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University of California
Agriculture and Natural Resources
Making a Difference for California

SWEETPOTATO TIPS

UCCE

Merced & Madera Counties Vol. 1, Jan, 2025

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

IN THIS ISSUE:

Special Note:

Heavy metal sampling 2021-2024 showed very good results, 94.5% below 20 ppb.

CA external quarantine for GRKN coming in 2025.

There will be a Metam stewardship class after the sweetpotato meeting (class required by CAC for growers using metam products)

Scott Stoddard, farm advisor

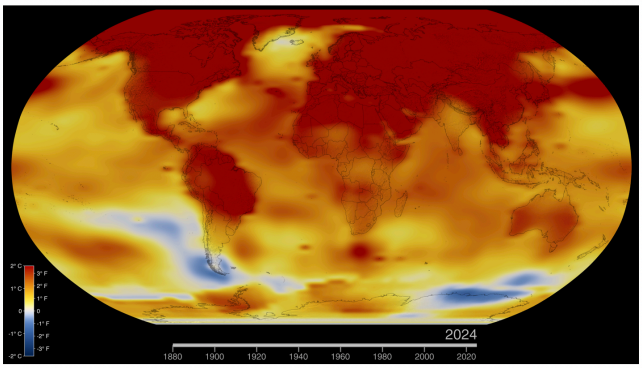
59th Annual

SWEETPOTATO MEETING

Thursday, February 6, 2025
8:00 am - noon
UCCE Classroom
2145 Wardrobe Ave., Merced

7:30 am	Signing in, coffee, and Jantz Sweetpotato muffins. Sponsored by the Sweetpotato Council of CA.
8:00	Sean Runyon, Merced County Agriculture Commissioner. 1,3 dichloropropene application rules and buffers for 2025.
8:50	Brian Hegland, Teleos Ag Solutions. Telone availability update.
9:00	Scott Stoddard, Farm Advisor. Research update: varieties, nematicides, virus management.
9:30	Break
9:45	Heather Martin, CDFA State Nematologist. Guava RKN survey results. and upcoming state quarantine.
10:15	Matt Alvernaz, President Sweetpotato Council. Membership and call for new members.
10:30	Jill Silverman Hough, Silverman I Hough, and Miranda Olagaray, Farmers Communication Exchange. Sweetpotato Council of California social media activities and CDFA marketing grant summary.
11:30	Questions, comments, and additional updates.
12:00	Lunch. Sponsored by Simplot in Ballico.
1:30 pm	The Sweetpotato Council of California BOD meeting.

Temperatures Rising: NASA Confirms 2024 Warmest Year on Record



Production Notes

The winter of 2023/24 was basically average for the Merced area, with about 13" of precipitation. Spring was cool, however, this was followed by an extremely hot summer, one of the hottest on record for the Fresno - Merced area. There were 10 days over 100° F in June, and 22 days over 100° F in July, with about 5 days at 110° F. While sweetpotatoes are one of the most heat resilient crops there is, such high temperatures nonetheless stress the crop, especially in the first month after transplanting. The result was reduced yield in many fields, depending on planting date. This is reflected in the USDA estimates for California of just 295 cwt (about 31 bins/A), which is 12% less than our 10 year average of 35 bins/A.

My yield survey data do not really reflect this, however (see table 1). While I did not sample a Murasaki field and did not have this variety in my trials, my reported yields were still good, especially for Covington and Bellevue.

Southern blight (front) and Fusarium surface rot (background) at harvest.

Southern blight (*Sclerotium rolfsii*) and Fusarium root rot (Fusarium oxysporum, Fusarium solani, possibly others) continue to be a problem for growers. Southern blight is mostly a problem in the hotbeds, especially with Diane. Fusarium root rot is an end-of-season problem with large circular lesions on the roots. There is no variety resistance to Fusarium root rot (this is different than Fusarium stem rot, where there is strong variety differences), however, Bellevue seems particularly susceptible.

Table 1. Yield survey results, Merced County.

	2022	2023	2024
	TMY, bins/A		
Murasaki	26.7	33.7	—-
Reds	52.2	55.3	50.2
Bonita	26.3	45.9	45.8
Orange (yams)	43.2	52.3	54.8
weighted AVERAGE	**40.0**	**46.8**	**52.2**

2025 QUICK PROJECT SUMMARY

Collaborators Trial. Cooperator: Jason Tucker. Planted May 24, harvest Oct 22. Varieties: 20. Yields ranged from 56 bins/A for Covington to 29 bins/A for old Beauregard and L-17-189. Three purple/purple lines from NCSU yielded very well, around 40 bins/A. Vermillion was still the prettiest red of the group.

