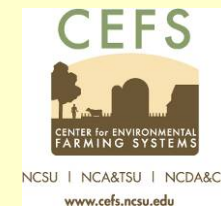


Pasture-based dairy production systems in the United States



**Steve Washburn, North Carolina State University
Department of Animal Science**



Objective:

- The intent of this presentation is to discuss concepts, variable approaches, challenges, and opportunities associated with pasture-based and organic dairy systems in the US.

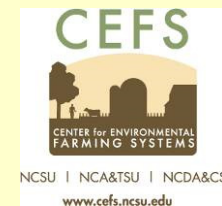


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Acknowledgement



Our program efforts related to pasture-based dairy farming have been supported by professional development grants and research and education grants from the USDA Southern Region SARE Program

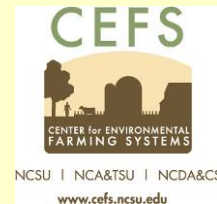


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Divergent Systems



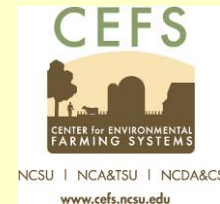
- **Mostly Holsteins in Confinement**
- **Total Mixed Rations**
- **High Production per cow**
- **Selected primarily for fluid milk production**
- **Some emphasis on composition in some markets**
- **Limited selection on type traits.**
- **Cow fertility not included in selection programs until 2003.**



