Managing Dairy Heifers Profitably in a Pasture System

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General Information

- Management-Intensive Grazing since 1994
- 600+ Dairy Heifers
- 40% Fescue/40% Ryegrass-Crabgrass/20% Matua with legumes interseeded into all
- Buy/Sell Contracts and Per-Pound-of-Gain Contracts
- 300 Grazing Acres

Goals for Profitability

- Make genetic progress a reality.
- Verify growth rates.
- Accomplish labor efficiently and cost-justify capital expenditures.
- Provide a safe and healthy environment.
- Harvest high quality forages with cost efficiency.

Make Genetic Progress a Reality

Why fail to make genetic advancement on 25% to 30% of your herd?

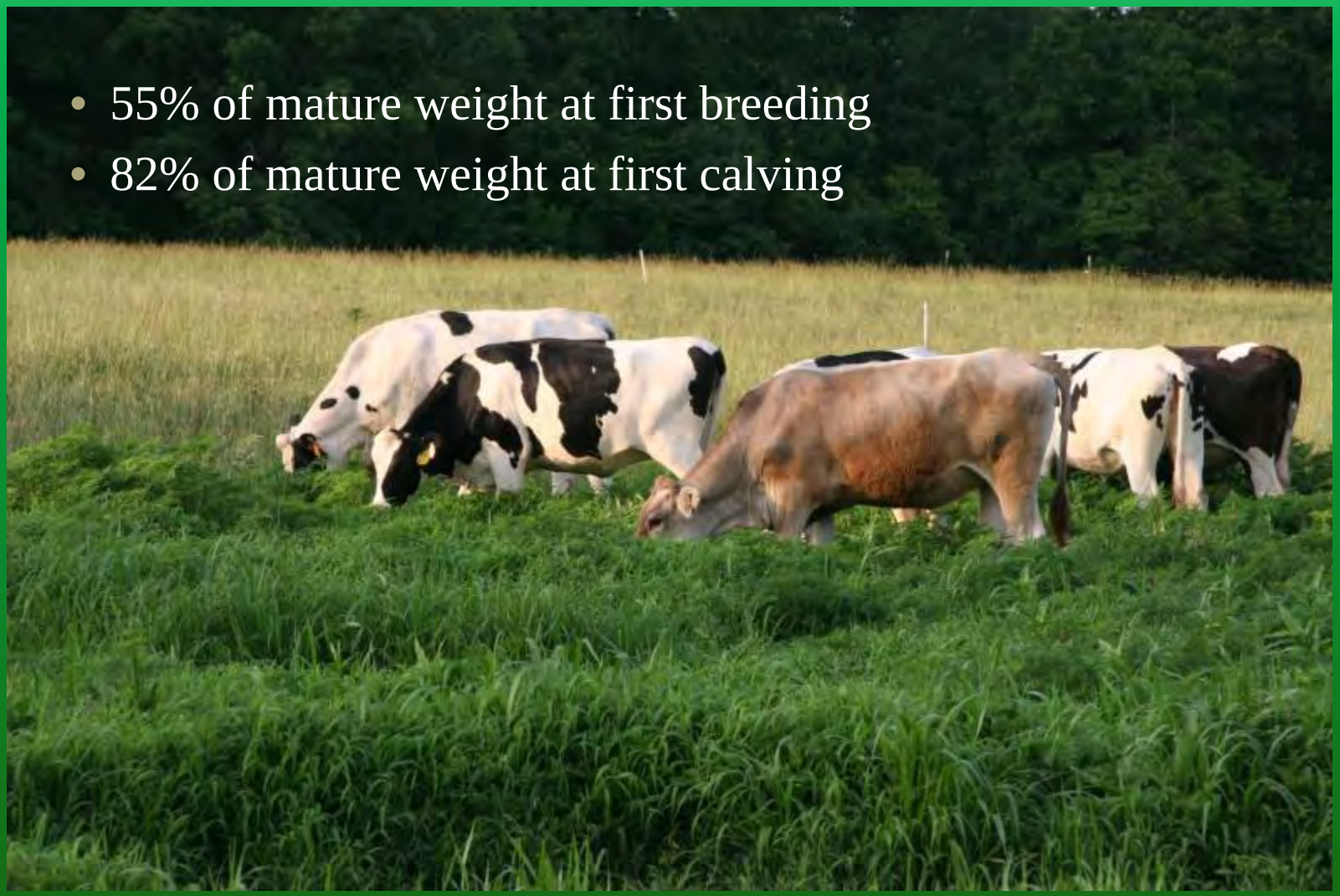
Table 1. Average PTA's – April, 2011 USDA Sire Evaluations

