



Arkansas

Development of Southern Region IPM Organic Tree Fruit Working Group

Grant Amount: \$10,000

Project Team:

- Donn Johnson
- Curt Rom
- Jennie Popp
- Heather Friedrich
- David Miller
- Mary Savin
- Elena Garcia
- Ron Rainey
- Larry Purcell
- George Wardlow

Project Leader:

Dr. Donn Johnson

Lead Institution:

University of Arkansas

Source of Funding:

2004 Enhancement Grant

“The interest is growing, so we have to do our part.”

—Donn Johnson

University of Arkansas entomologist Donn Johnson knew the value of organic produce well before it started popping up on grocery shelves. Since he was involved in research into alternatives to pesticides, the transition to organic research was smooth and easy. So in the mid 1980s, when Gerber approached the university with a proposition to fund research into methods reducing pesticide residue on fruits, Johnson gladly assisted.

to hire a grant writer (Heather Friedrich), helping them study the potential of growing organic fruits and vegetables in the southeastern US climate.

“Growing crops organically is difficult in the southeast because of the high temperature and high humidity that promote disease and insect pests,” said Johnson. “We wanted to find if and how organic growers were overcoming those obstacles and identify priorities for research and extension to develop organic fruit production systems for the south.”

Their search led them to two major types of crops whose pests can be controlled through non-chemical means in the south—brambles and blueberries. So Johnson and his colleagues posed the next question: was it possible to adapt conventional practices to organically control pests on other fruit?

With the help of funding from a Southern Region IPM Center Grant for Special Projects, Johnson and his colleagues formed a regional working group to answer that question. Because their state extension specialists would be training the growers directly, Johnson knew it was important to involve them. In addition, they needed specialized faculty to explain the science behind the practices the growers would be using, especially where the soil was concerned.

“They already know what the fertilizer needs are for conventional farming, but they’re trying to determine how best to use compost in place of synthetic fertilizer in an organic production system,” Johnson said. “For instance, what are the nutrient amendments and how do we get these to the plants at the right time? We’ve had to adapt the present conventional soil requirements for organic production.”



Foliar sprays of Surround prevent damage by Japanese beetle and other fruit pests.

With the advent of Wal-Mart’s plunge into organics, Johnson and a team of University of Arkansas researchers, including Curt Rom, specializing in crop management and physiology; Jennie Popp, specialist in agriculture economics natural resource management; Heather Friedrich, specialist in organic production systems and grant writer; and several soil scientists and extension specialists, have taken the lead in encouraging Arkansas growers to learn more about organic produce and take advantage of the many lucrative markets increasing every year. Through a multi-state, multi-disciplinary fruit production working group, they have stirred up significant interest.

As Johnson was delving more into research on insecticide alternatives in the mid-1980s, reports on the health effects of pesticides were beginning to resound more loudly in American media. Gerber, the primary producer of food for infants and young children, began to seek partnerships to help them understand how to procure—and market—produce that was well below accepted tolerance levels for all applied pesticides. As Gerber representatives worked with University of Arkansas researchers on alternative methods of pest control in fruits, they began diversifying into processing organic produce. So the company gave the team of Johnson and Rom funding



Green June beetles on a nectarine.

Arkansas (continued)

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Because organic farming was fairly rare in the tree fruit industry in the southeastern US, Johnson's team needed to do some preliminary research to find people to include in a working group and to discern the needs that tree fruit growers would have if they converted to an organic farming system. In addition, they had to overcome some of the barriers between organic producers and the university, including the producers' lack of confidence in university to provide answers to their questions about organic production. To identify interested people, they formed focus groups including representatives from Arkansas, Georgia, Kentucky, North Carolina, South Carolina and Tennessee. These focus group included four or five fruit growers, one researcher and extension specialist, and one or two representatives of the fruit production and/or processing industry.



Baited traps such as these may help control green June beetle without the use of insecticides.

One event in Arkansas significantly increased growers' interest—a visit from a market representative from Wal-Mart looking for sources of local organic produce for viable organic markets. The problem was that no protocol existed for converting a conventional tree fruit farm to organic production in the

southeast. In addition, the US does not appear to have enough growers and production to satisfy our country's demand for organic produce.

"There are more organic vegetable growers than fruit," Johnson said. "We are stressing that growers can fairly easily transition blackberries and blueberries to organic production in the southeast. In fact, these two crops will be the subject of the first southeast US production guides concerning transitioning to an organic system. Also, the growers are hearing that Wal-Mart is buying organic products at higher prices. The interest in growing organic fruit is growing, so we have to do our part to help."

Through another grant, they have established a 2-acre research, extension and education plot on the university's farm for organic apple, blackberry and raspberry research. This plot is available to the university's students for use as an organic garden.

The team is currently coordinating a soil monitoring program to discover ways to amend the soil to produce healthy fruit plants and reduce disease and insect problems. Currently they are focusing on apple, bramble fruit and blueberries, but their hope is to be able to adapt several of these transition strategies to some of the other fruit that are harder to grow organically like peaches or grapes. They have made tremendous progress preventing foliar feeding damage by Japanese Beetles and damage by internal fruit pests of apple with inputs approved by the Organic Materials Review Institute.

"This grant was a good seed to have," said Johnson. "This is what we needed to gather evidence that identified the regional need and to set priorities that got our southern regional organic fruit working group off the ground."