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**Sweet Potato Crop Update**

*Tara Smith, Assistant Professor and Sweet Potato Specialist, LSU AgCenter*

The 2009 production season is right around the corner and Louisiana producers are anxiously waiting for this year's field season. Producers have been busy in recent months, packing what remains of the 2008 crop and making plans for the 2009 crop year.

The Louisiana Sweet Potato Industry is eager to forget 2008. Producers suffered a severe blow in 2008 due to adverse weather conditions associated with two fall hurricanes. Over 90% of Louisiana's acreage was negatively affected and yield and quality losses across the state are estimated at over 70%. Prior to the hurricanes, producers were on track to realize a successful production season in 2008.

Louisiana sweet potato producers are resilient and the majority of producers were able to weather the 2008 storms. Approximately 15,000 acres of sweet potato were planted in the state in 2007-2008 and that number is expected to be similar in 2009.

Bedding operations began in south LA in early March and north LA producers should complete bedding by early

April. Planting of the crop will begin in early May. Beauregard remains the predominate variety planted in Louisiana but producers are expected to increase the acreage planted to the Evangeline variety this year.

Evangeline is a recently released (2007, LSU AgCenter) variety that made its commercial debut in 2008. This variety performed well across the state in 2008, especially in light of the circumstances mentioned previously.

Please remember that plant bed management is critical, and proper fertilization and insect/disease/weed management are important initially. ***Transplant vigor, health and establishment at time of planting, set the stage for ultimate yields realized at harvest.***

Initially plant beds should be fertilized with a complete fertilizer, such as 13:13:13 or 8:24:24 at a rate of ca. 1 lb/100 sq. ft. of plant bed or 300-400 lb/A. Additional ammonium nitrate may be applied after the first cutting if needed. Zinc (9 % chelated), can also be applied at 1 qt/acre, one-two weeks before cutting plants. Research suggests that spacing roots further apart in plant beds may increase transplant girth and the number of nodes present

on the transplants. The seed roots can touch but should not be piled on top of one another.

Pay particular attention to aphids, whiteflies, and early season cucumber beetles in plant beds. If cucumber beetles are present in plant beds before cutting, apply a labeled foliar insecticide along with the foliar zinc application. Producers in south Louisiana should manage sweetpotato weevils in plant beds according to the mandatory spray program. Also keep in mind, that plants should be cut and not pulled from plant beds. Seed potatoes should also be treated with Botran® fungicide according to label directions.

A few specific things to consider in Evangeline seed beds:

1. *Do not bed too deep, 2-3 inches of soil is sufficient*
2. *Pre-sprout this variety at 80°F and approximately 70% humidity under well ventilated conditions if possible, to promote earliness and uniformity in sprouting*
3. *Apply Botran fungicide to seed roots according to label directions*

Please contact the LSU AgCenter with questions or for additional information on managing sweet potato plant beds.

### **Foundation Seed Survey Continues in 2009**

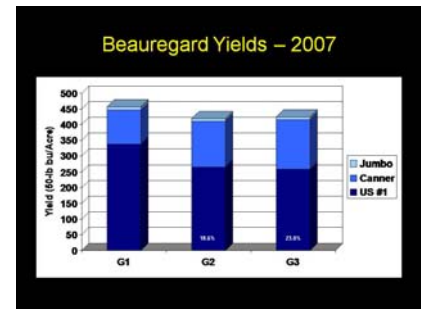
*Drs. Chris Clark, Tara Smith and Don Ferrin*

The virus-tested technology that is used today in the production of certified foundation sweet potato seed was integrated into the LSU AgCenter Sweet Potato Foundation Seed Program in 1999. The program has been well received and the benefits of this technology are well known and touted in the sweet potato industry. It is not known how quickly productivity decreases once the seed is incorporated into on farm commercial sweet potato operations.

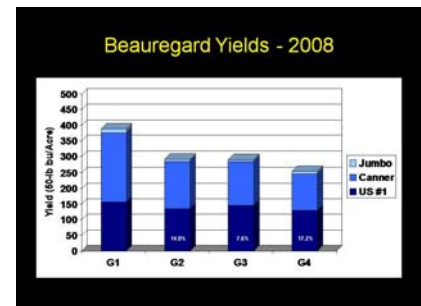
An applied survey of virus-tested foundation seed users was initiated in 2007 to evaluate the overall response of second and third generation foundation seed. Several producers in North and South Louisiana willingly cooperated with us in 2007 and 2008 to make this possible.

