

Twin Oaks Dairy

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NODPA's Second Annual Field Day

By Lisa McCrory

The Northeast Organic Dairy Producers Alliance held its second annual field day event in Truxton, NY, hosted by Twin Oaks Dairy LLC, co-owned by Bob, Rick, and Kathie Arnold. The event, intended to be an educational, networking and organizational meeting, consisted of 40-50 producers, educators and product sales people from the northeast. The afternoon program was designed for the attendees to hear how the Arnolds manage their organic dairy operation and tour different parts of their operation with an emphasis on the calf rearing system.

History of Twin Oaks Dairy

Bob, Rick and Kathie Arnold created a partnership agreement in 1980. Prior to the partnership, part of the farm had been in the Arnold family since the 1930's. Management in the early 1980's was to graze the hillsides and harvest green chop that would be brought to their 70 cow herd. Over time they moved from green chop to haylage and began cultivating their corn land as a way of decreasing the amount of herbicides and pesticides needed.

In the mid 80's, they heard about a farm that didn't use antibiotics to treat mastitis and were inspired to try that as well. They quit dry treating their cows and quit using antibiotics to treat mastitis cases for several years. By 1990, they had a production average of 20,000 lbs per cow.

In 1991 and 1992, they made a small change to their grazing routine; the high production cows stayed in the barn and were fed a TMR (total mixed ration) while the rest of the herd was out on pasture. What they found was that though production increased, their bottom line did not improve. The increased income they gained from added milk production was eaten by the increased feed costs. In 1993, they decided to intensify their grazing system, moving all the milking cows to a fresh paddock every 12 hours and adding their best land to the system. They had some challenges when they did this; their nutritionist had them topdressing a 34% protein grain to the high cows. Realizing that this was not going to work, they contacted Sonny Golden whom they had seen advertise in Stockman Grassfarmer magazine as a nutritionist specializing in pasture based rations.

Within a couple years, their net farm profit had greatly improved; the whole herd was intensively grazing and their herd average only dropped 500 lbs from 22,000 in 1992 when high cows were kept in the barn to 21,500 when all were intensively grazed. In 1995, some near-by farm land became available and they decided to purchase the land and increase their herd size to 100 cows, since at this time there was not a market for organic milk. The organic milk market started to develop in New York in 1997. They started transitioning and were shipping organic milk in 1998.

Management System Today

The Arnolds manage their farm based upon the following Tenets:

Endeavor to work with nature

Be good stewards of the land and other resources

Provide a bovine friendly environment

Farm as both a business and a lifestyle choice

Strive to keep mechanical and management systems simple and natural systems complex

Be always attentive to timeliness and details so that small things don't become big problems

With these tenets in mind, here is a brief description of how they attend to certain details on their farm; from pasture, to nutrition, housing, preventative health and overall care of the different groups of livestock (milkers, heifers, dry cows, and calves)

The cows are usually out on pasture (on their well-drained land) by mid April and graze typically until early November. The home farm is all in pasture and hay and more paddocks are added

as needed throughout the grazing season. The heifers and dry cows receive 100% of their feed from pasture during the grazing season and are offered a free choice mineral mix called *Maxi-Graze* from Fertrell. It is designed for pasture and has added Selenium in the mix.

In the winter time, the pre-breeding, bred heifers, and dry cows have free access to free stall barns (converted from old stall barns) and are fed baleage outside or self-feeding haylage out of a bunk. Younger heifers are kept on bedded packs with those six months and older all having outdoor access. They are fed some form of haycrop—usually hay—and grain.

The calves born during the grazing season are raised outside on pasture from a couple days old—as soon as they can drink well from a mob feeder. They are kept in groups of four or five and are ‘mob fed’ whole milk until they are 8 weeks old. Mob feeding on this farm consists of nursing off a large elevated container with 10 nipples around the base (and no hoses). The calves are fed 2 gallons of milk a day by the time they are a week old. Grain is offered to them free choice starting at a three or so weeks old but they generally don’t eat much until close to weaning time. Mobile shade units are provided in the paddocks. In winter, calves are kept on bedded packs, either in a pen where they are mob fed or in an area where they are individually confined.

Dairy cows are housed in a tie stall barn with tunnel ventilation and 64 comfort stalls with mattresses. Additional animals are kept in a 34 stall free stall barn adjacent to the barnyard and these cows are switched into the tie stall barn for milking. During the real hot days of summer, the cows are in the barn by early afternoon and back on pasture after the pm milking.

Nutrition

The Arnolds don’t believe in ‘heifer hay’. They make a point of feeding high quality feed to all of their animals. They feed a total mixed ration to the lactating cows to compliment their pasture system, consisting of haylage, wheat midds, barley, and corn meal during pasture season and high moisture corn in the winter. Soy rarely needs to be added unless the haylage is especially low protein. Minerals, salt, vitamin E, and kelp are added to the TMR. They also make sure that their animals always have access to good clean water. Milk production / cow / day usually averages between 64 and 68 lbs for the year round herd.

In the pastures, they have found that the cows don’t like Reed Canary grass, Tall Fescue, or Orchard grass. What they prefer to graze is Rye grass, clovers and Timothy, so any new pasture seedings are based on what they have found their cows will eat.

In determining paddock size, the milking cows are given 1.5 to 2 acres for 100 cows for a 12 hour grazing period. Their goal is to give the cows as much good feed as possible to maximize their intake and milk production. Depending on the paddock and the time of year, they may follow the cows with the dry cows and heifers, or clip or bale the extra feed left behind (to be used for feed or bedding, depending upon the quality).