	Net Merit $ A.I. Average	Net Merit $ A.I. 90th pct.	Net Merit $ Non-A.I.
Holstein	263	485	22
Jersey	243	435	48

Breeding Group

Synchronization Protocols—MGA(35 Days), CIDR (10 days), Prostaglandin Shot

2001 NRC recommendations for size on heifers:



- 55% of mature weight at first breeding
- 82% of mature weight at first calving

Body Condition Scoring

(Scale of 1-5)

Regular use of BCS is a valuable management tool for any operation.

Condition-score groups every 30 to 60 days, making note of changes in each group as well as any necessary change of management based on that evaluation.

Verify growth rates.

You have to be able to measure it in order to manage it!

Critical Weighing Points

Birth (Is this calf healthy and vigorous?)
Weaning (Has birthweight doubled?)
4-6 months of age (How are we doing since weaning?)
10-12 months of age (Are we on pace for breeding?)
Confirmed Pregnant (Does she need to be pushed?)

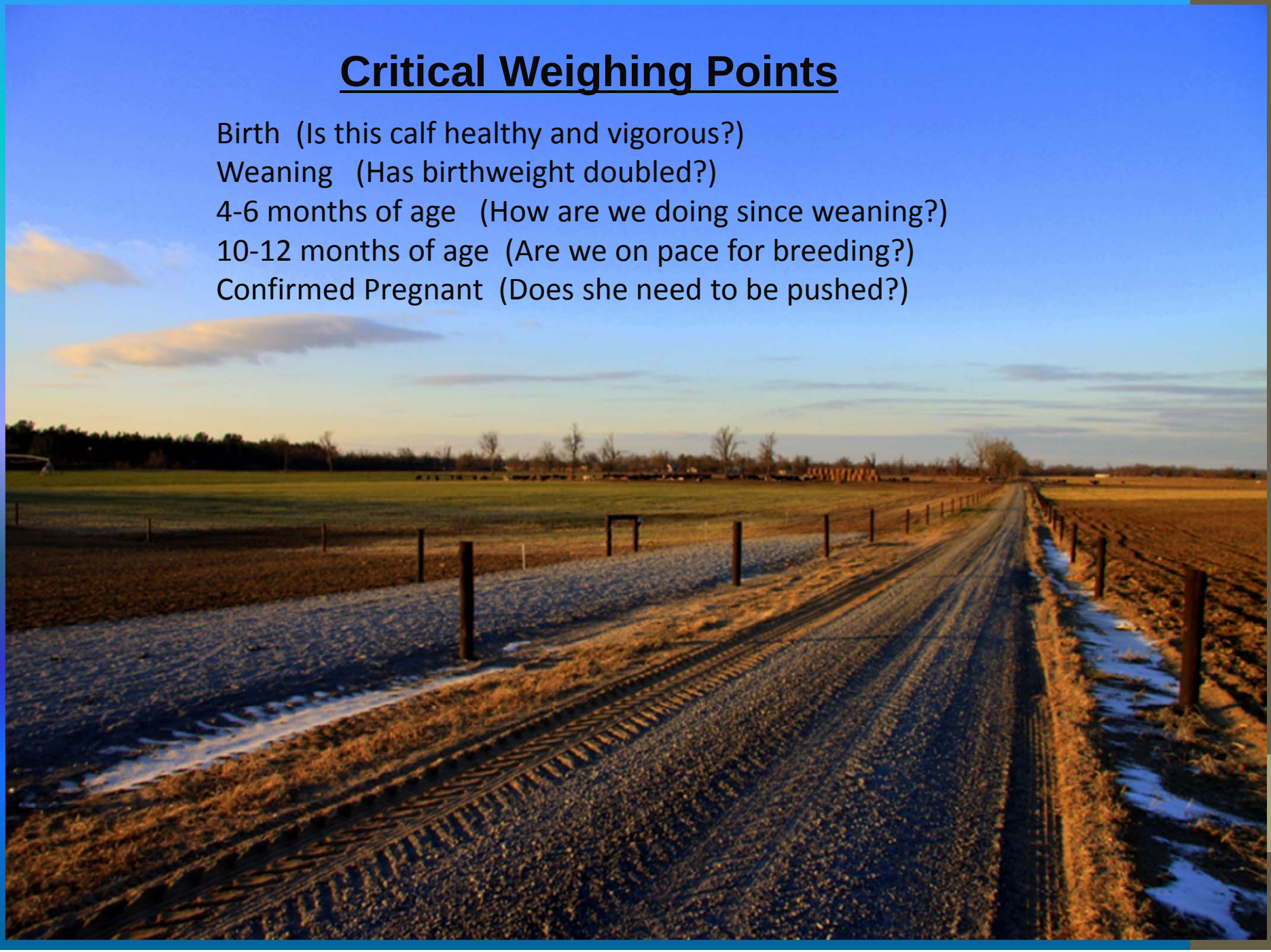
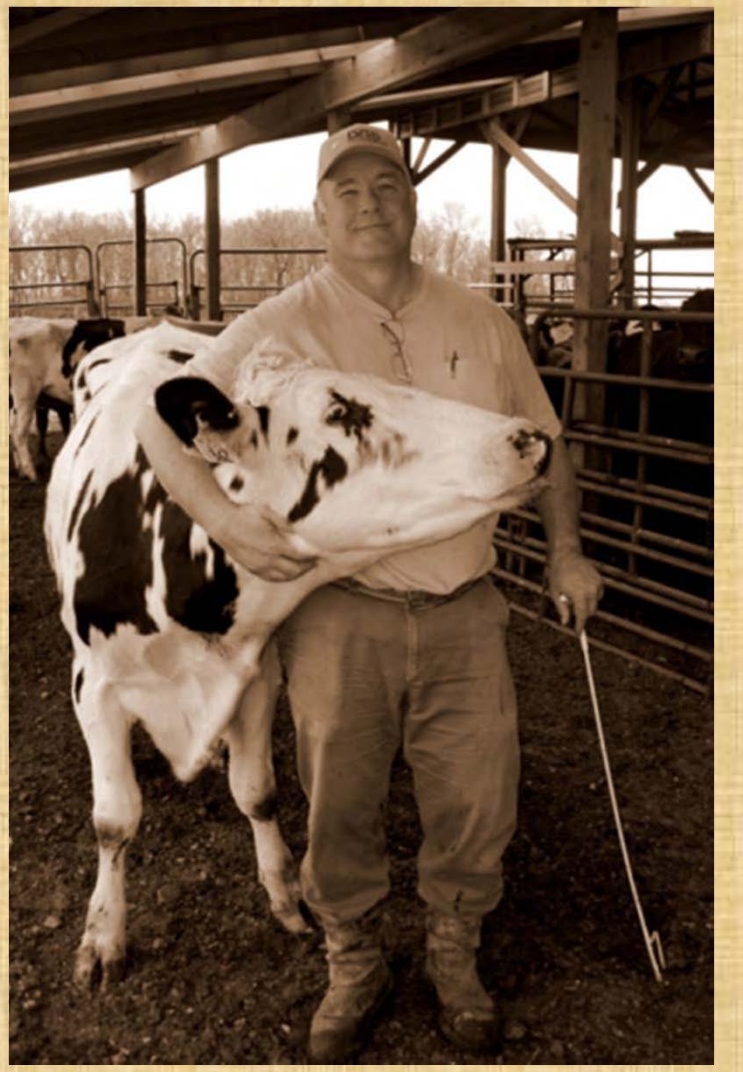


Table 2. Universal heifer growth chart for 24 month age at first calving

Heifer Age, months	% of Mature Body Weight
Calf	6.5
1	9.7
2	12.8
3	16.5
4	20.2
5	24.0
6	27.7
7	31.4
8	35.0
9	38.9
10	42.5
11	46.3
12	49.9
13	53.7
14	Breeding Ages 57.4
15	61.1
16	64.7
17	68.5
18	72.2
19	76.0
20	79.6
21	83.3
22	87.1
23	90.8
24	(7d Pre-calving) 94.0
24	(7d Post-calving) 85.0



P. C. Hoffman, Department of Dairy Science, University of Wisconsin, Madison

Breeding facilities and scales must be user-friendly for man and animal.

Accomplish labor efficiently and cost-justify capital expenditures.

My number one rule in system design: **Make sure every task can be carried out by one person.** Two-man jobs are accomplished on time only half the time.