Results from 2007 and 2008 indicate that a decrease in yield is realized in G2 and G3 generation seed compared to G1 (First year foundation seed, Sweet Potato Research Station). We did not detect large yield differences between G2 and G3 seed. A total of 10 locations or seed sources were evaluated.

In 2007 U.S. #1 yield and total yield was greater for G1 compared to G2 and G3. Only subtle differences were detected between G2 and G3 seed.



Overall yields were lower in 2008 due to adverse field conditions. The 2008 study resulted in a larger percentage of canners vs. U.S. #1 grade roots. Similar to 2007, total yield and U.S. #1 yield were increased in G1 compared to G2 and G3 in 2008.



This study will be repeated in 2009 and we will also begin to evaluate the yield response of different generations of Evangeline seed. We appreciate all of those who have provided seed and who are cooperating with us on this survey.

### **Crop Insurance Update**

*Mr. Rob Cerda, President, Crop Insurance Systems*

The Louisiana Sweet Potato Growers Association and Louisiana Farm Bureau Federation have combined their efforts to improve the federal crop insurance program currently available. The two organizations contracted with Crop

Insurance Systems, Inc. to produce the new insurance product.

The insurance proposal is an attempt to improve our insurance product in several ways.

First, the proposal returns USDA's Sweet Potato Grading Standards to the insurance policy so that the insurance guarantee and the indemnity formulas agree. Secondly, the policy offers an extended discovery period for sweet potatoes damaged in the field by an insurable event to potatoes that are in storage provided the damage is discovered within 60 days of harvest. Thirdly, the insurance proposal uses enterprise level units to reduce premiums.

The crop insurance proposal was submitted to the Federal Crop Insurance Corporation Board of Directors on January 8, 2009.

The program is currently being reviewed by the Risk Management Agency. The LA Farm Bureau Federation (Mr. Brian Breaux), Dr. Tara Smith of the LSU AgCenter and a small group of growers (James Deshotel, Larry Fontenot and Ted McDermott) will travel to Kansas City to meet with Risk Management Agency officials to discuss the proposal on March 25, 2009.

### **Cultural Practice Research Update:**

***Using knowledge of the timing of storage root initiation to make informed management decisions: Two practical questions to ask about products advertised to increase yield.***

*Dr. Arthur Villordon, LSU AgCenter Sweet Potato Research Station*

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The accumulated scientific evidence about the origin of storage roots and timing of storage root initiation can be used in many practical situations.

Briefly, we know that almost 90% of newly-initiated adventitious roots have the potential to become storage roots. For practical purposes, these roots can be referred to as potential storage roots. These have been commonly called "fibrous roots" or "feeder roots." Depending upon soil moisture conditions and other factors, these adventitious roots either become storage roots or lignified roots (strings) between 13-20 days. Between 30-35 days, the number of storage roots will have been determined, effectively establishing the potential yield of a specific field.

In field experiments to verify the timing of storage root initiation, all plants were watered in and subsequent soil moisture ranged between 30 to 50% of field capacity. When soil moisture approached the lower limit (30% of field capacity), irrigation was performed.

***Field capacity can be defined as the wetness of initially saturated soil***, for example after 1-2 days of rain followed by drainage. In practical terms, the soil moisture is very close to 50% of field capacity when a grower is able to plant following a drenching rain. Field capacity depends on many variables including soil texture, depth of soil, etc. Depending upon the time of year, the soil moisture is eventually depleted and the lower limit of this range (30% of field capacity) can be reached in a few days, especially if there are no rain events. Below this range is a threshold called the "wilting point," below which adventitious root initiation is severely limited, resulting in poor stand and substantial yield loss.

It is important to define the conditions that storage roots are initiated because these can be used as criteria to determine the soundness of recommendations associated with a commercial "yield-enhancing" product or similar products advertised to maximize yield.

Given the information above, the following are two practical questions to ask about a product that is promoted to "increase" yield.