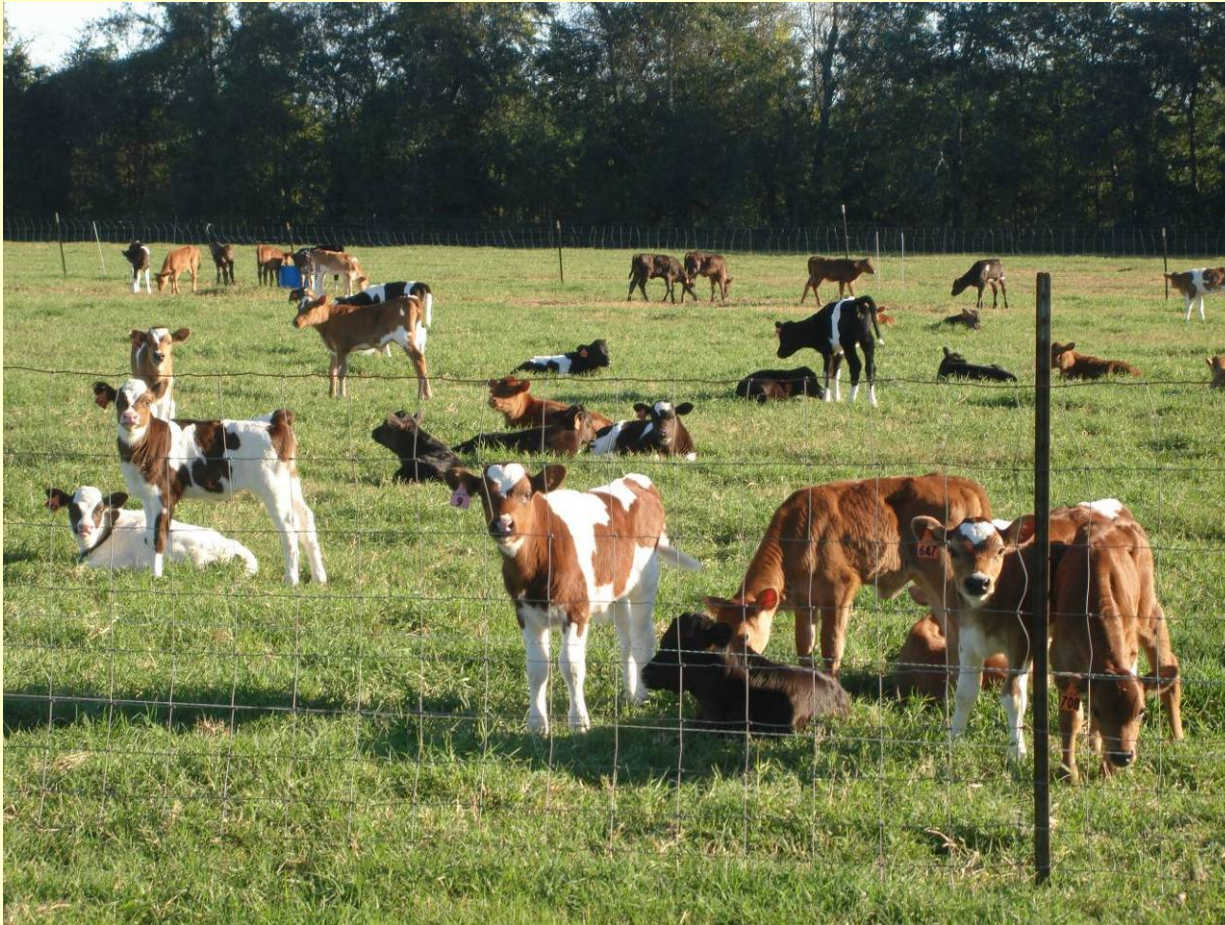
Divergent Systems



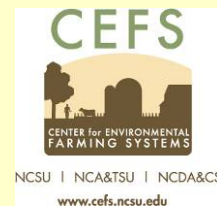
- **Pasture-based Herds:**
- **Pasture plus limited supplements**
- **Emphasis on return per unit of land rather than per cow**
- **Significant presence of Jersey and crosses of Jersey with Holstein as well as other breed combinations**
- **Moderate-sized cows**
- **Emphasis on fertility in seasonal breeding**



Seasonal calving can be either one or two seasons

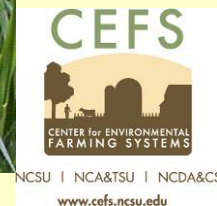
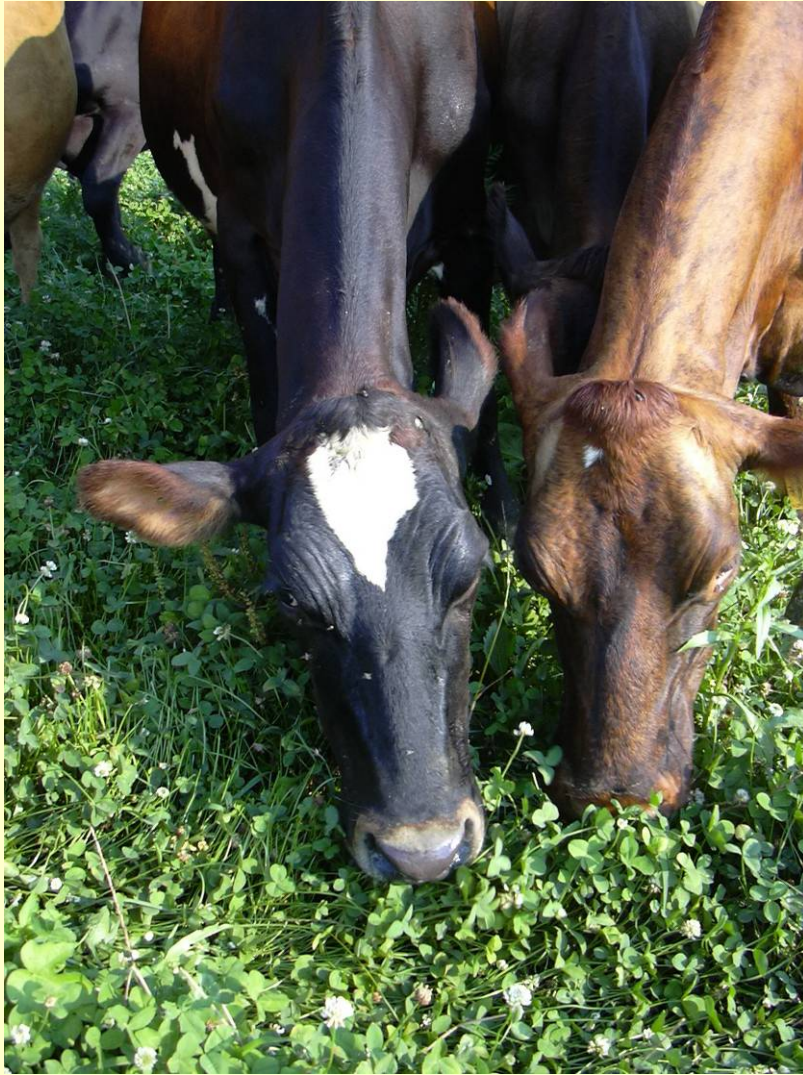


