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

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

• Flexible
• Resilient
• Cheap
• Ecosystems
• Labor

No matter which system you use (or if you use a combination)—MANAGEMENT is the most important part!
Pasture Pros
• Flexible
• Resilient
• Cheap
• Ecosystems
• Labor

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

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

Confinement Pros
What are some positive aspects of working with confinement systems?

• 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
- Diversity 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
  
  "...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 B12, a good source of almost all the B-vitamins (B12, riboflavin, pantothentic acid, niacin, and vitamin B6), as well as several minerals like zinc, magnesium, phosphorus, and selenium."
  
  —Diana Rodgers, RD

- Nutrient density of animal-based foods

  Global Correlates of Cardiovascular Risk: A Comparison of 158 Countries, Grasgruber, et al., Nutrients, March 2018
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

<table>
<thead>
<tr>
<th></th>
<th>Fresh</th>
<th>Fresh + Grain</th>
<th>Grain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fat (%)</td>
<td>5.7 a</td>
<td>3.9 b</td>
<td>3.7 b</td>
</tr>
<tr>
<td>n-6:n-3</td>
<td>53.67</td>
<td>16.71</td>
<td>10.42</td>
</tr>
<tr>
<td>Total CLA</td>
<td>6.10 b</td>
<td>6.68 b</td>
<td>9.87</td>
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<tr>
<td>Fat (%)</td>
<td>8.1 a</td>
<td>5.3 b</td>
<td>4.6 b</td>
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<tr>
<td>n-6:n-3</td>
<td>40.84 a</td>
<td>12.25 b</td>
<td>9.28 b</td>
</tr>
<tr>
<td>Total CLA</td>
<td>3.97 b</td>
<td>6.15 b</td>
<td>7.38 a</td>
</tr>
</tbody>
</table>

*Adapted from Lorenzen et al., 2007
1 *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:
Economics Exercise

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

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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