***1) "How does this product increase storage root count?"*** Explanation: Storage root count fundamentally influences storage root yield. For example, if a grower is averaging one U.S.#1 per hill, then there is a reasonable expectation to harvest about

300-350 40-lb bu/acre U.S.#1-grade roots (assuming approximately 1 lb. per root and 12,500 plants per acre). Prolonging the season to increase the total weight will only increase chances of digging up jumbos as well as predispose the crop to insect damage or other losses. Assuming all other variables are optimum, substantial increase in storage root yield involves increasing the count.

**2) "When is the product applied?"** Explanation: Given the established time frame for storage root initiation events, a product that is advertised to increase yield by increasing storage root number should be applied prior to (plant bed phase) or during the first 30 days after transplanting, under a well defined soil moisture range.

**Bottomline:** if the soil moisture is below the threshold for successful transplant establishment during the first 20 days (below "wilting point"), yields will be low or marginal regardless of the amount and timing of any "yield-increasing" product application.

### **Market Outlook**

*Tara Smith*

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The past two months have seen slow but steady movement of the 2008 crop. As of March 15, 2009 the FOB price for a cured 40# box of U.S. #1's in Louisiana was \$16-18.00 with most at \$17-17.50. Packers are currently supplying sweet potatoes to meet the Easter demand. The Louisiana supply is likely to be

exhausted by late spring or early summer. Demand is expected to stay steady as Easter approaches and based on previous years, is likely to slack off during the summer months.

### **LSU AgCenter Sweet Potato Research Station:**

**1949-2009**

*Tara Smith*

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The LSU AgCenter Sweet Potato Research Station is the only research station in the United States that is solely devoted to sweetpotato research and development. The 308 acre station located in Chase, LA, was established through a direct appropriation of the Louisiana legislature and celebrates its 60<sup>th</sup> birthday this year. Dr. Julian C. Miller pioneered the idea of the Sweet Potato Research Center in 1948 and in 1949 the first foundation seed was planted at the present day Sweet Potato Research Station. The mission of the Station was to produce top-quality planting stock to serve the commercial sweet potato industry in Louisiana and also to conduct research in various disciplines to enhance production of sweetpotato, including breeding, cultural practices and pest management.

The LSU AgCenter sweetpotato foundation seed program has long served the Louisiana sweetpotato industry by providing high quality seed to commercial producers. The station serves directly and indirectly all parishes involved in sweetpotato production in Louisiana.

In addition to satisfying in-state needs, the station also supplies seed to out of state producers if supply is available. In 2007, the station began working with domestic and international entities to supply transplants for propagating purposes. This is a testament to the LSU AgCenter's national and international reputation as a premier supplier of sweet potato planting stock.

### **Foundation Seed Update**

*Tara Smith*

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The 2008 foundation sweet potato seed crop was allocated and moved quickly this year. Producers have been collecting seed in recent weeks for bedding this month. Those of you, who have not collected your seed, please make arrangements to do so at your convenience, preferably before April 1<sup>st</sup>.

The majority of the LSU AgCenter foundation seed crop is planted in the Beauregard variety, both B-63 and B-14 mericlones. In addition, approximately 200 bins of Evangeline sweet potato seed were produced in 2008 and allocated to in state producers in 2009. The Sweet Potato Research station also produces limited quantities of several heirloom varieties such as Jewel, Porto Rican and Heart of Gold

Thank you for supporting the LSU AgCenter Foundation Seed Program in 2009 and we look forward to working with you next year.

## Industry News

### Louisiana Sweet Potato Association 2009 Distinguished Service Award Winner

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Jim Sowell, a retired sweet potato producer from West Carroll parish is the 2009 recipient of the Louisiana Sweet Potato Association Distinguished Service Award. Jim was presented the award by Mr. Ken Thornhill at the 72<sup>nd</sup> annual Louisiana Sweet Potato Association State Meeting, which was held in Oak Grove, LA on January 7th. Jim has been associated with the sweet potato industry in our state for several years. He is well deserving of this honor. Congratulations Jim!!!

### South Louisiana Production and Advisory Meeting

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A multi-parish production and advisory meeting was held in Mansura, LA at the Avoyelles Parish extension office, on February 23, 2009. The meeting was well attended by producers and industry representatives from the southern production region of the state. Producers from Avoyelles, Rapides, St. Landry and Evangeline Parishes were on hand to receive production updates and discuss issues relevant to the 2009 crop.

