

---

# Economical Feeding And Management Practices For Herds Approaching 30,000- Pound RHAs: A Panel Discussion

---

Panelists:

*Brad Houston, Price's Roswell Dairy,  
Roswell, NM,*

*Dennis Lagler, Lagler Dairy,  
Vancouver, WA*

Moderator:

*Don Bath*

*Extension Dairy Nutritionist Emeritus,  
University of California, Davis, CA.*

**G**enerally speaking, high milk yields per cow are associated with greater profitability of the dairy enterprise. Average milk production per cow has more than doubled since the 1950's. Many lower producing dairy herds have gone out of business during that period, while the more efficient herds have expanded tremendously. However, not all high producing herds are profitable because profitability is dependent on economical inputs as well as high milk yields. The panelists in this discussion are dairy managers who run two of the highest producing herds in their respective states, Washington and New Mexico. They give their views on feeding and management practices that result in economical milk production in extremely high-producing herds.

Briefly describe your herd

Houston:

Price's Roswell Farms has been in the Pecos Valley of New Mexico since 1945. We have a grade herd of cows but have concentrated on a good genetic base. Artificial insemination has been used in our

herd since the arrival of frozen semen. Before that, we collected our own bulls and bred A.I. We are on DHIA official testing and our records are processed at DHI-Provo. Our current DHIA rolling herd average is 23,781 lb. of milk on 1,522 cows. We also have about 1,800 calves and heifers on the farm.

Lagler:

Our dairy is in Vancouver, WA, just outside of Portland, OR., 17 miles from Portland International Airport. Although we are 2nd generation on this site, we are fast becoming "urban" farmers. (four lanes of traffic and sidewalks in front of our milking parlor). Dad and Mom moved from Tillamook, OR, in 1955 and Jan and I began buying the farm from them in 1975. We have 535 cows in the herd, about 475 milking. We raise all our replacement heifers and sell the bull calves. We have 600 head of young stock. Currently, our rolling herd average is 25,946 lb milk with 814 lb protein.

Do you raise your own heifer replacements? If so, describe your calf management system.

<p><b>BIRTH</b>                      Colostrum – (1 gallon first 12 hours)                      Intranasal vaccine                      iodine Navel – (7% Iodine)                      Selenium Shot – (1cc)</p> <p><b>WEEK 5:</b>                      IBR BVD PI<sub>3</sub> BRSV</p> <p><b>WEEK 11:</b>                      Respiratory Vaccine – (1 shot vaccine)</p> <p><b>4 MONTHS:</b>                      7-Way Clostridial/Hemophilus Somnus</p> <p><b>6 MONTHS OR BEFORE:</b>                      4-Way Virus                      7-Way Clostridial/Hemophilus Somnus</p> <p><b>PRE-BREEDING:</b>                      (1 month)                      IBR BVD P13 BRSV LEPTO 5                      7-Way Clostridial/Hemophilus Somnus</p> <p><b>PREG CHECK:</b>                      Lepto 5</p> <p><b>SPRINGERS</b></p>	<p><b>Routine Dry Cow Program:</b>                      Endovac-Bovi 2 Shots                      7-Way Clostridial/Hemophilus Somnus                      Selenium Shot (5cc)</p> <p><b>FRESH COWS (1-3 weeks)</b>                      IBR BVD PI<sub>3</sub> BRSV</p> <p><b>PREGNANCY EXAM:</b>                      LEPTO 5 – (when pronounced pregnant)</p> <p><b>DRY OFF:</b>                      Reconfirm pregnancy                      Dry Cow Treatment                      Endovac-Bovi 2cc IM Dry-off time and 2 weeks later                      first year; 1 shot following years                      7-way Clostridial + Hemophilus somnus</p> <p><b>1 MONTH PRIOR TO CALVING:</b>                      Selenium shot – (8cc IM and 2 weeks later)                      Rotavirus, Coronavirus, E. Coli and Clostridium perfringens Type C</p> <p><b>2 WEEKS PRIOR TO CALVING:</b>                      IBR BVD PI<sub>3</sub> BRSV                      Second shot of virus, E. Coli and Clostridium</p>
---	--

Houston:

We maintain a closed herd and raise our own replacements. Calves are raised in hutches for one month and then moved to pens in groups of eight. Calves are fed with bottles; colostrum milk is checked with a colostrometer for quality. The best milk is fed to the youngest calves. We do not feed any mastitis or sick cows' milk to calves. Calves are weaned at three months. Dehorning is done at three weeks, and the horn buds are burned with a portable butane-powered dehorner. An extensive vaccination program is administered to the herd under the supervision of our veterinarian as outlined on the facing page.

Lagler:

Presently we are starting heifers in hutches, then move them to group pens. As they get older, they are placed in another group at a different location. And finally, regrouped at the other location and returned to the farm. We need a freestall barn with lockups for better supervision and better conditioning into top producers. We feed primarily grass silage and alfalfa hay to encourage larger size. Corn silage puts on weight, but not enough size. Presently we breed the heifers to calve at 24 months. In the future we want to increase the size and frame of the animal so we can reduce the calving age. If we could keep our springing heifers separate from our other dry cows, we could feed them to grow (and the mature cows wouldn't gain too much weight.)