Seasonal dairy graziers plan to have 80 to 90 % cows bred to calve in 8 to 12 weeks by using a combination of AI and natural service



You might be a pasture-based dairy farmer if:

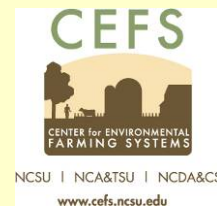
Pasture is primary forage with cows and heifers doing most of the harvest.



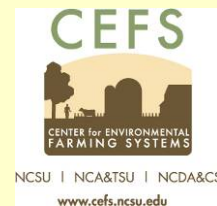
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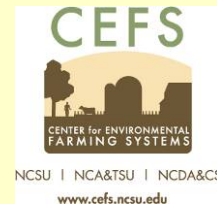
*Cows and heifers grazing mixed swards of cool season forages
in Maryland*



Mixed sward organic pasture in VA with alfalfa, two types of clover, chicory, alfalfa and at least two grass species



Crossbred cows grazing alfalfa in Missouri



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Alfalfa/prairie grass mixtures managed organically and conventionally in NC



Bathyplectes anurus
(parasitoids of alfalfa weevil)



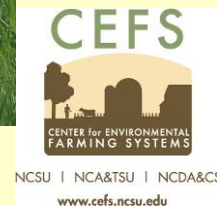
Eileen Balz – M.S. thesis project - 2011



High-producing Holsteins grazing cool season annual pasture (oats/ryegrass) as a supplement to a TMR



McCormick, et al., 2011-LSU; Vibart, 2006- NCSU



Crossbreeding is very common in pasture-based dairy production systems.