Advanced Line Trial (ALT). Cooperator: Dave Souza. Planted May 15, harvest Oct 16. 24 lines + several from FPS. L-14-31 (red), L-14-11 (red), L-19-20 (red), and L-18-115 (P/P) should be moved into grower strip trials in 2025 for possible release.

Sweet Armor Nematode Management Trial. Cooperator: Nathan Mininger. Continued work to evaluate nematicides with different varieties. This year very low nematode pressure and only slight improvement in yield from using nematicides compared to the untreated control with resistant varieties (Figure 1).

CleanSEED Virus Management Trial. Cooperator: Jason Tucker. The objective of this trial is to compare the yield advantage from using clean seed and monitor weeds and the crop to determine virus presence. Beauregard already has 31.5% culled roots due to Russet Crack after only two years. Covington is at 4.4% for the same age. These differences are further demonstrated by the amount of virus found in the root samples, with Beauregard having significantly greater accumulation of the four main potyviruses impacting sweetpotatoes (figure 2).

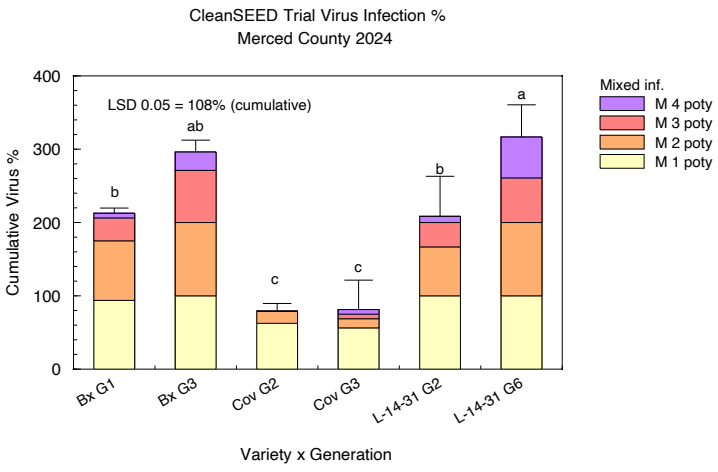


Figure 2. Virus accumulation by seed age and variety, 2024.

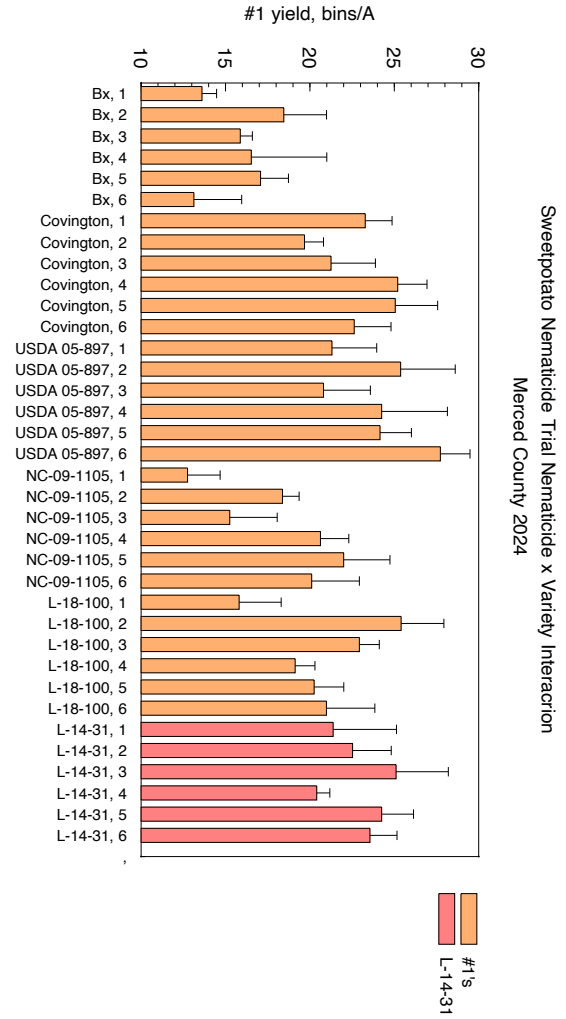


Figure 1, above. Variety x nematicide interaction results, 2024. 1 = UTC, 2 = Salibro, 3 = Velum, 4 = Melocon, 5 = Certis Nemaclean, 6 = FMC W8511.

Weed control trial. Cooperator: Nathan Mininger. Evaluation of post plant herbicides incorporated with finger weeders. Devrinol and Valor were sprayed, then incorporated 2 weeks after planting. It worked, but no data were collected.

