



Organic Cropping System Trial

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Reducing off farm grain inputs on northeast organic dairy farms 10/05-10/09



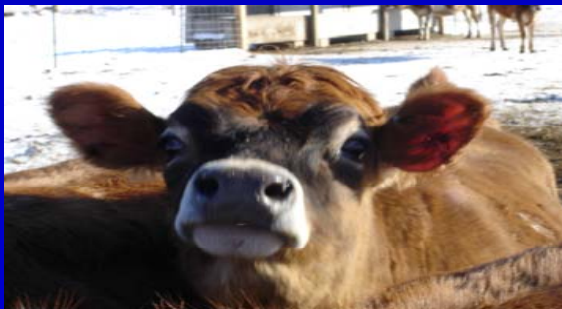
CSREES/USDA Award No.
2005-51106-02390

Integrated Organic Program

*Long term goal: Reduce the reliance on New England
dairies on imported grains*

Project partners

- University of Maine
- University of New Hampshire
- USDA/ARS New England Plant Soil and Water Lab
- Maine Organic Milk Producers (MOMP)



Players...



- Tim Griffin, John Halloran from ARS
- Stokes, Marcinkowski from AVS
- Jemison, Kersbergen, Anderson from UMCE
- Schwab and Erickson from UNH
- Farmers from MOMP
- Gallandt from PSE
- Farm crews
- Tom Malloy technician
- Rick Kersbergen PD (by default...)

Objectives

- 1) Evaluate milk yield and forage quality of four contrasting cropping systems and to identify the level of grain importation needed for each system
 - feeding trials
 - smaller field plots-- randomized complete block trials
 - Ruminant Feed Analysis Consortium
www.ruminantfeeds.org

		Year 1			Year 2			Year 3			Year 4		
Cropping System	Feed trial	Spr.	Sum.	Fall	Spr.	Sum.	Fall	Spr.	Sum.	Fall	Spr.	Sum.	Fall
Corn silage & homegrown grain	Diet 1	Till perennial sod	Corn silage	Triticale for early chop		Corn grain		Barley grain, undersown with ryegrass/alfalfa		Ryegrass/alfalfa			
Corn silage without homegrown grain	Diet 2	Till perennial sod	Corn silage	Triticale for early chop		Corn silage	Triticale for early chop		BMRSS	Fallow	Ryegrass/alfalfa		
No corn & homegrown grain	Diet 3	Till perennial sod	BMRSS	Triticale grain			Fallow	Barley grain, undersown with ryegrass/alfalfa		Ryegrass/alfalfa			
No corn without homegrown grain	Diet 4	Till perennial sod	BMRSS	Triticale for early chop		BMRSS	Triticale for soft dough silage harvest			Ryegrass/alfalfa			
		Till perennial sod	Ryegrass/alfalfa										
		Leave perennial sod	Existing sod										



Objective 2

- Identify systems that reduce the importation of grain and prevent the accumulation of nutrient excesses to enhance the sustainability of organic dairies

- replicated trails at Smith farm in Orono
- agronomic components to be managed by Tim Griffin (ARS)
- Fits into ARS/NEPSWL organic nutrient initiatives



MASTRE SAMPLE INFORMATION FORM

Name: _____
Mailing address: _____
City: _____ State: _____ ZIP: _____
Sample name: _____ Date Sample: _____

Analysis includes: percent moisture, total nitrogen, ammonia nitrogen, total phosphorus and total protein. Include a check possible to "Analytical 80" to cover the 82 analysis for the each sample.
Results should be mailed back to us in two weeks time.

