

PASTURING DAIRY CATTLE

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- I. Introduction: "Think of Pasture as a Viable Crop Enterprise"
 - A. Change in grazing technology and farm economy.
 - B. Repairs, input, and machinery costs increasing more rapidly than income.
 - C. Hardest part is the transition--time, **management** and materials. Concerns:
 1. cattle escaping, bloating, not rebreeding, trampling forage.
 2. waterers, fences, seedings, keeping pasture productive and aesthetic.
 3. not just turning cattle out (requires flexibility and management).
 4. lose control of the ration and dry matter intake.

- II. Most pastures not managed to provide **adequate quantities** or **quality** of forage to **economically** meet the needs of the lactating dairy cow.
 - A. Research shows yield and quality increase by rotation involving 3 keys:
 1. keep in a vegetative state (4-12 inches is fastest growth stage).
 2. graze it quickly (1-3 days but 12 hour breaks work best).
 3. rest after grazing (15-36 days) allows recovery of root reserves.
 - B. Continuous grazing deters root development--poor yields/drought susceptible.
 - C. **Well-managed** pastures reduce feed costs/increase net returns.
 1. compare the costs of harvesting pasture versus other methods.
 2. Wisconsin, "Dairy Pasture Economics," Sept. 1991. Tranel and Frank.
 3. New York--\$1.56 per hundredweight (15 farms).
 4. Upper Michigan--\$200 per cow.
 5. Center for Dairy Profitability, studies show more profit than stored feed.
 6. Wisconsin, "Economics of Alternative Dairy Grazing Scenarios," July, 1995. Frank, Klemme, RajBhandary and Tranel. Simulated results:
 - pasture-based, year round calving and pasture based, seasonal calving systems increased both profit and returns to labor over confinement, year-round calving systems;
 - pasture-based, seasonal systems decreased profit but increased returns to labor per hour over pasture-based, year-round calving systems;
 - decreased machinery investment (replaced by custom hired work) increased profit and returns to labor in both pasture-based systems;
 - both pasture systems with decreased machinery investment had comparable returns to the confinement system in the scenarios with reduced production and larger herd sizes.

- III. Pasture has potential to be a high profit enterprise, competitive with corn or alfalfa.
 - A. Potential profit margins are highest in corn silage and pasture enterprises.
 - B. As with anything, the ability to manage has the biggest impact on profits.
 - C. Lower input costs (seed, chemical, fertilizer, fuel, oil, machinery, etc.).
 - D. Animals provide labor--cut, harvest, transport, store, feed and haul manure.
 - E. Pasture labor is comparable to other crop enterprises but feeding labor reduced.
 - F. Reducing feed costs \$10-\$50 per ton (depending how one looks at it).
 - G. Reduced soil erosion, crop operations, and chemical usage.
 - H. Reduced manure handling/bedding costs; improved animal health/exercise.
 - I. Bloat can be a challenge, don't graze hungry cows, immature and/or frosted legumes.

- IV. Grazing is High-Tech

- A. Large numbers of animals per acre (60,000-75,000 lbs weight per acre in spring).
- B. Competition is important to encourage rapid harvest and reduce trampling.
- C. Fencing can be done with lightweight, high-tensile wire and fiberglass posts.
- D. Low-impedance charger is the key to the system--very short high energy pulses.
- E. Water is important, shade can be a detriment to intake and milk quality.
- F. Lactating cows followed by clean-up herds are most common and work best.

V. Implementing a Grazing System

- A. Develop goals--where do you want to be in 3-5 years (family and business).
 - 1. production per cow versus profit or selling genetics?
 - 2. look at milk per acre or per person more so than milk per cow.
 - 3. is profit more highly correlated with cow numbers than production per cow?
 - 4. is your operation limited by facilities or land for expansion?
 - 5. possible expansion with a combination of seasonal and year-round herd.
- B. Learn grazing--lots of little technicalities.
 - 1. understanding the growth curve and seasonality of forages.
 - 2. timing of cattle movement and pasture rest needs.
- C. Manage both quantity and quality.
 - 1. quantity--timing of putting cattle on and size of area grazed.
 - 2. quality--stage of maturity at grazing and length of residual after grazing.
 - 3. proper grazing can have 70-80% harvest efficiency (competitive to stored).

VI. Rules of Paddock Layout and Design

- A. Design with flexibility since livestock needs and plant growth varies by season.
- B. Design on paper first with help of aerial photo.
- C. System includes preferably 20+ paddocks with further subdivision.
- D. Fencing should be inexpensive and energized by a good low impedance fencer.
- E. Each paddock should produce about same amount of forage dry matter or use gate-less systems.
- F. If not deterrent to paddock design, establish lanes on contour.
- G. Establish lanes on higher, dryer soils and improve with limestone over time.
- H. Consider differences in species maturity/seasonality when developing forage mix.
- I. Visit other farms with systems already in place.

VII. Pasture Production Fluctuates by Season

- A. Range of one-third acre to one acre per cow from spring to fall.
- B. Harvest surplus hay from half of paddocks in spring--graze later.
- C. Supplement pastures with stored forage (corn silage) in mid-summer and manage heat stress on cows.
- D. Seed legumes for more even summer growth and increase quality/quantity.
- E. Five to nine grazings per year (3-6 tons dry matter growth).

VIII. Summary "Think of Pasture as a Viable Crop Enterprise"

- A. Pastures provide a tremendous opportunity but no guarantee for profit.
- B. Management intensive grazing is **management intensive**.