Compost mineralization trial. About 200 lbs N/A were taken up by the crop (Covington and Diane), but there were no significant yield differences where compost was applied (target 5 yards/A).

Table 2. CDFA FREP sweetpotato compost trial, Turlock and Ballico 2024.

Treatment	Variety	40 lb box/A adj No. 1's	Meds	Jumbos	adj TMY box/A	total bins/A	No. 1's #1%	Culls cull%
1 no compost	Diane	351	182	47	580	29.0	61%	33%
2 compost		335	142	50	527	26.3	64%	33%
1 no compost	Covington	635	215	113	964	48.2	65%	9%
2 compost		636	247	153	1036	51.8	61%	6%
1 no compost	Bellevue	789	321	230	1341	67.0	59%	5%
2 compost		756	306	308	1370	68.5	55%	5%
Compost LSD 0.05		ns	ns	ns	ns	ns	ns	ns
Variety LSD 00.05		280	108	144	370	18.5	ns	11.3
coeffecient of variation (%		32.4	31.1	72.1	26.2	26.1	9.1	42.4

US #1's	Roots 2 to 3.5 inches in diameter, length 3 to 9 inches, well shaped and free of defects.
Mediums	Roots 1 to 2 in diameter, 2 to 7 inches in length.
Jumbos	Roots that exceed the size requirements of above grades, but are marketable quality.
Mkt Yield	Total marketable yield is the sum of the above three categories.
bins/A	bins/A are estimated based on market box yield assuming 20 boxes (17.6 Bu) per bin.
% US #1's	Weight of US #1's divided by total marketable yield.
% Culls	Roots greater than 1" in diameter that are so misshapen or unattractive as to be unmarketable.
LSD 0.05	Least significant difference. Means separated by less than this amount are not significantly different (ns).
CV, %	Coefficient of variation, a measure of variability in the experiment.

Heavy metal sampling survey.

Root samples from various cooperators from the 2023 harvest, all orange flesh varieties. Only 3 arsenic, 2 cadmium, and 0 lead of 90 tested >20 ppb (5.5%). Overall, randomized testing over the last 4 years indicates that the California crop is very "clean" and mostly below FDA maximum levels for these heavy metals (figure 2).

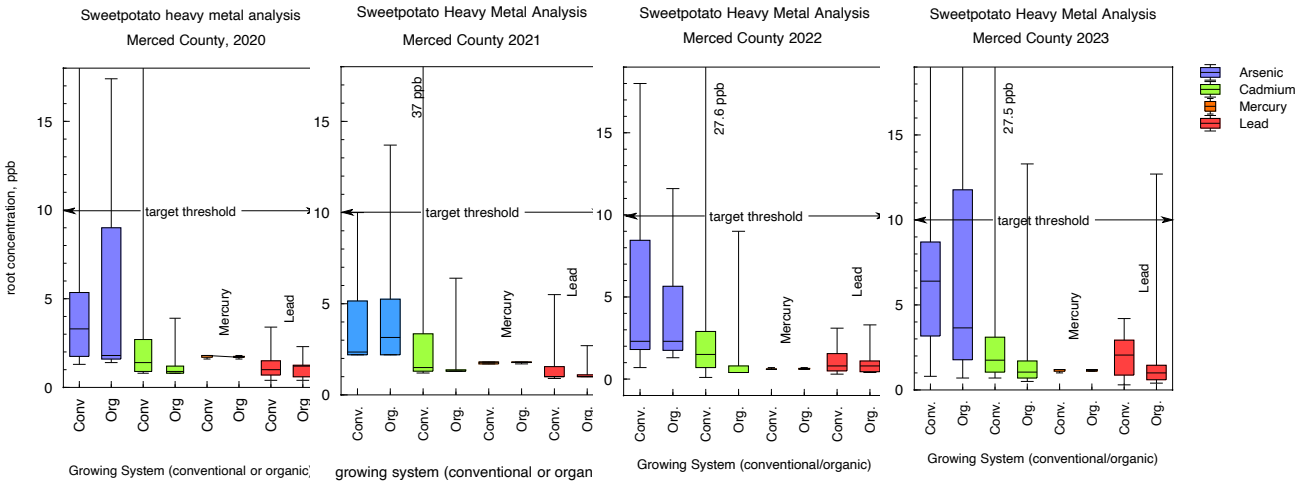


Figure 3. Heavy metal sampling results for crop years 2020 - 2023. Roots were randomly sampled from bins in the spring after harvest.