier in the year, and probably is a little on the low side. Total production was about 187 million pounds, which is almost 16% of the total production for the U.S. Yield per acre was second only to Virginia last year. Total estimated production for the entire U.S. was down considerably from 1996 and 1997, mainly do to a drought last summer that severely affected Louisiana, Georgia, and Texas. See the table below for a breakdown on producing states. *Note: Cwt stands for hundred-weight.*

Sweetpotaotes: Area planted and harvested, yield, and production by state and United States, 1996-98.

	Area Planted			Area Harvested		
	1996	1997	1998	1996	1997	1998
	---------- 1,000 Acres ----------			---------- 1,000 Acres ----------		
AL	4.4	3.9	3.8	4.2	3.6	3.7
CA	9.6	9.7	9.1	9.6	9.7	9.1
GA	1.5	1.0	0.8	1.3	0.8	0.7
LA	22.0	21.0	21.0	21.0	20.0	20.0
MS	8.3	8.6	9.8	8.1	8.4	9.7
NJ	1.3	1.2	1.1	1.2	1.1	1.0
NC	33.0	32.0	33.0	31.0	31.0	32.0
SC	1.5	1.3	1.3	1.3	1.1	1.1
TX	5.9	6.3	6.4	5.5	5.8	6.0
VA	0.6	0.6	0.5	0.5	0.6	0.5
US	88.1	85.6	86.8	83.7	82.1	83.8
	Yield			Production		
	1996	1997	1998	1996	1997	1998
	---------- Cwt ----------			---------- 1,000 Cwt ----------		
AL	170	150	170	714	540	629
CA	225	205	205	2,160	1,989	1,866
GA	200	150	100	260	120	70
LA	160	170	100	3,360	3,400	2,000
MS	160	130	140	1,296	1,092	1,358
NJ	130	105	105	156	116	105
NC	140	160	170	4,340	4,960	5,440
SC	90	110	90	117	121	99
TX	135	155	35	743	899	210
VA	140	150	220	70	90	110
US	158	162	142	13,216	13,327	11,887

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March, 1999

SUMMARY OF 1999 SWEETPOTATO CONVENTION

The 1999 convention was in Lafayette, Louisiana, and was attended by about 330 folks from many different states. Smack dab in the middle of Cajun Country (called *Acadiana* by the locals) and shortly before Mardi Gras, there was a very festive air during the convention. Purple, gold, and green were the main colors. The tours and talks were interesting, as was meeting and talking to the many growers who attended. Like the other conventions, there is a lot of time for meeting and talking to growers from other states. The LSU researchers did a good job of presenting agronomic information on pest control, breeding programs, and their efforts to provide virus-tested seed to the industry. Several of the California folks took a side trip to visit a small packing shed.

Next year, the National Convention is planned for Tunica, Mississippi, a short 20 mile drive south of Memphis, TN, Jan. 23, 24, and 25. Hopefully, tours can be arranged to visit sheds and the sweetpotato research station in northern Mississippi. We will also try to put together a tour of Dawson Farms, located about 200 miles south in northeast Louisiana and one of the largest sweetpotato growers in the country.

UPCOMING RESEARCH TRIALS

Several research trials are planned for this year—so many, in fact, that a field day is planned for next fall for any interested party to attend. Below is a summary of our plans so far:

- Collaborator's Trial. This trial examines potential new varieties that are developed by the breeders in Louisiana, North Carolina, and South Carolina. New varieties are compared to Beauregard and some other California varieties for yield and quality.
- Fertigation Trial. This is a nitrogen and potassium rate study on drip irrigated Beauregards. We hope to determine optimal rates and timing of application.
- Foliar Fertilization Trial. Foliar applications of chelated micronutrients, particularly zinc, copper, and boron, will be evaluated.
- Spacing Trial. In-row spacing is used to help control the number of jumbos produced, but what happens if the rows are pushed closer together? Yield increases occur for many field crops at higher density plantings, and we want to evaluate this with sweetpotaoes as well.
- Virus-Tested Trial. Five varieties (Beauregard, Diane, Garnet, Hannah, and Golden Sweet) that have been cleaned up of viruses will be compared to old seed of the same variety in a side-by-side comparison. We'll then compare the potatoes for yield, defects, production of #1's, flavor, etc. We want to get a good number on the economic benefits of using virus-tested seed.
- Do you have a production problem, concern, or unique situation that you'd like us to evaluate? Remember: our research program should ultimately benefit you, the grower. If you have some ideas we'd like to hear them.

RESEARCH NOTES

Weight loss in storage. As a follow-up to last year's Collaborator's Trial, all varieties were evaluated over the winter for storage loss. Potatoes were cured, then stored at 55 - 59° F and high relative humidity for four (4) months. **The result**: *on average, the sweet-potatoes lost 2.1% of their weight per month*. Beauregard was the best variety in terms of storability, losing an average of only 1.3% per month, while one on the new experimental lines from South Carolina was the worst, at 2.9% per month.