Grain supplementation and its efficient delivery are critical.

It takes one man 1 hour to feed grain to 600 head plus 1 to 2 hours to give 8-10 groups a new pasture break.

Fence-line feeding is safer for animals, represents a more efficient use of labor, helps prevent disease spread from pen to pen, and reduces head-to-head competition between heifers at the feed bunks.

Feed Space, Throat and Heifer Rail Height for Calves and Heifers (Graves and Heinrichs 1984 and Bickert 1990)

Age	Minimum feed Line Space	Maximum Throat Height	Suggested Neck Rail Height
2 to 4 months	18”	---	---
4 to 9 months	15”	14”	28”
9 to 12 months	18”	15.5”	30”
12 to 18 month	20”	17”	34”
18 months to calving	22”	19”	41”

Provide a safe and healthy environment.

Work with your veterinarian and Extension dairy specialist to develop a suitable vaccination protocol.
Consider BVD-PI testing.

Heifer Haven recommended vaccination schedule

- Week one: Nazel IBR/PI3
- Week 3: Blackleg 7 or 8-way
- Week 4: Lepto-Hardjo
- Week 6: (Injectable Modified Live) IBR/BVD/PI3/BRSV/Lepto-5
- Week 7: Blackleg 7 or 8 way
- Week 8: Lepto-Hardjo
- Week 14: (Modified Live) IBR/PI3/BVD/BRSV/Lepto-5, Blackleg 7 or 8 way, Pasturella Types 1 & 2
- 4-18 Month: OCV Vaccination
- 6 Month: Blackleg 7 or 8-way
- 30-60 days prior to breeding: (Modified Live) IBR/PI3/BVD/BRSV/Lepto-5 (Vibrio if using bulls), Blackleg 7 or 8, Lepto-Hardjo
- Confirmed Pregnant: 5-way Lepto
- Pre-calving vaccinations at dairy.

Colostrum Management

The most important thing you can do for this heifer is to get her enough high quality colostrum within the first 4-6 hours of life (even earlier if possible).

Set aside areas to hold new animals in quarantine until they have met all vaccination /health criteria, as well as adjusting to feeding system.
Then move them into groups of similar size and age.


Fly control is critical to maintain gains as well as eye health and mastitis prevention. Growing animals with greater than 100 flies will achieve 15-50 lbs. less gain during each fly season. Recommended economic threshold for dairy animals is 50 flies per head.

Parasitologists at Washington State University estimate an average infestation of internal parasites will reduce weight gains 10-20% in growing cattle. A 600# animal will lose 1.5 pints of blood daily from roundworms alone. At $1.00/lb. of gain this could cost $0.10 to $0.20/day.


Take fecal samples to determine parasite loads, then re-test after two weeks to see if treatment with anthelmintic was successful.

Water Points

Animals should not travel more than 800 feet to clean, fresh water.

The farther they walk, the more energy used for purposes other than gain.

Harvest high quality forages with cost efficiency.

High **quality** and adequate **quantity** of forage are key aspects of maintaining successful animal performance.