Missouri

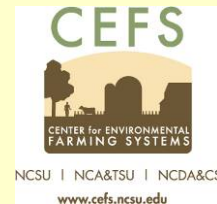


North Carolina



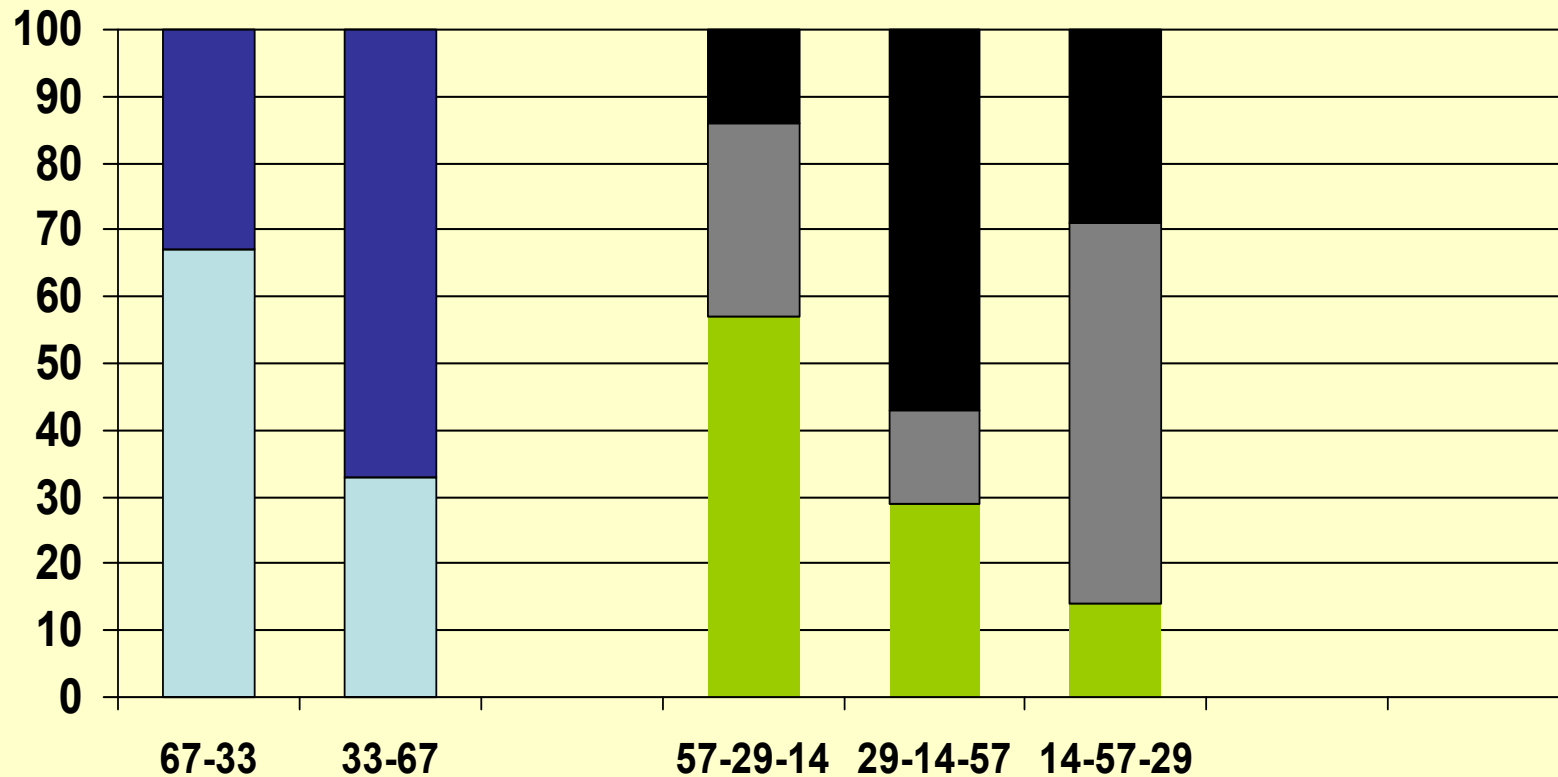
Florida

Jersey-Holstein crosses most common but many different breeds are used-
More and more data available in US



Breed compositions at equilibrium for 2-breed and 3-breed crosses

Percent heterosis is 67% or 86%, respectively of the first F1 cross



For many seasonal pasture-based dairy farmers ...
Calves are group fed and started on pasture at an early age.



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You might be a seasonal pasture-based dairy farmer if:

You think that cows should be milked in no more than 2.5 hours and labor efficiency is important.

PA organic dairy



“Swing 40” for 500-cow herd with 1 manager and 2 employees - Missouri.