Sweetpotatoes lose weight in storage because they continue to respire as they live through the winter. Storage losses are minimized by curing and maintaining proper humidity and temperature in the storage shed.

This amount of storage loss may not seem like much, but over the course of a 10 month storage period, this means you could 13 to 29% of the original weight of the crop. Next year, we plan to repeat this experiment, but with cured versus uncured roots and for a much longer period.

VARIETAL DISEASE AND INSECT RESISTANCE

Relative disease resistance and insect tolerance for varieties is very important to determine which variety will do best in a particular field. Unfortunately for us, much of this information comes from the southeast, where the only variety of interest is Beauregard or the varieties are not the same as those grown in California. The table on the next page includes many California grown varieties, as well as some information about the new numbered lines that were grown in the Collaborator's Trial last year.

Remember: the scoring is *relative*, and may not reflect your personal experience. Even a Pox

resistant variety will succumb to soil Pox (*Streptomyces*) in severely infested fields. Further note that these disease resistance ratings were developed in the southeast, where diseases can be different. For example, the *Fusarium* fungus that causes stem rot in Louisiana has been found to be a different race in California.

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Common California sweetpotato varieties and their resistance to disease and insects.

Variety	Source State	Root Knot Nematode (*Meloidgyne*)	Stem Rot (*Fusarium*)	FMV: cork, russet crack	Pox/ Soil Rot (*Strepto-myces*)	Insects: grubs, beetles, wireworm	Storage Rots (*Erwinia*)
Beauregard	LA	S	R	R	R-I	S-I	S
Carolina Ruby	NC	S	R	--	I-R	S-I	--
Darby	LA	S	R	R	I-R	--	R
Diane	MD	S	R	--	--	I	--
Eureka	LA	I	R	R	R	S	I
Garnet	CA	R-I	R	I-R	I	S-I	I-S
Golden Sweet	CA	S	S	S	I-R	--	--
Hannah	CA	S	S	S	I-S	--	--
Hernandez	LA	I	I-R	R	R	I	R
Jersey	--	S	S	I-S	--	--	--
Jewel	NC	I-R	R	R	S	S	I
Koto Buki	--	--	R	S-I	S	--	R
Regal	SC	I	R	R	S	I-S	--
Redglow (GA Red)	GA	R	I	--	--	S	--
8633	LA	I	R	R	R	S	R
Experimental Varieties							
L94-96	LA	R	R	R	I-R	S-I	I-R
NC93-17	NC	S	R	--	S	S-I	--
W317	SC	R	R	--	I-R	I	I-R

R = Resistant or tolerant, **I** = Intermediate, **S** = Susceptible. " -- " = no information available.

SPRING PRODUCTION TIPS

Managing plant beds. Temperature and moisture are the two critical factors for controlling Scurf (*Monilochaetes infuscans*), Blight (*Schlerotium rolfsii*), and damping-off (*Phytophthora*, *Pythium*, and *Rhizoctonia* spp.). Temperatures above 90° F for extended periods in the beds can cause seed to rot quickly, especially when combined with excess water. Because there are no fungicides registered for control of these diseases in the bed, aeration and water management play a huge role in controlling these problems. The following guidelines will help with rotting in the plant beds:

- Keep the beds below 90° F by unrolling the plastic and ventilating well. Best sprout growth occurs between 70 and 85° F.
- Don't over water. Water during the early part of the day, and only deep enough to reach the bottom of the seed roots.
- Keep humidity down by lifting the sides of plastic for good air circulation.
- Don't bed too deep. Cover the seed no more than two (2) inches.

Plant cuttings (Slips). As most of you are aware, cuttings are the best way there is to control the transmission of many diseases from plant bed to field. Slips that are cut from the bed, not pulled, can be used to eliminate Scurf, Pox, Black Rot (*Ceratocystis*), nematodes, and bacterial diseases.

For good results, cut the plants in the bed just above ground level. Try to avoid the cut end touching the ground at any time. Plant them deep and give them plenty of water. Roots will start to grow from the stem in as little as two days.

Because of weather or scheduling delays, cut transplants can be stored for a few days before planting in the field. Special precautions are not necessary other than to place the slips in the shade, spray with water occasionally, and avoid piling the slips up too high (piling slips up too high will create anaerobic conditions and lead to death).

Research has shown that sweetpotato transplants can be stored under cool conditions for as long as two (2) weeks without serious reduction in transplant survivability in the field. The best temperature for storage is between 55° F and 65° F at 85% to 90% relative humidity. This is basically the same conditions as in your storage sheds.

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