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SWEETPOTATO TIPS

Merced & Madera Counties Vol. 2, Sep, 2012

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$159 million: estimated value of sweetpotatoes in Merced County in 2011

FIELD MEETING OCTOBER 17, 2012, WITH LSU PLANT BREEDER DR. DON LaBONTE

Join me again on October 17 for a brief field day to see the Advanced Line Trial (ALT) while harvesting. This is the variety trial I have conducted with Dave Souza and Don LaBonte, LSU Plant Breeder. The main emphasis of the trial is to evaluate new red yam varieties, but there is usually one or two sweets and yams to look at as well. Notable entries: NC-07-847 (sweet), 07-102 (red yam), 175 (red yam), and L-09-109 (purple-purple), plus many new that have not been seen. Don will also be there to take notes on the new entries and answer your questions. Lunch provided.

Sweetpotato ALT Harvest Field Day

Wednesday, Oct 17, 10:00 - noon

South-east corner of Central and Bell Rds, east side of field

Lunch: BBQ and baked sweetpotatoes (come taste the new entries)

Special Guest: Dr. Don LaBonte, LSU

Other:

As part of the Specialty Crops Research Initiative with LSU, I will also be discussing food safety.

CDFA is offering free multilingual small farm food safety workshops. Discussion topics include record keeping, hygiene, water testing, handling of manure, and more. October 30, 2012, 9:00 - 12:00 noon). Fresno County Farm Bureau, west wing #1. 1274 W. Hedges Ave, Fresno. 559-595-8000.

GENERAL NOTES

Merced received 1.1 inches of rain last year from a storm that came through October 3 - 5. Concurrently, the soil temperature at 6" dropped about 5° F, to 64° F. We had a similar storm on October 24, 2010, which also resulted in 5° drop in soil temperature. In both years, we experienced higher than normal losses in storage for fields harvested after these storms, especially Diane. Furthermore,

the stand problems for Diane this year are a result of transplanting sick plants from the beds where there was above average rotting — also a consequence of the rains. It is the temperature drop, more than the actual rain, which increases the chances for problems in stored roots.

I ran pathology tests on both plants from the field and hotbeds and the pathogen was the same. The problems this year, especially for Diane, were related to *Fusarium*, a fungal disease that causes stem rot in Golden Sweet, among other things. Fusarium is always in the soil, where it lives on decaying plant tissue in the absence of a host. Diane is resistant to Fusarium, but when chilled sweetpotatoes are bedded, it is able to attack the roots because they are compromised.

The good news for our industry is that these problems are not something that will have long-term consequences. The fields can be planted again to sweetpotatoes next year. If we do not get any fall rains this year, there is no reason to expect similar problems in the beds next spring.

Nematode control.

Fall is the best time to sample for nematodes, as this is the time of the year when populations are at their peak. There are no published thresholds for nematode counts (the number at which control measures are warranted), but in general counts above 100 RKN per pint of soil would be high enough to cause problems in subsequent years, especially in susceptible varieties like Beauregard and O'Henry. The main nematode species to look for is Root Knot Nematode (RKN), *Meloidogyne incognita*.

While it might be difficult to find the time, in general a fall fumigation will be more effective than a spring application, because soil temperatures are warmer.

The following fumigation notes are from March, 1953 publication on nematode control for sweetpotatoes, by C.R. Horton, Merced County Farm Advisor at the time. Note that many of these suggestions are still applicable today. Nowadays, however, there are requirements rather than suggestions.

- ✓ Soil temps at 6" should be above 50 F.
- ✓ Soil moisture above 75% of field capacity.
- ✓ Soil should be free of trash/previous crop residue.
- ✓ Apply the correct rate. (You may be tempted to reduce Telone rates to stretch the number of acres under the cap, but anything less than 9 gpa has not been effective in my trials).
- ✓ Soil surface must be sealed immediately after injection by ring rolling, dragging, or harrowing.

