

# Pros and Cons of Pasture & Confinement Systems

*And when might one (or the other) be a better fit for you?*

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## Background

- Formal Schooling
- Organic Dairy
- Environmental Management
- University Extension
- Farmer PD



## What's the best system?

The system that fits your:

- Goals
- Resources
- Preferences
- Structure
- Markets
- Pocketbook



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No matter which system you use (or if you use a combination)—  
**MANAGEMENT** is the most important part!

## Pasture Pros

*What are some positive aspects of working with managed pasture systems?*



## Pasture Pros

- Flexible
- Resilient
- Cheap
- Ecosystems
- Labor





Pasture Cons

*What are some negative aspects of working with managed pasture systems?*

Pasture Cons

- Infrastructure
- Professional Development (management understanding)
- New England!
- Labor

Confinement Pros

*What are some positive aspects of working with confinement systems?*

Confinement Pros

- Predictable
- Protective
- Control changes (season, diet)
- Handling
- Animal health

Confinement Cons

*What are some negative aspects of working with confinement systems?*

### Confinement Cons

- Restricting
- Expensive
- Animal health



### Mechanization & Biology

- Pasture
- Confinement
- Scale
- Overhead
- Profitability



### Environmental Impacts--Confinement

- Nutrient concentration (water quality)
- Fuel (energy)
- Odor (management)
- Tillage? (erosion, loss of biodiversity)



### Environmental Impacts--Pasture

Manage more by disturbing less      Diversify with crop diversity      Grow living roots throughout the year      Keep the soil covered as much as possible



#5: Add animals to complete the cycle.

### Social Impacts

- Neighbors
- Community
- Regional
- Aesthetic



### Consumer Health

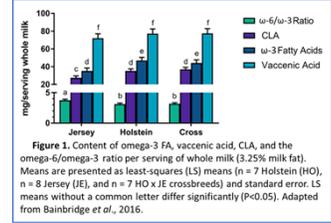
- Livestock products (fats), carbohydrates and cardiovascular disease  
*Global Correlates of Cardiovascular Risk: A Comparison of 158 Countries, Grasgruber, et al., Nutrients, March 2018*
- Nutrient density of animal-based foods  
*"...one ounce grass-fed beef has approximately 40-60 calories (depending on the cut), 6 grams of high-quality, bioavailable protein, and 2-4 grams of fat. It's high in iron, vitamin D, a good source of almost all the B-vitamins (B12, riboflavin, pantothenic acid, niacin, and vitamin B6), as well as several minerals like zinc, magnesium, phosphorus, and selenium."*  
 —Diana Rodgers, RD

### Consumer Health

- Bioactive fatty acids
- Milk fat <400 fatty acids, many bio-active
  - Alpha-linoleic acid (ALA)
  - Conjugated linoleic acids (CLA)
  - Vaccenic acid
- Omega-6 to Omega-3 ratio (< 4 preferred)

### Consumer Health--Dairy

- Fresh forage for dairy cows = improved milk FA profile
- Higher ALA yields better Omega ratio
- Conserved forages— increase in wilting time decreases ALA



### Consumer Health--Meat

- Fresh forage related to beneficial fatty acids
- Fatty acid composition in cuts of meat vary
- Test before making claims

**Table 2: Effect of feeding regime on conjugated linoleic acid isomers (CLA) content (mg/g fat) and omega-6 to omega-3 ratio<sup>1</sup>**

Fatty Acids	Feedlot	Pasture + Grain	Pasture
<b>Raw</b>			
Fat (%)	5.7 <sup>a</sup>	3.7 <sup>b</sup>	3.7 <sup>b</sup>
n-6:n-3	53.67	16.71	10.42
Total CLA	6.10 <sup>b</sup>	6.68 <sup>b</sup>	9.95 <sup>a</sup>
<b>Cooked</b>			
Fat (%)	8.1 <sup>a</sup>	5.3 <sup>b</sup>	4.6 <sup>b</sup>
n-6:n-3	40.84 <sup>a</sup>	12.29 <sup>b</sup>	9.26 <sup>b</sup>
Total CLA	3.97 <sup>b</sup>	6.15 <sup>a</sup>	7.36 <sup>a</sup>

<sup>1</sup>Adapted from Lorenzen et al., 2007  
<sup>a, b</sup> Means within a row lacking a common superscript differ (P < 0.05)

### Balancing Grain & Grass

- Confinement—feed brought to animals
- Pasture—animals walked to feed
- Pros and cons to grain and forages
- Managing transitions is key
- Animal nutrition, health, behavior



### Economics of Pasture & Confinement

- Economics vs. financials
- Revisit your goals (profitability, personal, production)
- Run your numbers to understand what the ramifications are



### Economics Exercise

Beef Example  
 Cost to feed 1,000 steer stored feed, for one day:

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### Economics Exercise

Beef Example  
Cost to feed 1,000 steer  
pasture, for one day:  
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### Economics Exercise

Beef Example  
Cost to feed 1,000 steer  
pasture, for one day:  
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The highest production is not USUALLY the most profitable.



### Pros and Cons

- Find your balance
- Use your goals
- Plan for profit
- Find quality of life



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