Jonathan Bishop and family, Bishop's Orchards — Guilford, CT

Summary of operation:

■ *120 acres of apples, 30 acres of pears and peaches, 25-30 acres of berries, 10 acres of vegetables*

Problems addressed

Diversifying marketing strategies. Both the global economy and apple overproduction have sent apple prices plunging. Bishop's Orchards fruit competes with an apple glut that provides inexpensive fruit year-round to supermarkets.

Controlling apple maggots. Insect pests remain constant challenges for Eastern U.S. apple growers, who typically apply fungicides and pesticides to produce blemish-free fruit.

Background

In their younger years, Jonathan Bishop and his cousin, Keith, considered other careers rather than join the family farm, established in 1871. However, the two returned in the late 1970s to work alongside their fathers, Gene and Albert.

The farm has undergone constant transformation. Starting as a dairy and vegetable farm, the Bishop family planted its first fruit trees in 1909. As they expanded their orchard acreage, they sold more of the harvest to wholesale markets. The family also set up a seasonal roadside stand where customers paid for fruit on the honor system.

The farm is situated along Interstate I-95, at an exit only 15 miles from New Haven. Since the highway opened in the 1950s, Guilford's population jumped from less than 8,000 to nearly 22,000 in 2002.

With so many potential customers practically on their doorstep, the Bishops decided to establish a small retail outlet on the farm in the 1960s, and started shifting their sales efforts to market more directly to consumers — a decision they do not regret. The 1970s "health food craze" generated local demand for products from Bishop's Orchards that hasn't ceased. Now the current farm and farm market managers, Jonathan and Keith Bishop work to craft further evolution, including new, creative production and marketing techniques.

Today, the farm is a local institution, supporting several fourth, fifth and sixth generation family members — and more than 80 employees at the height of the harvest.

Focal Point of Operation: — Excelling at retail marketing

Having chosen to focus on direct sales to consumers, one of Bishop's Orchard's key missions has been to attract customers to their farm. Encouraging customers to seek their products has never been more crucial, Jonathan says, as global distribution has brought year-round fruit to every grocery store.

"You can go out to the store in January and come back with a pint of blueberries," Jonathan says. "All of us in the apple industry are acutely aware and thinking of how we will survive this economic challenge."

The family now tries to push sales from their apple harvest during the fall, when they can emphasize the "fresh and local" and seasonal quality of their fruit at their market. An enormous red apple—now a local landmark—sits atop on a large sign fronting the retail market, making the business highly visible to highway travelers. On the farm, customers have a variety of ways to keep busy through pick-your-own plots, farm tours and the farm's large retail market.

Inside the market, customers use an interactive computer kiosk to place orders, seek nutritional information and recipes, and sign up for a customer loyalty rewards program. The kiosk also links to the farm's website.

To keep up with—and stimulate—demand, the Bishops have expanded their store three times. A fourth expansion is in the works for spring 2005. Now open year-round, the space encompasses 5,600 square feet and contains an in-house bakery. The market is stocked with an ever-widening variety of Bishop's baked goods, produce and cider—and nuts, meats, dairy and other products that come from local farms and around the world

"We've tried to add the convenience of making the retail store more of a one-stop shopping place for customers," Jonathan says. "I don't think we could survive if we had to sell all of our products wholesale."

People in the area appreciate these offerings. The bulk of Bishop's Orchard's customers come from within a 50 to 60 mile radius.

Environmental Benefits.

Jonathan attends tree fruit meetings each year to learn about new research and practical applications that will allow him to limit the frequent and potent regimen of fungicides and pesticides usually needed to combat orchard pests.

In 1990, he heard Ron Prokopy, a tree fruit research scientist, speak about integrated pest management using a red sphere sticky trap, which enables farmers to target and limit pesticide applications. Apple maggot flies are attracted to the spheres, which look

like apples and are often perfumed with a chemical attractant. One to three of the reusable traps typically hang from each tree.

Jonathan undertook a 10-acre pilot study using Ladd traps—which operate using principles similar to the red spheres, but are spaced 100 feet apart—to monitor apple maggot in his orchards. The results were so promising that he invested in more than 1,800 of the red sphere traps and has since reduced pesticide use by up to 80 percent. Beneficial insect populations have eliminated his need for aphidicides and miticides, successful partly thanks to the farm's relative isolation from other orchards.

Jonathan says the effectiveness of the traps depends on which varieties of apples are planted together in a block, since some varieties are more attractive to pests than others. "We've found that using a combination of spraying the most susceptible variety and setting traps on the others works best," he says.

As new orchards are planted, Jonathan will switch his orchard ground cover to a perennial rye grass and fescue mixture, which requires less mowing, limits erosion and suppresses growth of other weed species, allowing him to forego pre-emergent type herbicides.