The Arnolds use a mineral mix put together by their nutritionist, Sonny Golden and also use ‘Maxi-Graze’ mineral / salt mix sold by Fertrell (designed for pasture, high in Selenium).

Preventative Health Practices

Preventative health practices consist of: having herd health and reproduction checks once a month with their vet, a vaccination program, and boosting the herds immune system through the use of kelp, probiotics, vitamin E, selenium, and high quality feed. They also rely on the expertise of a nutritionist who balances the grain and mineral ration based upon the harvested forages and pasture that is grown on the farm. The herd was tested for Johnnes and Leukosis in the 1980’s and found to be Johnnes test negative and only had a couple Leukosis positive cows who were subsequently culled. Having a closed herd prevents a lot of potential problems. When one group of heifers was purchased, they were tested for Johnnes, & Leukosis before the new animals were brought into the existing herd.

Prior to being certified, the Arnolds had a somatic cell count of 400,000, but, through a number of management practices, have lowered the SCC to 200,000. Individual cow SCCs are run each month by DHI and every six months all lactating cows are cultured for mastitis organisms. They

also milk cows cultured positive for Staph Aureus last, cull the Staph Aureus cows a little quicker than other non-staph cows, and vaccinate all their heifers 6 months of age to freshening with a Staph Aureus vaccine.

Other than mastitis, the health of the herd has been excellent since beginning intensive grazing in 1993, when the Arnold's experienced a very noticeable drop in health problems. The udder health of the herd has been improving gradually over the last four years as a result of the Arnolds' constant attention to detail, care, and mastitis management practices. Four years ago, the cull rate on their farm was 35%. Today, it is only 28%. The biggest reasons for the decline are that fewer animals are being culled for mastitis and for non-breeding now that a bull is run with the cows for a cycle or two once or twice a year. As a result, their reduced cull rate has created

result, their reduced cull rate has created a surplus of organic dairy stock. They recently sold 8 cows for organic dairy and hope to build an extra income in dairy livestock sales.

Organic Beef

The Arnolds have been managing their livestock according to the beef standards for over 2 years now. Prior to that, the youngstock were fed non-organic grain for their first year of life, which was allowed by their New York certifier at that time. Their hope is to be able to sell their organic cull cows and other beef stock to a local organic meat buyer named Organic Lands. This company will pay a premium over the conventional beef price for cull cows and will pay even more for animals raised specifically for meat.

Calf Rearing

During the farm tour, a lot of time was spent looking at their calf rearing system. Some of the neat features they have at their farm are mob feeders which can feed up to 10 calves at a time, the 'cattle guard' entry way to the paddocks and their mobile shade structures.

Their paddock system for the calves 8 weeks and under consists of 4 permanent paddocks (about 1/3 acre in size). There were 2 groups of calves moving through the 4 paddocks, occupying a paddock for 2 or 3 weeks before moving to the next one. To feed the calves, the mob feeder is hung on a frame attached to a fence post. The fencing along this end of the paddock system consists of posts on 8 foot spacing with 16 foot long sections of cattle panel chained to the posts. This fencing is sturdy, yet is non-electrified so is safe for the calf feeder to pour milk over or to slip into the pen for calf / pasture care, and allows access anywhere along this end to bring calves in or bring the lawnmower in to clip the paddocks. The outside of the rest of the whole system for these calves (and the next paddock for weaned calves) is 6 strand high tensile fencing. The interior partitions are made of temporary metal posts with four strands of aluminum wire. The Arnold's found they needed to add one strand of electrified tape to increase the visibility of the fence for the calves. Each of these paddocks has a small water tank made from the end of a 30 gallon plastic barrel. Free choice feed is available to the calves from a 55 gallon plastic barrel with an oval hole cut out.

Each group of calves has a mobile shade / rain shelter. One structure is a 7 X 7 foot shelter with a base made of 2 inch pipe with green house like hoops attached, providing structure for a plastic canvas cover. This shelter is easily moved around the paddock to keep any one spot from getting worked up and to let the sanitizing action of sunshine in. No bedding is used. Another structure is an 8 X 20 foot pen on wheels with a white canvas roof. Two of these mobile pens have been the Arnold's calf pasture rearing system for the past several years. The calves looked great and were very approachable.

Beyond the four paddocks for baby calves is a paddock for the weaned calves. To allow access to this paddock (through one of the baby calf paddocks) without having to stop and open gates, a five foot wide, 7 foot long, cattle guard gate was made so a four wheeler could be driven over it. This shallow "bridge" is designed to discourage the livestock from crossing; cows have very poor depth perception and do not like to walk over the slatted surface (2 X 4s spaced 4 inches apart on a convex frame). No calf has yet crossed it. The beauty of this design is that one can enter and exit the

paddocks without having to manipulate a gate handle or get shocked, and it saves a lot of time when it comes to daily care.

The weaned calves are fed grain once a day in a portable feed trough made of 3 lengthwise halves of plastic 55 gallon barrels bolted together to form a train. This is pulled to a new spot each day in the paddock to disperse the impact from the animals around. This group also has one of the mobile pasture pens described above for shade and shelter. There are gates from each of the baby calf paddocks into the weaned calf paddock so when a group of calves is weaned, the gate is opened and they are easily moved to the next step of the system. Given the current drought conditions, the weaned calves are being offered hay now to supplement the pasture.

Spending the afternoon at the Arnolds' dairy farm was a wonderful way to visit and share management techniques. A special thanks to Kathie, Rick, Bob, and Kathie & Rick's daughter Carly for all the time and effort they contributed to making this meeting a success.