

Sustaining Farming on the Urban Fringe



Monthly Highlights from Rutgers New Jersey Agricultural Experiment Station

May 2008

Seeing a Local and Global Side of NJ's Farm and Food System

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If agricultural professionals want to gain insight into food system alternatives, they must experience the food system of today, and how it responds and profitably meets customer needs. The New Jersey Agribusiness Association (NJAA) is a group of agricultural professionals from industry and Extension, whose mission is “dedicated to educating and serving agricultural businesses in New Jersey.” The spring educational outing was organized by Dante Marini, Bob Moore of Helena Chemical and County Agent, Jenny Carleo.

This tour expanded attendees' knowledge of the current food system by experiencing behind the scenes tours of agribusiness operations. Thirty participants visited three vital businesses in the areas of processing, distribution and agricultural inputs.

Seabrook Bros. & Sons in Bridgeton, NJ has been a vegetable crops industry leader since 1893. The company was an early adopter of Clarence Birdseye's flash freezing technology. Freezing is critical in quality retention. It begins with quick blanching to deactivate perishable food enzymes and is followed by quick freezing. Our hosts were Jim Seabrook, Jr., President, and Andrew Carpenter, Director of Field Operations and a graduate of our New Jersey Agriculture Leadership Development Program.

This family-owned Seabrook freezing plant has achieved enviable efficiencies. The plant, which opened in 1978, packs 90 million pounds of vegetables annually; the same capacity as the much larger, older, Seabrook plant. This plant utilizes one-quarter of the water, one-quarter of the energy, and one-tenth the number of employees (500 peak versus 5,000 at peak) compared with the previous Seabrook vegetable freezing plant, which closed in the 1970s.

Vegetables unloaded from trucks arriving from fields may spend only twenty-one minutes traveling their path from entry in the plant until their quality is protected by freezing at about 15,000 packages per hour. Depending



Jeff Draper of Growmark FS (right) handles samples and describes to Jerry Verrico of KMT Brrr!, Bob Moore of Helena Chemical, and Dante Marini of Delaware how Growmark's blending of Ammonium Nitrate fertilizer (34-0-0) with Calcium makes a new pelleted 27-0-0 fertilizer product (8% calcium), which is no longer an oxidizer, eliminating explosive risks and increasing safety for transportation, use and storage.

on the season and the crop, the Seabrook plant runs two 10-hour production shifts followed by 2-hour clean-up shifts around the clock. They use a natural geothermal closed-loop system to efficiently condense and re-compress refrigerant used in the quick freezing process.

According to Jim and Andrew, the price differential between organic and conventional food products is shrinking. Large wholesale customers (like Wal-Mart and Sysco) are shifting to requiring sustainable practices assurances from suppliers such as Seabrook. This effort is being driven by, and responds to, consumers' concerns and preferences for food produced using validated sustainable and IPM practices. In many ways, this is a more efficient approach than organics since comparison yields of contract growers of peas, for example, were reportedly about 1,000 pounds per acre grown organically and 4,000-5,000 pounds per acre when produced conventionally.

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Mined Potassium (60% K) from PotashCorp of Saskatchewan, auger unloading from Canadian National railway car, recently doubled in price and is slated for another dramatic price increase the next time a railcar arrives at Growmark FS. A small mountain of salmon colored Potash in storage awaiting blending can be seen in the background.

Seabrook's customers are about 60% food retailers, 20% institutional and hospitality food suppliers, and about 20% is sold to other wholesale food packers. Seabrook is a certified organic handler and satisfies the needs of kosher consumers with rabbinic inspections. Seabrook contracts about 20,000 acres of vegetables from about 100 growers, the majority of which are concentrated in a 25-mile radius around the plant in NJ's Cumberland and Salem Counties. Due to demand, they also must contract with growers as far as NC, DE, and PA.

The desire for local food cannot currently be met and is impractical for some products which are part of global trade. In recent years, for example, healthy and popular frozen broccoli has seen a production and processing shift from California to Mexico to Ecuador to Costa Rica and even China. In fact, all of the frozen broccoli produced in the U.S. would likely not be enough to supply the consumers of a single large food retailer like Wal-Mart. Our nation needs and depends on efficient high quality food processing imports where appropriate.

The concept of limited access to local food was re-iterated by our hosts at the next stop: **KMT Brrr!** President, Michael A. Williams, Jerry Verrico, Sales Manager and Dennis Dare, Director of Marketing expressed the desire to serve local customers. Their goal is to focus on the south Jersey community. Mike described how KMT Brrr! invested in and chose their location to supply cold distribution services to local and domestic farmers and processors, but a big change in their business model has been the globalization of food. This fact was clearly seen by the ambient temperature warehouse which is lined from top-to-bottom

with juice concentrate drums originating anywhere from Chile to China, even organic. The product they are looking for is just not available in the quantities they need.

KMT Brrr! was built in three 55,000 square-foot phases on 30 acres beginning in 2001. The facility now totals 165,000 square feet in a building 725 feet long. Not only are the 11 individual temperature controlled rooms monitored around the clock, but the dock areas are also insulated and temperature managed to protect product integrity and save energy.

Like Seabrook, we were reminded of how protecting the "cold chain of custody" is integral in our farm-to-fork food system. Temperature management is the most important critical factor in the choreographed logistics of moving perishable foods. The goal is to retain high quality, with minimum post harvest quality and quantity losses. This must be coupled with high user satisfaction including where the product is grown, processed, packed, distributed and consumed.

Inputs are essential to the local food network. The last visit was at **GROWMARK FS, Inc.** Fertilizer Company. Growmark FS is a federated cooperative (owned by a federation of Midwest Cooperatives), which in turn are capitalized and owned by their grower and agribusiness investors. The new Bridgeton facility was built in 2006 for about \$3 million. It is one of the few new agriculture input supplier infrastructure investments built in NJ in the last 25 years.

As we arrived with our host Jeff Draper, Growmark FS-Manager- Eastern Region, a CN (Canadian National) railcar of Potash (60% K) arrived from a mine in Saskatchewan, Canada. This shipment would have cost about \$23,000 in early 2007, but the current load cost was \$45,000-\$50,000, with projected costs of \$60,000-\$70,000 in the near future. This equates to typical bulk bin prices for 16-8-8 at about \$500 per ton. A 12-4-9 custom blended fertilizer which is desirable for successful vegetable production in our region, runs about \$550 per ton. Source ingredients may include Sul-Po-Mag or K-Mag blended with Ammonium Nitrate.

Ammonium Nitrate 34-0-0 fertilizer is a strong oxidizing agent, and its storage, purchase, and use has been under scrutiny and restriction since the Oklahoma federal building domestic terror act and September 11th attack. Jeff explained how top manufacturers like Growmark FS have blend-coated Ammonium Nitrate with Calcium at the rate of 1,600 lbs of 34-0-0 and 400 lbs of Lime to produce a 27% granular fertilizer material which is no longer an oxidizing agent and fully safe to ship and store.