LABOUR EFFICIENCY

OBJECTIVES

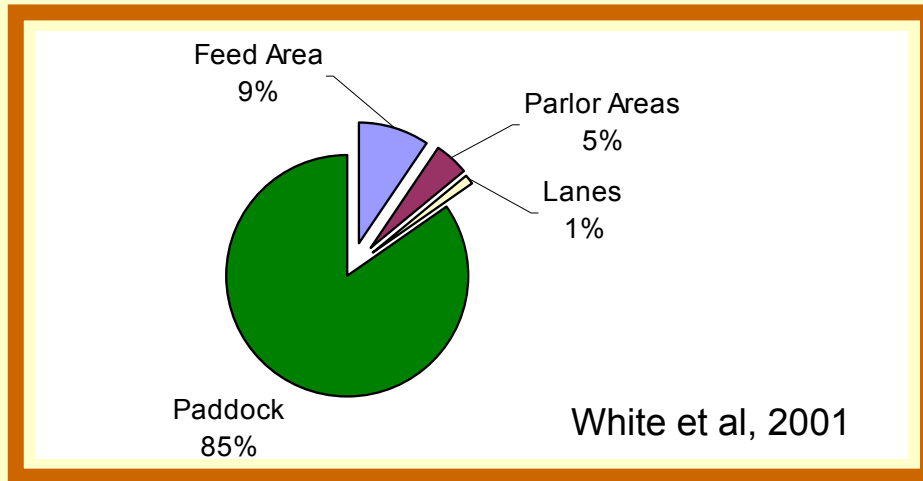
- 2 Full time + 1 Relief
- Contractors/mach.
- Milking
- Farm system
- Calving pattern
- Calf rearing
- Choice of breed
- Infrastructure

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In some pasture-based systems, the cows take care of about 85% of the manure spreading.



Active dung beetles and other organisms

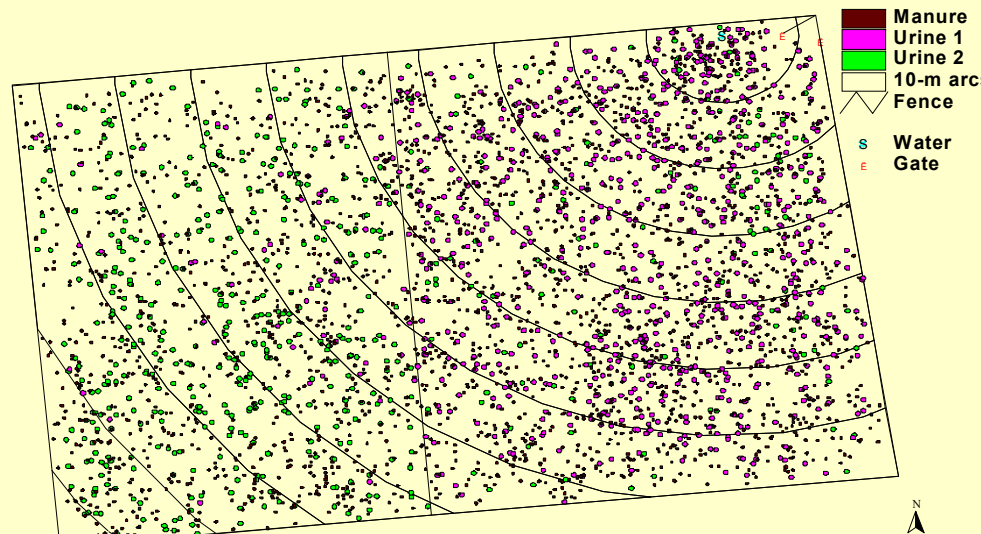
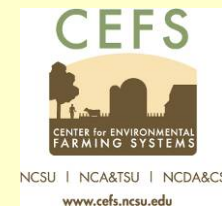


FIGURE 7. Manure and urine distribution, July, August, September, December 1997; February and April 1998.

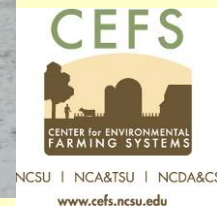
10 0 10 20 Meters



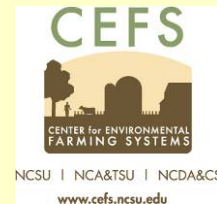
Some producers prefer “tree stalls” to “freestalls” for cow comfort and do not have the veterinarian on speed dial.



No hoof trimming or displaced abomasums in over 10 years
Retained placenta, milk fever, grass tetany, and ketosis possible but low.



Many pasture-based dairy farmers are routinely in touch with other dairy graziers: Discussion groups, Facebook, Pasture to Profit Network



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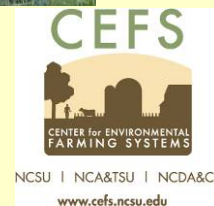
Many successful dairy graziers talk more about lifestyle, return on investment, and net farm profit than they do about milk production and milk prices.

