Sweetpotatoes are a major crop in the U.S., especially southern states. Farmers harvested 116,900 acres with a production value of $478,308,000 in 2010, but they still face many production and post-harvest challenges. In order to maintain sweetpotato production, growers need to know which varieties grow best in the conditions on their farms as well as how to best manage insects, weeds, and diseases that can damage crops and raise costs. Coordinated, comprehensive research and outreach are needed to help sweetpotato producers navigate and resolve complex production challenges. After harvest, sweetpotatoes must be properly stored, packed, and marketed so that a supply of safe, nutritious produce is available for consumers.

Who cares and why?

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What has the project done so far?

Since this project started in 1939, SERA-005 has provided vital support for the sweetpotato industry by exchanging information and technology related to sweetpotato production and post-harvest concerns. Diverse participation in the project has included scientists and Extension professionals from universities and organizations around the world, representatives from government and industry groups, and sweet potato growers. With over 1,000 peer-reviewed publications in addition to Extension materials and programs, the SERA-005 group has been a valuable resource for the global research community and sweetpotato growers and consumers. The group’s main focus has been evaluating and releasing new sweetpotato varieties, many of which have been adopted worldwide. By taking into account the effects of soil type on sweetpotato shape and yield, the group has been able to make variety selection decisions that address regional needs. So far, 94 varieties have been released. Pathologists and breeders have worked together to identify the causes of many sweetpotato diseases and to develop varieties with resistance to these diseases. This work has helped launch virus-tested seed programs in many states. In addition, the group has designed successful management strategies for pests like the sweetpotato weevil and provided growers with effective registered pesticides. Scientists have also helped growers understand the importance of water availability and demonstrated proper temperature for storage root development and yield. Research on post-harvest diseases has made it possible to market sweetpotatoes year-round and could reduce use of fungicides on packing lines. The Collaborators group has also recently partnered with the industry to develop food safety programming.
What research is needed?

In order for the sweetpotato industry to adapt to production and post-harvest challenges, continued sharing of research-based information among a diverse community of scientists, Extension specialists, and industry members is necessary. Researchers need to continue to address sweetpotato insects, weeds, and diseases, especially end rot, and explore effective ways to preserve the food quality and safety of sweetpotato products for consumers. Future research also needs to address the demand for better sweetpotato varieties specifically for processing industries and new products with superior nutritional qualities.

Want to know more?

Administrative Advisors:
David Monks, research (david_monks@ncsu.edu)
Joe Zublena, extension (joe_zublena@ncsu.edu)

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Compiled and designed by Sara Delheimer