SARE PDP PROJECT “Grass-Fed All Year Round” 2008-2014

Important concerns regarding food safety, farm preservation and farm viability has stimulated renewed interest in the production of local food. Begun in 2008 this SARE Professional Development Project is a partnership among UCONN, UMASS, and URI designed to increase engagement of agricultural service personnel in the three states in the production, processing and marketing of natural locally grown meats and other products for consumers.

From 2008 to 2011 the project focused on increasing production of local meat in the region. The tri-state project worked to improve livestock producers’ and agricultural service providers’ knowledge and skills in the areas of forages and grazing, studied the relationship between local meat production and animal processing, and created a strategic plan to increase the production and availability of local meats.

After study and investigation of the farmers' expressed problem of a slaughter and processing infrastructure shortage, the project concluded that at least part of the problem is seasonal capacity rather than overall capacity. One recommendation was to address processing capacity shortages by promoting year round breeding of beef cattle that would result in year round slaughter and processing.

Year-round production of grass-fed beef can alleviate the fourth quarter pressure on USDA slaughter and processing facilities, provide producers and processors with a more consistent income flow, enable consumers to access fresh meat year-round, and potentially increase the total amount of meat grown in the region. The goal of this SARE PDP plan is to create a sustainable meat production system in New England.

UMASS DAIRY BEEF DEMONSTRATION

The UMASS Dairy Beef Demonstration was a year long project to demonstrate rotational grazing and overwintering of dairy beef cattle on either hay or baleage.

The project postulated that increased year-round production of grass-fed meat in Southern New England can help alleviate, if not eliminate, the problems of limited USDA infrastructure for slaughter and processing. While many farmers enjoy the seasonality of their current operations, others would like the opportunity to even out their income flow by slaughtering year-round. The project wanted to evaluate whether there would be a difference in the cattle raised on hay versus baleage and what quality of meat this feeding process would produce.
Timeline:

April 2011 – UMASS purchased six dairy Holstein young steers that were born in November 2010. From April until December 2011 these steers were part of the UMASS rotational grazing protocol during the growing season solely on pasture. No additional forage or concentrates were used.

December 2011 – Holstein steers Animals were taken off pasture and divided into two groups for finishing: three animals were to be finished with dry hay; and three animals were to be fed on round cut baleage.

April 2012 – Holstein steers were slaughtered at Adams Farm in Athol, Massachusetts.

TWO WORKSHOPS EVALUATED THE DEMONSTRATION:

Two workshops were presented to help evaluate the outcomes of the project.

Workshop 1: March 29, 2012 -- Levi Geyer, Supervisory Market Reporter, USDA-PA Dept. of Ag Market News, conducted a workshop at the UMASS beef farm that evaluated the six steers after a winter feeding with half on hay and half on baleage.

The learning points for the March 29th event:

- Selecting Holstein Calves/Steers to fit your finishing program. (Summarized in Levi Geyer Presentation on Selection of Dairy Breeds for Meat Production)
- Feeding and its effects on Average Daily Gain and the number of days to finish.
- Slaughter Evaluation: identifying indicators of finish; when to market your animal.
- Understanding market values.

Geyer concluded “the frame size of the animal is critical if a feeder is attempting to finish Holstein cattle on this particular program. Select the most moderate framed animals as possible, and ensure the animal is healthy and structurally sound……..Overall, the grass based production and finishing system formulated by UMASS Research Farm offers producers a low cost, low maintenance means to capture value from a by-product of dairy production (Holstein Calves) and lower valued, less marketable 1st cutting grass in the form of baleage. Most of the workload occurs in starting the calves from birth to weaning, but once the rumen is developed to sustain a forage based diet, labor is reduced by nearly 90%.”

Workshop 2: April 12, 2012 -- A workshop on Meat Cutting and Fabrication was conducted by Noreen Heath, Victor Paniagua, and Ed Maltby at Adams Farm, USDA slaughter processing facility in Athol, Massachusetts where the same animals were slaughtered. The object was to understand the following concepts:

- Carcass inspection for merits and faults
• Carcass quality evaluation and what buyers pay for
• Process of carcass breakdown into selected cuts

The goal was to evaluate these specific steers that had been raised on baleage and on dry hay. See photos of this workshop at https://picasaweb.google.com/mcallisterjc/MeatWorkshop4_12_12?authuser=0&authkey=Gv1sRgCLqei7y4kZDv1g&feat=directlink

WHAT WE LEARNED FROM THE PROJECT

• Selection of animals makes a difference. The animals were selected at random. Our experience with the project has shown that in the future choosing animals based on frame size and/or muscling would be more effective.
• The length of time that the animals are fed before slaughter is important.
• There is the potential for meat from these animals to be more desirable when slaughtered.

The carcass quality evaluation after slaughter did not demonstrate significant differences between the two feeding groups. One possible reason for this is that internal carcass traits are later in developing. These animals were 16-17 months old. We postulate that an additional 60 to 75 days on baleage could produce difference carcass traits. This timing would remain within a workable 24 month period for retaining bone and products but could still produce better quality meat. Thus future demonstrations plan to extend the time that the animals are fed before slaughter. Animals started on baleage in November should continue through June before slaughter.

Live differences among the animals fed on hay versus baleage

• Rate of gain – there was 25% greater actual weight gain per day for animals fed baleage versus those fed only dry hay.
• Greater degree if fleshing in brisket, flanks, hips in baleage fed animals.
• Hay fed animals had more pointed briskets.

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<th></th>
<th>Weight 12/13/11</th>
<th>Weight 1/28/12</th>
<th>Weight 3/28/12</th>
<th>Average gain per day</th>
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<tr>
<td>Group A</td>
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<tr>
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<tr>
<td>Cut baleage</td>
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<td>1073</td>
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<tr>
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WHAT WILL HAPPEN NEXT ON THIS PROJECT

The Tri-State SARE project plans to undertake a new demonstration in 2013 to replicate the study with 6-8 beef breed steers. Selection will focus on smaller framed animals and the time period for feeding on baleage after leaving pasture will be extended 60 to 75 days.

UMASS Principals on this Project

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SARE Professional Development Program “Grass-Fed All Year Long” Project Leadership

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