BUSINESS PERSPECTIVES

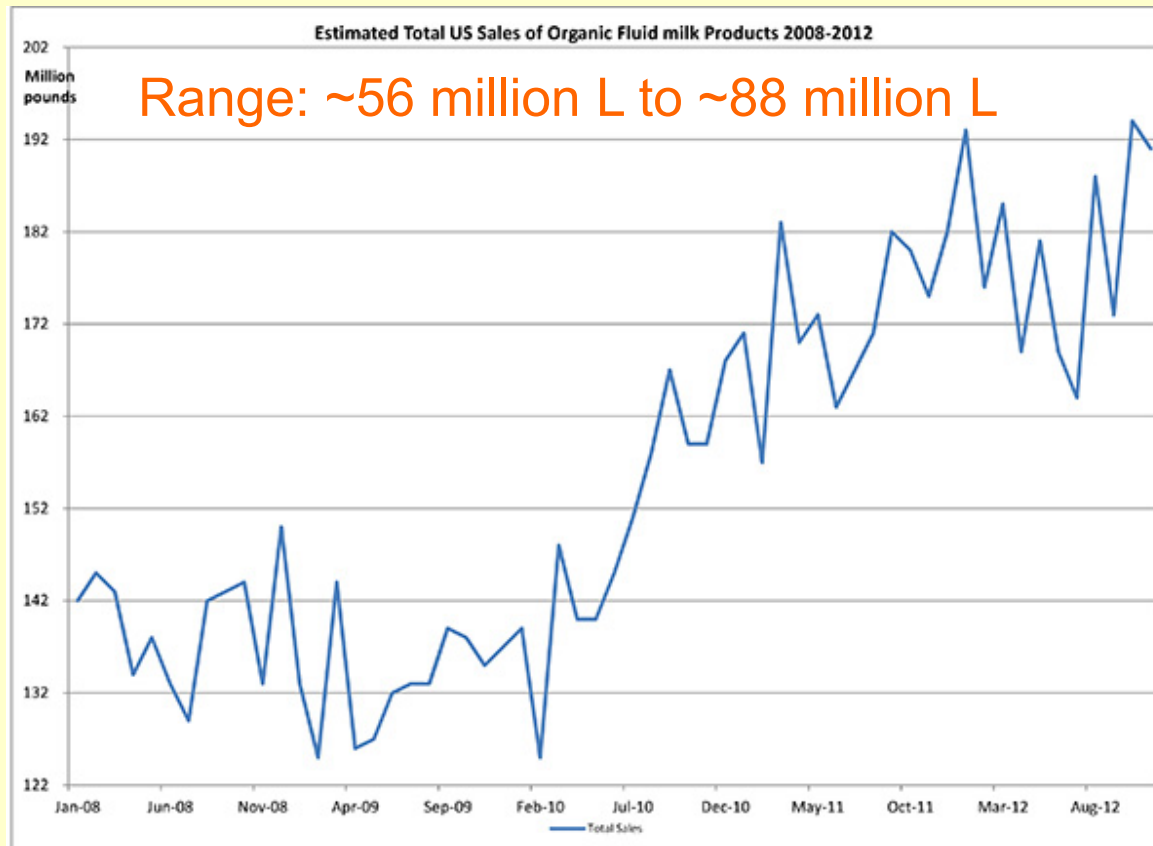
- * Cheap to set up
- * High profit margin
- * Low re-investment
- * Scale
- * High free cash surplus
- * Targets: 15% +
Net worth x 2 every 4/5 yrs.

CONCLUSION

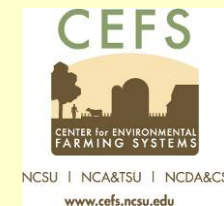
Success {
Set objectives & targets
Clear strategy
High quality management
Finance



Organic dairy sales continue to expand



USDA AMS reported that total organic milk products sales for May 2014 were 211 million pounds (~96 million L), up 8.1% from May last year and up 12.4% year to date compared with 2013.