We need better heifer facilities to take better care of heifers.

What are the factors that you feel are important in your breeding program?

Houston:

I feel strongly that a large cow is needed to handle the nutrients required for high milk production. For the same reason, I generally use calving ease bulls that are eights or nines. All cows and heifers are evaluated for sire recommendations. July 1994 guidelines are +1200-TPI; +300 protein \$; +80 lb. protein; +1.5 type; and +1.00 udders; +.01 legs;

+1.00 body depth; +1.5 dairy composition. I make a few exceptions to these guidelines so that I can get enough bulls. We breed first choice twice, second choice once and then we go to young sires. Heifers are bred to calve at 24 months.

Lagler:

We select bulls according to minimum standards for milk, cheese yield, and type. Obviously there are some cows where you might stress one criteria more and another less. We want to do some ET work to genetically improve our herds protein component in the milk.

We AI all heifers, spending about \$22-\$25 per straw. We get the best return for our AI dollar by spending more on the heifers to improve protein, udders, feet, legs, and capacity.

Describe your cow grouping system, including dry cows.

Houston:

Our milking cows are grouped into warm-up corrals, breeding corrals, and pregnant cow corrals. Fresh cows and hand milk cows are milked in a separate facility. Cows are milked 2X daily. Cows are pre-dipped and post-dipped. Fresh cows' udders are flamed before going on milk strings. Periodically we flame all cows udders as they leave the milk barn. Dry cows are grouped into far-off dries and close-up dries.

Lagler:

We milk three times a day. Our milk cows are divided into 3 herds and a hospital string. Each herd has its own separate rations. They are fed a Total Mixed Ration (TMR) 3 times a day, each followed by one or two feedings of alfalfa hay. The dry cows are divided into 3 groups. The just-dried cows are fed oat hay with a mineral supplement. The intermediate-dry cows are fed silage and 4# grain with a mineral supplement. The close-up cows are fed 10# milking ration and free choice oat hay. Currently we have heifers in with the intermediate dry group. We would like to keep the heifers separate and feed more roughage to the dry cows in the form of oat hay.

Most of our mastitis problems come from our freshening cows. We need to strengthen the care and feeding of our dry cows.

Do you employ a nutrition consultant?

Houston:

We work very closely with our nutritionist. During his visits, he and I visually look at all the cattle. He samples any feedstuffs that need to be analyzed. The same lab is used for all nutritional work.

Lagler:

We test our feeds and a feed consultant (Dr. Amos Zook of Loper Systems) helps us with our ration.

What is fed to the various cow groups? How do you monitor the amounts being fed to each group?

Houston:

We have rations designed for far-off drys, close-up drys, fresh cows, warm-ups, breeding and pregnant categories. Oat hay is fed to the dry cows every other day with a mixture of alfalfa hay, corn silage and cotton burrs. High phosphorus mineral and salt are fed to the dry cows free choice. Ingredient composition of the rations are shown in the table.

The close-ups are fed 10 pounds per cow of the dairy cow mix in addition to their roughage. Fresh cows are fed 30 lbs. of the dairy mix. Warm-up cows are fed 39 lbs. of the dairy mix. The cows stay in the warm-up corrals for 30 to 45 days. The breeding group is fed 46 lbs. of the dairy mix. The protein level is 16.74% and the crude fiber is 14.5%, both on a 90% dry matter basis. Their present total consumption is 64 lbs. Pregnant cows are fed 39 lbs. of the dairy mix. Total consumption is 55 lbs. per cow.

We have a ration program on our computer. Corral numbers are updated every day and a new ration is printed for the feeder. We monitor feed inventories very closely. As you know, cows are creatures of habit so we try to feed them similar ingredients every day at the same time.

### Ingredient Composition Of Price's Roswell Rations

ingredients	dairy cow mix	warm-up ration	highs ration	preg. ration
C/S meal sol	3.50			
whole cottonseed	6.50			
distillers grain	2.75			
beet pulp	3.75			
grain screen pellet	1.00			
hominy	4.00			
blood meal mix	4.00			
mineral mix	1.70			
alkaten	.30			
cotton burrs	2.00			
41CP-1P molasses	1.00			
corn silage	14.00	10.00	10.00	10.00
alfalfa hay blend	4.00	2.00	4.00	4.00
oat hay	1.00			
dairy cow mix		39.00	49.50	39.00
alfalfa haylage		13.50	14.00	13.50
50% corn-50% milo		13.00	13.00	13.00
TOTAL	49.50	77.50	90.50	79.50
lbs. air dry intake	39.08	53.04	63.51	55.04
lbs. grain/cow/day	28.35	35.34	41.35	35.34
<b>cost (\$/cow/day)</b>	<b>\$2.90</b>	<b>\$3.62</b>	<b>\$4.36</b>	<b>\$3.74</b>

At present, we are not feeding a total mixed ration (TMR). Alfalfa hay is fed one hour before the grain-silage mix in the mornings at 6 AM. The grain-silage mix is fed at 7 AM, 3 PM, 8 PM and 2 AM. Our feeder puts out the mixed feed at 7 AM and 3 PM, and loads the two night loads. The barn foreman does the feeding at night. Thirteen pounds of rolled corn and rolled milo on a 50- 50 basis are fed in the barn during the milking process.