Check these items which best describe your situation:

KIND OF MANURE:	MATERIAL WILL BE HANDLED AS:
<input type="checkbox"/> Dairy	<input type="checkbox"/> Solid (counts reported per ton)
<input type="checkbox"/> Swine	<input type="checkbox"/> Poultry
<input type="checkbox"/> Horse	<input type="checkbox"/> Liquid (reported per 100 gal.)
<input type="checkbox"/> Other (fill): _____	

Sampling Instructions

- 1) Timing is best to sample your manure at least one month before spreading. This allows time for lab removal and the development of a manure management program for your fields based on the results.
- 2) A PVC tube sampler is a handy device for sampling both semi-solid and liquid samples. Check with your local Extension or NRCS office. They may have one that you can borrow. If not, use a standard or tractor.
- 3) Scrape any frozen or dried crust from the outside of the storage or pile. Agitate and thoroughly mix liquid manure before sampling.
- 4) The sample should be representative of the entire storage. Taking 3 to 4 subsamples uniformly distributed around the entire storage should be sufficient. Sample the entire depth profile of the storage if possible.
- 5) Solid/semi-solid samples: take 3 to 4 subsamples with a shovel or insert pipe only of the tube sampler. Be sure to include both manure and bedding in the sample. Place all subsamples in a clean bucket.
- 6) Liquid samples: take 3 to 4 subsamples with the sampling tube by inserting it vertically into the storage. Insert it with the holes covered, turn the meter tube to line up the slots and take the sample, turn it back to cover the slots and withdraw the tube. Empty the tube with the plug in the bottom into a clean bucket. Use a small bucket to sample liquid if results are available.
- 7) Thoroughly mix all subsamples in the bucket and fill a quart or pint measure. Center at least one each subsample in the jar seal with an airtight screw-on lid. The headspace is critical to allow for expansion when the sample is frozen.
- 8) Keep the samples cool until you can make arrangements for delivery to the lab. If you can't deliver the samples to the lab on the same day, it is best to freeze it in several increments. It is possible to ship samples by UPS or Priority Mail if frozen and well insulated with newspaper. Ship early in the week. It may be possible to drop your samples off at your local Extension or NRCS office for delivery to the lab. Check with them ahead of time to make arrangements.

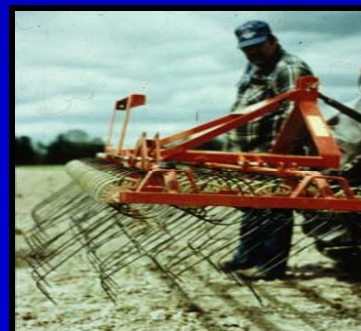
Please mail form and samples to: Analytical Lab
8722 Brecken Hill
Orono ME 04469-5722



Objective 3



- Quantify the efficacy of direct weed control tactics in the cropping systems, and determine the effect of weeds on total yield, quality and net return
 - Weed ecologist Eric Gallandt
 - weedy and "weed free" subplots



Objective 4

- Quantify the net return and exposure to risk and identify the economies of scale for each system
 - John Halloran ARS/NEPSWL
 - yield risk and price risk
 - ranking of feed strategies based on a producers level of risk aversion



Objective 5

- Host conferences, field days and on-farm trials that will be followed up with personal interviews with organic farmers to assess impact
 - John J. will work with MOMP on farm trials
 - OLREC Organic Livestock Research and Education Consortium



Other research..



- 2004 Profitability and Transitional Analysis of Northeast Organic Dairy Farms- USDA/CSREES Integrated Organic Program (UVM and UM)
www.umaine.edu/grazingguide
- NESARE pre-proposal PM06-070
Expanding Grain Production and Use on Organic Dairy Farms in Maine and Vermont (*under review*)

UNH's Regional Organic Dairy Farm

- Organic Dairy Research and Teaching
- "Hands-on Student involvement"
- Typical New England Size
- First Land Grant Organic dairy
- Education, not lobbying



UNIVERSITY of NEW HAMPSHIRE





Organic Dairy Goals

- Research and education
- Transition herd to Organic
- Pasture-based herd
- Collaborative Research
- New student opportunities
- Options for stakeholders
- Factual data
- New regional AES project