As he transitions more of his acreage to high-value berry crops, Jonathan uses a rotational cropping strategy to limit his fumigant use. Choosing suitable land, he plants tomatoes or another annual row crop, followed by sorghum sudangrass, which he harrows after it winter-kills. The decaying cover crop releases nematode-suppressing toxins.

Jonathan also plants berry crops between newly planted stands of peaches, noting that the berries seem to benefit when planted into previously undisturbed ground. He is able to harvest the berries for three years as the peach tree canopy grows.

Economics and Profitability

Though expenses to control pests, diseases and fungi fluctuate each year due to changing weather conditions, using integrated pest management has allowed Bishop's Orchards to decrease its chemical input costs overall.

The operation is unable to realize cost savings proportional to its decreased pesticide use because the materials and labor involved in using red sphere traps are not cheap. Using a combination of sprays and pesticide-baited sticky traps is the most effective and economical approach, Jonathan says.

The Bishops invested in a 10,000-bushel controlled atmosphere apple storage building in the late 1980s, which maintains the correct oxygen, temperature and humidity levels needed to preserve apple quality and freshness.

The retail market, where most of the farm's

produce is sold, provides a financial "cushion" that helps to support the costs involved with the production aspect of the business, Jonathan says. Excess produce is diverted to wholesale buyers.

After sales from the retail market, Bishop's Orchards derives most of its income from its pick-your-own apple plots. Selling freshly harvested apples returns the best profits, Bishop says.

Within the store, Keith pioneered the computer kiosk that saves time and money by rapidly processing customer orders and generating data for market analysis.

To further enhance their competitiveness with other supermarkets, the Bishops stock apples, produce and other products from other New England farms. Having a farm so near to a large population base offers various advantages: customers are close, and high land values provided collateral when they financed store expansions.

Community and Quality of Life Benefits

When I-95 was first built through part of the Bishops' productive orchard land, the family was dismayed. However, they invested the highway right-of-way money on nearby land, and the highway itself brought additional customers. Moreover, the farm's proximity to Connecticut's Agricultural Research Station and University of Connecticut enabled researchers to work at the farm during the sticky trap trial.

Farming so close to the general population creates a unique set of headaches requiring the business to stay on its toes, Jonathan says. For example, "people in the non-agricultural sector tend to have negative perceptions regarding migrant laborers and pesticide use," that the Bishops must address in their public relations efforts, he says. For example, the red sphere traps hanging from their trees have prompted many questions from customers, creating entrées for the Bishops to explain their efforts to limit pesticide use.

The family takes the concept of being responsible and active members within their community seriously, enjoying the benefits that having good relationships creates for their business. Jonathan is a member of the Planning and Zoning Commission, cousin Keith serves on the school board, and his father, Gene, was elected to the position of first selectman, the town's equivalent of mayor. On the farm, "the retail market has developed to a point where we sell more [in volume] of other people's products than our own," he says.

Transition Advice

When conducting on-farm research projects, Jonathan recommends enlisting the support and direct assistance of researchers. "It really helped that these enthusiastic people came out to help us through the process; their close monitoring of the project reassured us that it wasn't going to be a disaster," Jonathan says. Levels of pest pressure will remain particular to a specific farm, thus will guide how effective sticky traps will be, Jonathan says, recommending that growers begin by setting up a small trial and observe what happens with a few varieties.

The information gap left by a smaller Extension service has been filled, in part, by the growth of information available on the Internet, these days an "incredible" resource, Jonathan says, for finding out about the latest research and on-farm applications for tree fruit growers. Attending conferences and talking with other growers in person or on the phone is also useful, he says.

With marketing efforts, be inventive, and remember there are many ways to adapt a situation to create a successful niche, Jonathan advises. He tells the story of a New Hampshire friend who went from trying to sell fresh apples to replanting his orchard in new varieties and producing English hard cider. "He was ahead of the curve, and now has this unique and valuable product."

The Future

The Bishops are planting more varieties that have become popular in recent years—Fuji, Braeburn and Honey Crisp—while keeping some acreage devoted to older varieties, such as Cortland and Russets, to keep all of their customers happy.

Jonathan says he will keep up on the latest developments that involve using the trapping spheres. He hopes to adopt practices that will make using them more efficient. Jonathan also hopes to do more on-farm research in collaboration with research scientists to investigate management strategies for other problems in his orchards, such as plum curculio.

The Bishop family has a strong tradition of estate planning, which helps them transfer management of their business from one generation to the next smoothly. Though it's still a long way off, the family has already gathered to discuss what will happen with Bishop's Orchards when the fifth generation retires.

■ Amy Kremen

For more information:

Jonathan Bishop
B. W. Bishops & Sons, Inc.
1355 Boston Post Road
Guilford, CT 06437
(203) 453-2338
info@bishopsorchards.com
www.bishopsorchards.com

Editor's note: New in 2005