

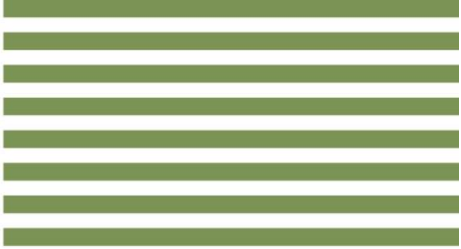
LOUISIANA SWEET POTATO NEWS

Summer 2023

LSU AgCenter Sweet Potato Research Station | P.O. Box 120 | Chase, LA 71324 | Phone: 318-435-2155
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Visit our web site: https://www.lsuagcenter.com/portals/our_offices/research_stations/sweetpotato



Optimizing nematicide efficacy in Louisiana sweetpotato production

Dr. Tristan Watson, LSU AgCenter Nematologist

Louisiana sweetpotato production is currently battling three major plant-parasitic nematode species: guava root-knot nematode (*Meloidogyne enterolobii*), southern root-knot nematode (*Meloidogyne incognita*), and reniform nematode (*Rotylenchulus reniformis*).

The guava root-knot nematode was first intercepted on sweetpotato planting material in 2018 in Morehouse Parish and then again in 2020 in Franklin Parish. Extensive survey work conducted from 2019 - 2021 demonstrated that this invasive new nematode pest does not appear to have successfully established in Louisiana production fields. Containment measures and importation restrictions on out-of-state sweetpotato planting material have likely limited the spread of this pest in Louisiana. However, we are staying vigilant with continued monitoring of sweetpotato fields. Sweetpotato varieties with resistance to this species of root-knot nematode are currently in development at LSU AgCenter.

The southern root-knot nematode is another damaging pest of sweetpotato in Louisiana, with nematode feeding resulting in the formation of small growths/bumps on storage roots thereby limiting the yield and marketability of the crop. This nematode pest was detected in about 20% of the commercial sweetpotato fields surveyed from 2019 – 2021. Sweetpotato varieties with resistance to this species of root-knot nematode are commercially available, and include Covington, Jewel, Bellevue, Bonita, Burgundy, Evangeline, and Murasaki-29. The use of nematicides may also provide effective nematode suppression.

The reniform nematode is widespread in Louisiana sweetpotato production (>85% of fields) and is often found infesting fields at soil population densities well above the established damage threshold for this crop. Feeding by this nematode does not produce any obvious root symptomology but reduces the plant's ability to access water and nutrients resulting in reduced storage root yield. In severe infestations reniform nematode feeding can predispose storage roots to cracking. No commercial sweetpotato varieties have been developed with resistance to this pest. Management has primarily relied on the use of nematicides. In 2021, nematicide efficacy trials conducted in Tensas Parish and Evangeline Parish showed promising results with in-furrow application of the nematicide products Velum (synthetic nematicide) and Majestene (biological nematicide). Similar studies conducted in 2022 showed mixed results, raising the question of how to improve nematicide efficacy for more effective and consistent nematode control?

In 2023, field trials were established at LSU AgCenter's Northeast Research Station (Tensas Parish) in a field infested with reniform nematode and root-knot nematode to evaluate the effect of nematicide application methods on product efficacy. Nematicides showing good efficacy in previous years (Velum and Majestene) were applied to replicated small plots using three different application methods. The first method was a broadcast spray application, which results in an even coverage of the planting bed surface with a low to moderate nematicide concentration (Figure 1). The second application method was an in-furrow spray, which results in a more localized and higher concentration of nematicide banded in the middle of the planting bed. This is the current application method that we recommend for Velum and Majestene. The third application method was a transplant drench, which involved applying the nematicide along with 4

oz of transplant water during planting, resulting in a high concentration of nematicide surrounding each sweetpotato slip. For each application method we are currently monitoring reniform nematode population development in the root zone and marketable yield. We look forward to sharing our findings during the next Louisiana Sweet Potato Association meeting.