### Spring Meeting of the Louisiana Sweet Potato Commission/LSPA Board Meeting

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The next meeting of the Louisiana Sweet Potato Commission will be held at 10:00 A.M. April 23, 2009 at

the LSU AgCenter Avoyelles Extension Office and 4-H Museum on Hwy 1. in Mansura, LA. The spring board meeting of the Louisiana Sweet Potato Association will follow the Commission meeting, and will begin at 1:00 P.M.

### LSU AgCenter "Sweet Potato Video" available for viewing on You Tube

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A recently completed LSU AgCenter video chronicling sweet potato production is available for viewing on You Tube:

[http://www.youtube.com/watch?v=EGFo3bZj\\_SM](http://www.youtube.com/watch?v=EGFo3bZj_SM)

The video provides information on all facets of production of the crop and will be a great educational tool for all ages. The video was done by AgCenter communications in cooperation with Louisiana sweet potato producers and extension personnel. Please take a moment to watch the video and share this site with others.

### Sweet Potatoes Take Best in Show, Terri Crawford M.S. Family and Consumer Sciences Program Coordinator, LSU AgCenter, Scott Center, Northeast Region

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The Northeast Region 4-H Commodity Cookery was held on Monday, February 16, 2009 at 1<sup>st</sup> Baptist Church in Winnsboro. Approximately sixty 4-Hers from ten parishes prepared and showed off their best dishes in eight categories: Sweet Potato, Egg, Beef, Chicken, Pecan, Rice, Catfish and Corn. Ms. Mallory Russell

of Ouachita Parish won not only her category but also took home Best of Show honors with her Sweet Potato Bread Pudding. The original recipe was taken from Paula Dean's magazine. Mallory has been in 4-H for 3 years and cooking ever since she entered her first 4-H cookery contest. She attends Calhoun Middle School in Ouachita Parish. Mallory is pleased to share her recipe with you and appreciates the support of the Louisiana Sweet Potato Association for sponsoring the Sweet Potato category.

### Featured Recipe

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Sweet Potato Bread Pudding, *Mallory Russell adapted from Paula Dean*

2 cups whole milk  
½ cup sugar  
½ firmly packed brown sugar  
1 ½ cups pureed sweet potatoes  
2 teaspoons vanilla extract  
½ teaspoon ground cinnamon  
¼ teaspoon ground nutmeg  
6 eggs  
1 loaf white bread, crust removed  
Pecan Crumble (recipe follows)  
Rum Sauce (recipe follows)

In a medium saucepan, combine milk, sugars, sweet potato puree, vanilla, cinnamon and nutmeg. Cook mixture over medium-high heat, just until mixture begins to boil; remove from heat.

In a medium bowl, whisk eggs until smooth. Using a ladle, pour ½ cup hot milk mixture in a slow, steady stream into the

eggs, whisking constantly. Add another ½ cup hot milk mixture; whisk to combine. Pour egg mixture into milk mixture; cook over medium-high heat, stirring constantly, until thick enough to coat the back of a wooden spoon.

Generously butter a 12x8-inch baking dish. Cover bottom of baking dish with one layer of bread slices. Pour about 1/4 custard mixture over bread.. Repeat with remaining bread and custard, ending with custard. Cover and refrigerate for 8 hours or overnight.

Preheat oven to 350F  
Sprinkle bread pudding with Pecan Crumble Bake for 45 minutes, or until crumble mixture is golden and custard is bubbly. Serve warm with Rum Sauce.

#### **Pecan Crumble**

1 cup all-purpose flour  
1 cup firmly packed brown sugar  
½ cup cold butter, diced  
½ cup quick-cooking oats  
1 cup toasted and chopped pecans

In a medium bowl, (or blender) combine all ingredients, and mix on low speed until mixture begins to come together. Sprinkle generously on pudding.

#### **Rum Sauce**

½ cup whipping cream  
½ cup butter  
1 cup sugar  
1/4 teaspoon nutmeg  
1 teaspoon vanilla  
1 tablespoon rum extract

In top of a double boiler combine, cream, butter and sugar and heat until butter and sugar melts and mixture come to a slight boil. Remove from fire and add nutmeg, vanilla and rum extracts. Stir to blend.

LSU AgCenter Extension personnel are available to assist you with all of your crop needs. Please call on us if we can be of assistance.

#### **Sweet Potato Specialist**

##### **Tara Smith**

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