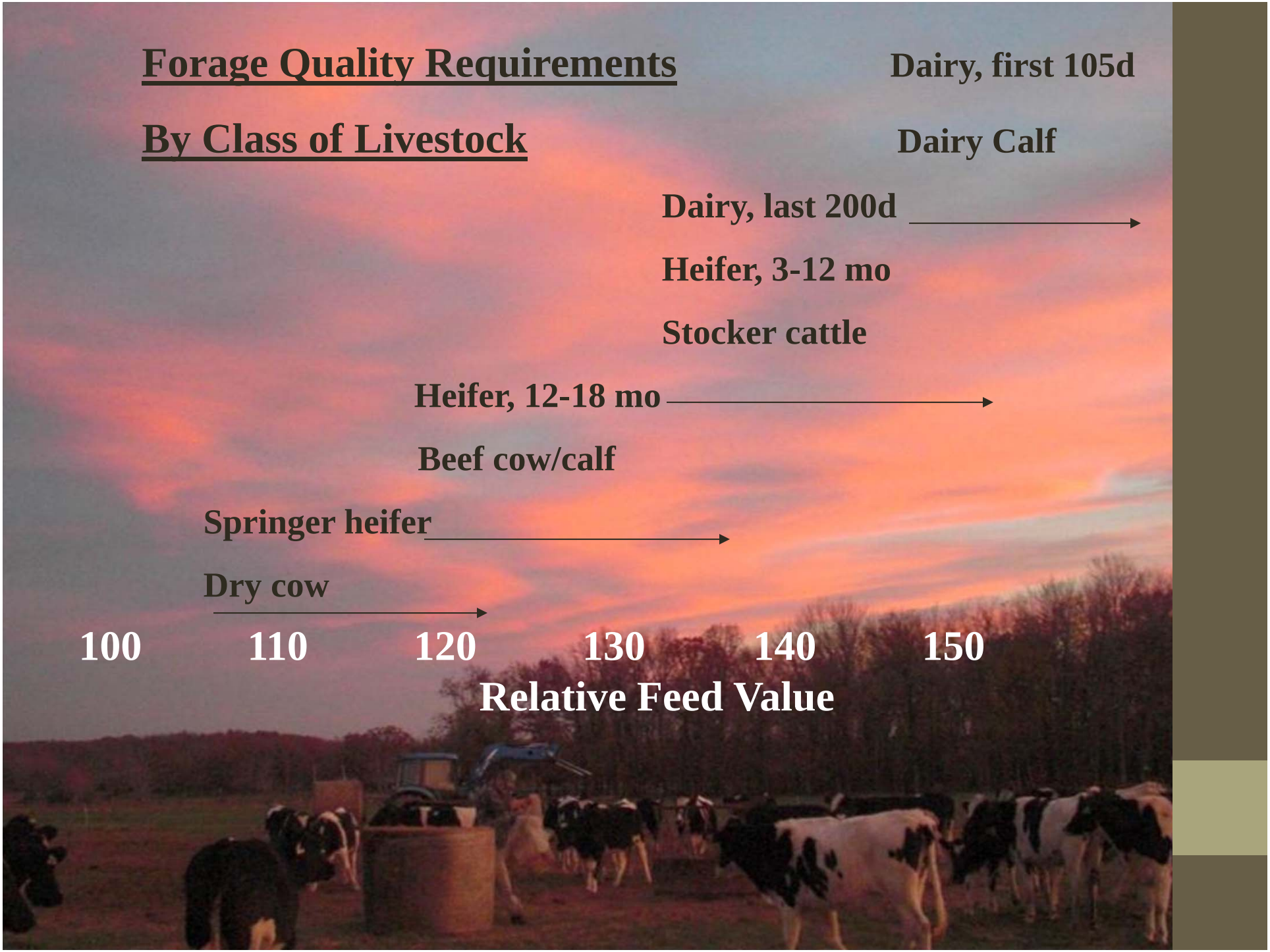
Cost Savings Opportunity in Grazing

- Average # Forage DM/D consumed by a Holstein heifer from 400# Weight and 1250# weight= 20#DM/D This assumes the feeding of 2-4# of grain/h/d.

- Cost of Producing 1# of Pasture DM $0.02 to $0.03. Cost of Producing 1# Harvested DM $0.04 to $0.06.
- 20DM X 540Days (18 Months)= 10800 lbs Forage DM

- 10800 Forage DM X 0.02(pasture DM cost)= $216 Forage Cost from Pasture or
- 10800 Forage DM X 0.04(harvested DM cost)= $432 Forage cost from harvested forage

- $216 difference/18Months= $12/head/Month potential forage cost savings. Cross-bred replacement approximately $9.60/head/month (80% of Holstein forage consumed).


Forage Quality Requirements
By Class of Livestock
Dairy, first 105d
Dairy Calf
Dairy, last 200d
Heifer, 3-12 mo
Stocker cattle
Heifer, 12-18 mo
Beef cow/calf
Springer heifer
Dry cow
100
110
120
130
140
150
Relative Feed Value

Forage-test hay and pastures on a regular basis to determine nutrients being provided. With testing we can target supplementation to specific needs of animals. Anything else is a shot in the dark.

There will be times when it is necessary to feed stored forage—when pasture is too short or when paddocks must be protected from damage.

Take time to observe animals; they will tell you what they like and dislike. They are the mechanism by which we market our forages. Anything we do to keep them content works to our advantage.

Discussion Groups

Develop a network of support through discussion groups, Extension specialists, and nutritionists.


The Ultimate Discussion Group

Sometimes there needs to be some one-on-one conversation as well.

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