Remember that any fumigation is typically effective for only one year. However, I am often asked about not fumigating if fall nematode counts are very low (0 - 10 per pint of soil or per 500 g) and the following season will be the last for the field before rotating out.

Nematode counts are notoriously variable. Telone was not registered based on nematode counts, but rather on crop response. A zero nematode count from a fall sampling does not mean there are no nematodes in the field. Furthermore, I have always gotten a yield response in my trials from fumigants even when there was no obvious nematode damage to the roots.

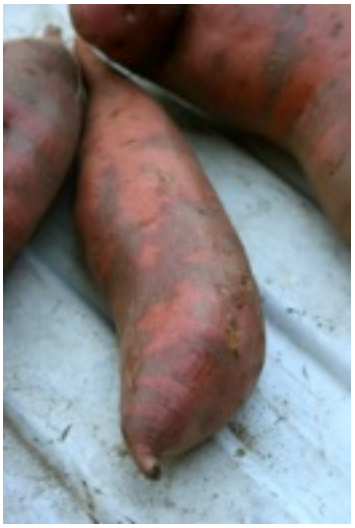
So can you skip fumigating under these conditions? The answer to this question is "maybe", but only for the nematode resistant varieties like Covington and Bonita. If there are no Telone cap restrictions for the field, the answer is "probably not". The cost of fumigating is about 1 bin of No. 1's — easily paid by the yield increase that should occur.

Telone is a good nematicide, will suppress some diseases (Scurf, Stem Rot), but offers very little weed suppression at the rates typically used for sweetpotatoes (10 - 14 gallons per acre). Where it cannot be used because of township caps or buffers, metam is an acceptable alternative. Metam is not as good as Telone on nematodes, but does offer suppression of these soil pests plus disease and weeds. Shanked applications of 55 - 75 gpa (depending on formulation as metam potassium or metam sodium) have been shown to work well in my trials.

RESEARCH UPDATE

Scurf Trial with Bob Weimer

Covington Roots with "regular" Scurf and the more recent "Leopard" Scurf were treated with Botran, Mertect, Serenade Soil, or water at bedding, then plants were either cut or pulled and treated with the same fungicides at transplanting. The objective is to 1) evaluate fungicide control and 2) determine if "Leopard" scurf is the same type as the traditional problem. Roots will be dug in late October.



Irrigation trial with Bob Weimer

Third year for this trial, with additional soil moisture sensors and a change in one of the treatments to go all the way up until harvest, rather than cutting the water off three weeks before harvest.

Field fumigation trial with Karl Kruppa.

A large field test plot in the Hilmar area to evaluate Telone + Pic (Telone C-35 at 10, 12.5, and 15 gpa) and Telone + metam combinations (8, 10, 12 gpa Telone + 20 or 30 gpa metam) on weed control, nematodes, and yields of Diane sweetpotatoes.

Covington plant spacing trial with Aaron Silva

Covington evaluated at 9, 12, and 18" for impacts on root size distribution; this trial also has soil moisture monitors.

Variety Trials (National Sweetpotato Collaborators Trial, Quail H; ALT and Red Yam Trial, Dave Souza; Various 175 strip trials; Bob Weimer, Matt Alvernaz, Jason Tucker, AV Thomas)

The emphasis remains finding a new red that will be an good complement or replacement for Diane. This has been a daunting task — all of the new red yam lines that I have evaluated do not have the year-to-year performance and attributes to make them commercially acceptable. They look great one season, then lose color, shape, or yield the next.

New variety for 2013: "Orleans", from LSU. I tested this in the NSPCG Trial as **LA-05-111**. Looks and grows like a nice Beauregard: good shape, smooth copper skin, orange flesh, good yield potential, but susceptible to nematodes and russet crack. Louisiana growers will get first dibs to grow commercially next year. Results from CA are posted in my Sweetpotato Research Progress Reports, available on our website.

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