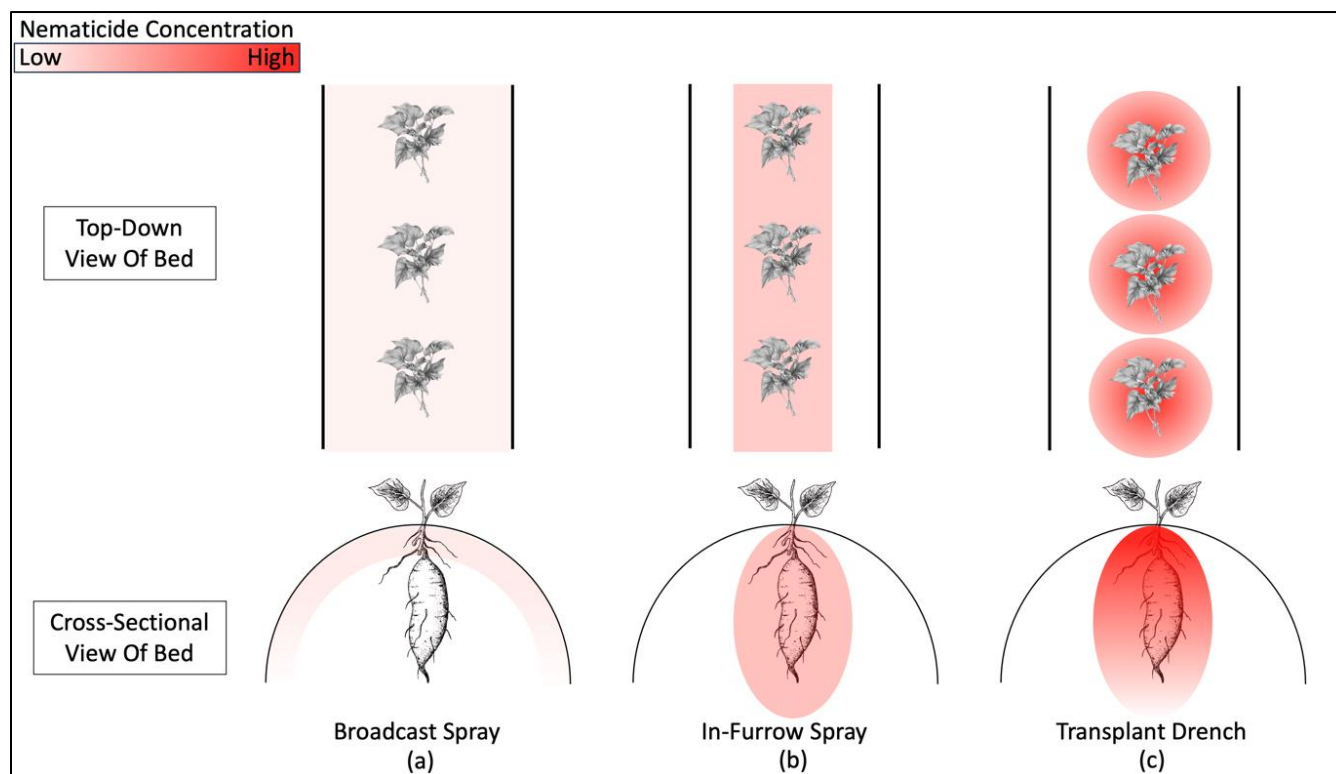


Figure 1 – Nematicide concentration heat map in sweetpotato planting beds treated using (a) broadcast spray, (b) in-furrow spray, or (c) transplant drench application methods.

Update on Optogen herbicide

Dr. Donnie Miller, Professor and Weed Scientist, LSU AgCenter

We are putting in trials to get a better handle on Optogen herbicide from Syngenta that is now labeled for use. We are trying to see its fit and the activity it has on common and problematic weeds. We are currently looking at its efficacy as well as looking at crop response as well. More information will be available at the August 31, 2023 field day held at Black Gold Farms.

Sweetpotato Breeding Program Update

Dr. Don LaBonte, Professor and Sweet Potato Breeder LSU AgCenter School of Plant, Environmental and Soil Sciences

The emphasis this year is to test 18-100 heavily. It is the only way to know if we are onto a new variety. I have a number of small plots with 18-100 in comparison to Beauregard and Orleans. A bit of a race, but that's what is needed. We also have the 18-100 at two different spacings – given the urge to jumbo, a greater plant density might be needed. The plan is to harvest these at 90-100 days to see if we really are working with an early line. There is need for an early variety – gets harvest off to an early start and makes available product for fresh and processing markets. Sometimes planting is late because of drought and too much rain. An early variety represents a way to “make up” weeks of growth so harvests are not pushed late into the season. We are seeing good stand survival of 18-100 in comparison to Orleans and Beauregard in the hot and dry weather we are dealing with this summer. We do see a need to pre-sprout 18-100 for a solid, productive plant bed. We are not stopping – several highly productive selections are being tested in other plots – always exciting to see how they perform when harvest season arrives.