Separate loads of alfalfa haylage, corn silage and alfalfa hay are fed at regular intervals during the day. The ration is pushed up to the mangers every six hours. Oat hay is fed to dry cows every other day. This works well in our feeding logistics.

Protein feeds currently used are cottonseed meal, dried distiller's grain and a blood meal, animal fat premix with hominy or wheat midds as a carrier for easier handling capabilities. Our molasses mix is a 41-1 mix. We feed six pounds of whole cottonseed per day to the milk cows. I usually feed milo hominy instead of corn hominy because of the price spread. Other commodities used are cottonseed burrs, beet

---

pulp, bufferite, and calcium. Heifer mineral with monensin is fed to heifers from three months through 17 months. It is very difficult to get enough fiber in a high energy milk cow ration.

Lagler:

Dry matter intake is the key to high production. We constantly strive to improve the quality of home grown roughages. We intend to try mixing alfalfa with grasses instead of clovers to achieve high protein and tonnages in later cuttings. Our Total Mixed Ration is based on home grown silage. Besides ground corn, we use a lot of by products: whole cotton seed, bakery waste, beet pulp pellets, canola or soybean meal (soy is more dense, but also more \$\$), mill run (source of phosphorous), and a vitamin and mineral package. A typical ration for the high cow herd in "as-fed pounds" would be:

- 5# whole cottonseed
- 5# canola
- 7# ground corn
- 3# bakery waste
- 6# beet pulp pellets
- 3.75# wheat mill run
- 1.5# soybean meal
- 7# liquid brewers yeast
- 1.33# lactating mineral and sodium bicarbonate
- 18.66# grass silage
- 25# corn silage
- 16.25# alfalfa hay in the mix
- 4# loose hay in addition to the TMR

We add liquid yeast to the total ration to keep the moisture at 50%. When the mix is wet, we back out the liquid yeast.

Total cost per day of high cow ration is \$4.20/cow/day giving and average of 101# of milk. The whole milking herd cost is \$3.60/cow/day currently averaging 84# of milk or \$4.29 per CWT of milk.

Do you grow or buy your forages?  
What quality standards do you  
require for your forages?

Houston:

The alfalfa hay fed to the milk cows is generally purchased locally from three producers. Each producer's hay is stacked in barns and kept separate from the other producer's hay. I try to purchase alfalfa hay that is 21% protein on a 100% dry matter basis. The acid detergent fiber should be 31% or less. I want the stems to be soft and the hay to be free of foreign material and bright green in color. Moisture content of 13 to 18 % is necessary for storage.

We grow our own alfalfa haylage. It is cut at very early bloom. It is stored in a pit, inoculated, packed properly and covered with 6 ml plastic. Our average shrinkage is 8%.

Corn silage is contracted from local farmers. We insist on grain varieties of corn that will produce high quality roughage. The farmers are paid on a sliding scale with 72% moisture being the base.

Lagler:

We purchase all the alfalfa hay we feed the milking cows from eastern WA and OR. We test the hay for moisture, protein, acid detergent fiber, neutral detergent fiber and lignin. On a dry matter basis, we want 22% protein, 25- 28% ADF, below 40% NDF, and below 5% lignin. We strive for high intake, high density (not hot) and high digestibility.

We raise orchard grass on the land we spread heavily with liquid manure. On the land we graze and chop for silage, we plant annual and perennial tetraploid rye grasses with white clovers. We receive an average of 44" rainfall in our area. Because of our climate, we have gone to the Ag Bag system for silage storage. This way we are able to harvest the crop when weather permits and the crop is in early maturity. The first two cuttings are for silage. On the irrigated land we make two more cuttings into hay, on the dry ground we get one cutting of hay. Cutting the grasses for hay and silage at the correct maturity is one of the most important management practices we try to follow.

The years when we make good quality silage, it is much easier to get high milk production and be profitable. The bagging system also allows us to keep our higher quality feed for the milk cows and divert

*high fiber feed to the heifers. Feed must be fertilized correctly, be free of weeds and cut at correct maturity for highest nutrient quality and digestibility.*

Do you have any final comments:

Houston:

*Our motto is, "Our cows are not contented. They are striving to do better."*

Lagler:

*Our overall goal is high production at economical feed cost based on home grown forages. Keep milk quality up and protein up in milk so we continue to receive the highest price for our milk.*

*At the present time, our co-op pays a premium and they do not want milk from BST-treated cows. When given the OK by our co-op, we would consider using BST on the DNB and tail-enders as a management tool.*

---

notes

---