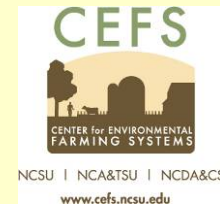


Horizon Organic (started in 1991), formerly part of Dean Foods has the largest share of the US organic dairy market.

Horizon owns and operates a few large organic farms and also contract for milk from many privately owned herds.



Docosahexaenoic acid (DHA) is a 22-carbon, omega-3 fatty acid with 6 double bonds. Horizon uses DHA from plant sources such as seaweed but it can be found in cold water fatty fish, such as salmon or in fish oil supplements.



Grass-Fed Milk Is Taking Off With Health-Conscious Shoppers

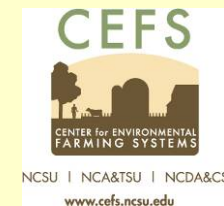
by Sarah Nassauer, Wall Street Journal, July 29, 2014



According to George Siemon of Organic Valley, whole milk from cows that don't eat grain is now the company's best-selling item at Whole Foods stores nationally.

At almost \$6 a half-gallon (1.89 L) at Whole Foods and other stores, customers consider grass-fed milk from cows fed mostly grass and not corn or soy as healthier than organic.

Organic Valley started in 1988 and celebrated 25 years last year.

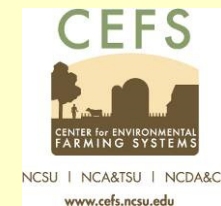


Pasture-based yogurts with national distribution



**Dreaming Cow Creamery,
Pavo, Georgia**

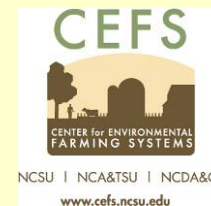
**Maple Hill Creamery
Stuyvesant, New York**





On April 29, 2014, Natural Grocers by Vitamin Cottage announced that its nearly 90 stores will no longer sell dairy products that come from confinement dairies and will sell only products from pasture-based dairies.

Examples include: Strauss Family Farms in California, Maple Hill Creamery in New York, Dreaming Cow in Georgia, Windsor Dairy in Colorado, and farmer members of Organic Valley.

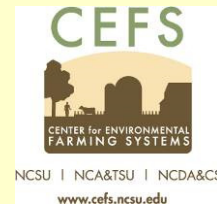


SNOWVILLE™ CREAMERY



Pomeroy, OH

Snowville Creamery milk comes from several herds of grass-fed cows in OH and WV and is pasteurized at the lowest possible temperature. Multi state distribution through Whole Foods stores.





Meadow Creek Dairy, VA



Yellow Branch Cheese, NC



Kurtz and Sons Dairy, FL



Holton Hollow Farm, NC



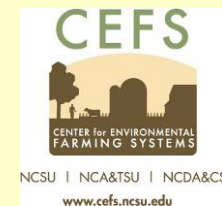
Guernsey Girl Creamery, NC



GA



Calico Farmstead Cheese, NC



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Sustainable Farms

Summary:

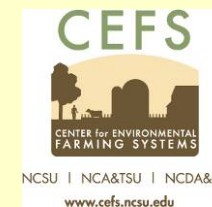
Pasture-based herds in the US are quite variable in size and philosophical approaches from no-grain organic to use of pasture as a seasonal supplemental feed.

With an exception of a tough economic year in 2009, organic dairy and other pasture-based dairy products have had steady growth.

The “Hometown Creamery Revival” and interest in local foods has resulted in many new farmstead and artisan cheesemakers as well as more on-farm processing of various products. Not all are successful but many have very high quality products and have grown to include regional and national sales.

We likely have not yet reached the summit in the demand for pasture-based and organic products.

Economic evaluations within various systems are needed.





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