LSU AgCenter Sweet Potato Research Station Update,

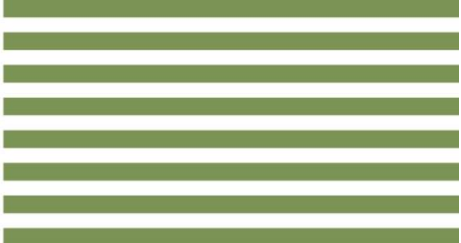
Dr. Tara Smith, Research Coordinator, Sweet Potato Research Station

The 2023 foundation seed planting season has been a busy one. The station has planted approximately 20 acres of seed of all major varieties and the current outlook on the crop is positive. In addition to Foundation Seed, research trials have been implemented across the state, on several research stations, including the Northeast Research Station and the Dean Lee Research Station and several on-farm locations. The 2023 Sweet Potato Field Day will be held in conjunction with Black Gold Farms this year. The event will take place on August 31st. We are excited for the opportunity to showcase current research projects and provide updates to the industry.

Much change has been realized at our unit in recent years and I am beyond proud of the team we have assembled. The mission of the station is to produce foundation seed and planting material for the industry, as well conducting research that will improve efficiencies, yield and crop quality. A few of our changes are outlined herein. Mr. Mike Erwin, research farm specialist, retired earlier this year, after more than 30 years of service to our unit. Mr. Adam Easterling was hired in October of 2021 as farm manager and is doing a great job leading our staff and managing the daily activities of the station. Mrs. Railey Cruse, research associate, was hired in the fall of 2022 and has been a welcome addition to our breeding and foundation seed programs at the unit. Mr. Cole Gregorie, was recently named Statewide Sweet Potato Specialist. Cole has been an integral part of our team for over 10 years and brings a wealth of knowledge to this position. Cole will continue to work out of the Sweet Potato Station in this new position. Mr. Myrl Sistrunk will remain engaged with our extension and outreach initiatives as well. Finally, I was recently appointed Director of the Louisiana Cooperative Extension Service. In this role, I will be supporting statewide extension efforts. I will also continue to serve as research coordinator of the Sweet Potato Station, and I welcome the opportunity to continue to engage with the industry moving forward. We hope to see you all at the field day on August 31st. Thank you for continued support of the Sweet Potato Research Station.



**SWEET POTATO
RESEARCH STATION**



LOUISIANA SWEET POTATO CROP UPDATE

Cole Gregorie, LSU AgCenter Sweet Potato Specialist & Myrl Sistrunk, Extension Associate, LSU AgCenter

The 2023 Louisiana sweet potato planting season has wrapped up around the state. After an overly wet harvest season many producers were eager for a fresh start this year. In the northern and central portions of the state, reports have been of timely planting with overall good growing conditions. These areas of the state have seen timely rains for many producers with a few citing slight weather delays, but an overall excitement for the added moisture. In the southern portion of the state there were some planting delays due to unusually dry spring conditions, with conditions remaining dry into the growing season.

Throughout the state some producers also mentioned delays in plant beds early on, with a possible culprit being the quality of last year's holdover seed. Even with these delays, the majority of planting in the state occurred in May with most producers finishing up by mid-June and only a few having to plant into early July.

Heading into harvest, many producers have a good feeling about this year's crop. Weed pressure has been problematic this year, with some speculating that the early wet growing season exacerbated the problem. As we continue to move through the summer months we are now dealing with excessive heat and cucumber beetles are becoming a nuisance with heavier pressure reportedly being associated with weedier areas.

The sweet potato acreage for Louisiana is currently estimated to be around 6,100 acres compared to 2022 where planted acreage was around 6,800 acres. In 2022 the economic value of the crop was down from the \$85 million economic value of 2021 due to loss sustained during the unfavorable 2022 harvest. While the 2022 crop was not ideal, sweet potatoes remained the highest economic value vegetable crop in the state.



Presently, the major sweet potato producing parishes are Franklin, West Carroll, Morehouse, Evangeline, St. Landry, Acadia, and Avoyelles. The major varieties of the Louisiana industry are comprised of Orleans and Beauregard and Bayou Belle with over 55% of the crop marketed to the processing sector. Orleans and Beauregard also dominated the fresh market along with a small amount of acreage in Evangeline. These varieties along with other heirloom varieties are developed and maintained by the LSU AgCenter Sweet Potato Research Station and are also popular with small scale farmers and home gardeners. The Sweet Potato Research Station provided propagation material to nearly 200 entities across the state for the 2023 planting season.

Louisiana Sweet Potato Commission Announcement

Rene Simon-Director, Louisiana Sweet Potato Commission

Promoting and helping to spread the good news of the Louisiana Sweet Potato never grows old. The Louisiana Sweet Potato Commission has the good fortune of working to advance the best sweet potatoes grown in America. The Commission is active in its advertising campaign in which social media and other methods are employed to spread the message of it being a top 10 healthy food as designated by the Mayo Clinic. The Graham Group leads the campaign and the Commission's efforts are paying big dividends. The Facebook posting are some of the most read for the sweet potato industry. If you have not already, please like us on Facebook and share the posts.

Along with the advertising work, the Commission is busy planning to host the United States Sweet Potato Council's annual meeting to be held in New Orleans, January 21-24. Registration will open August 1, and save the date cards will be mailed soon. Come enjoy a good time reacquainting with old friends and making new one. We look forward to seeing you there.

Sweet Potato Award Winners

Faculty:



Arthur Villordon – Was awarded the 2023 National Impact Award, by the National Sweet Potato Collaborators Group.

Staff:



Mike Erwin – Was awarded the career device award at the 2022 LSU AgCenter Sweet Potato Field Day in honor of his 30 years of service to the LSU AgCenter.

Student:



Lisa Arce – Placed first in the Ph.D. competition at the 2023 National Sweet Potato Collaborators Group with her presentation: Variation in gene expression of putative *PHT1;5* gene among sweetpotato cultivars in response to phosphorus deficient conditions.

Upcoming Events,



Contact AgCenter research coordinator Sweet Potato Research Station Tara Smith, tsmith@agcenter.lsu.edu (318-557-9501), Sweet Potato Specialist, Cole Gregorie, cgregorie@agcenter.lsu.edu (318)680-9833 or AgCenter Extension Associate Myrl Sistrunk, msistrunk@agcenter.lsu.edu (318-267-6712) for information or if ADA accommodations are required.

LSU AgCenter Sweet Potato Research Station 2023 Field Day August 31

Hosted by  **Black Gold**
FARMS

Black Gold Farms

2305 LA-17

Delhi, LA 71232

Registration: 8:30 a.m.

Field Tours: 9 a.m.

Sponsored Meal provided by:  **Lamb Weston**
SEEING POSSIBILITIES IN POTATOES

Featured topics:

- Advanced sweet potato breeding lines for the industry
- On-Farm Validation of Irrigation Management and Planting Density for Optimized Harvest Scheduling and Yields in Sweetpotato
- Nematicide Options and Application Methods
- Pre-transplant weed management with Optogen Herbicide
- Starting Clean, Staying Clean: Updates on the CleanSEED program
- Industry and Crop Updates

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NATIONAL CONVENTION OF THE U.S. SWEET POTATO COUNCIL 62ND ANNUAL | NEW ORLEANS, LA 2024



- The dates for the National Convention are January 20-23, 2024. Information regarding the meeting can be found via this link: <https://sweetpotatousa.org/convention/>

Summer Recipe

Sweet Potato Salad by. Lauren Miyashiro

Ingredients:

3 large, sweet potatoes, peeled and cubed (about 2 lb.)
1 small red onion, thinly sliced into half-moons.
2 tbsp. extra-virgin olive oil
Kosher salt
Freshly ground black pepper
1/2 c. dried cranberries
1/2 c. crumbled feta
1/4 c. freshly chopped parsley

FOR THE DRESSING:

2 tbsp. apple cider vinegar
1 tbsp. Dijon mustard 1 tbsp. honey
1/2 tsp. ground cumin
1/4 tsp. ground paprika
1/4 c. extra-virgin olive oil



Instructions:

Preheat oven to 400°. On a large, rimmed baking sheet, toss sweet potatoes and red onion in oil then season with salt and pepper. Distribute them evenly on sheet in a single layer. Bake until tender, about 20 minutes. Let cool for 10 minutes then transfer to a large bowl. Meanwhile, make dressing: In a small bowl or in a medium liquid measuring cup, whisk together vinegar, mustard, honey, and spices. Gradually pour in oil, whisking constantly until emulsified. Season with salt and pepper. Toss sweet potatoes with dressing, cranberries, feta, and parsley. Serve warm or at room temperature.



For more information, contact the LSU AgCenter Sweet Potato Research Station
P.O. Box 120 | Chase, LA 71324 | Phone: 318-435-2155 | Cole Gregorie 318-680-9833 or Myrl Sistrunk 318-267-6712
Office Hours: Monday – Friday 7:30 a.m. – 4:30 p.m.

The LSU AgCenter and LSU provides equal opportunities in employment and programs.

For more information, visit the [LSU AgCenter website](https://www.lsuagcenter.com).