

### ***REPRODUCTIVE HERD HEALTH***

Cattle prices are still up; despite all the BSE pronouncements over the past 14 months and the loss of the majority of our beef export revenues. Demand is growing and the future looks better than we expected. So it's time to increase your herd size and sell more calves. Selling more pounds of calves is definitely a good idea, but the average producer doesn't necessarily need to increase the number of cows in the herd.

Repeatedly, research has indicated the three most important factors determining profitability in cow/calf operations are: (1) cost of production, (2) reproductive rate, and (3) weaning weight of calves. This research enforces our common sense view of cow/calf profitability. If the cost of production is very low, then almost anything sold is at a profit; on the other hand if it costs \$800 per year to run a cow, then making a profit will be a rare event. The third most important factor is weaning weight and again its importance is obvious. Weaning weight is a function of genetics and feed conditions and it is important to match your genetics with your particular ranch conditions; however, a poor feed year will result in lower weaning weights no matter what we do. The second most important factor is reproductive rate and while genetic selection is important here—the reproductive management of the herd is more important and we will focus on some of the practical things you can do to maximize the reproductive rate in a cow/calf herd.

#### ***What is the reproductive rate?***

The most honest way to calculate the reproductive rate is to look at % calf crop weaned—this is the primary product we sell. This rate is the % calf crop per cow (or herd) exposed to breeding (bull and/or AI).

$$\% \text{ Net calf crop} = \frac{\text{Number of calves weaned}}{\text{Number of cows exposed to breeding}} \times 100$$

So if you started with 200 cows exposed to the bulls and weaned 160 calves, that would be an 80% calf crop. By the way, this is better than the national average of about 71%. If those weaned calves averaged 500 pounds each, then the average for the original 200 cows exposed would be 400 pounds of calf per cow exposed. Let's say you increased your net calf crop to 88% (176 calves) and they still weaned at 500 pounds, then your new average per cow is 440 pounds/cow exposed. At \$1.00 per pound of calf that's \$8,000 more from those 200 cows. At \$1.20 per pound, that's \$9,600 additional income. The economic incentive to get cows pregnant, to maintain that pregnancy to get a live calf, and to keep the calf alive and healthy to weaning is clear. So how do we get that done? What are the potential problems that stand in our way? In this discussion we will split this up into three areas: (1) getting the cows pregnant, (2) maintaining the

pregnancy, and (3) keeping the calf alive after birth. Nature doesn't make these nice distinctions in all cases and we need to be aware of that variability.

### ***What are the industry averages for calf crop losses?***

As mentioned above, the U.S. average for net calf crop weaned per cow exposed is about 71%. Therefore, 29% of the cows exposed to breeding fail to wean a calf. About 17% of cows exposed to the bull or AI'ed do not become pregnant. These are cows that do not cycle and come in heat, cows that are exposed to infertile bulls or AI'ed incorrectly, and cows that contract Trichomonosis or vibriosis and lose the pregnancy early. Nationwide, about 2.3% of cows have abortions and thus do not wean a calf. In California this number is probably higher because of our problems with Foothill Abortion. Six percent of calves born die in the neonatal period, which is the first month or so of life. These deaths are usually due to diarrhea and/or pneumonia; however, in California we lose a number of calves to "white muscle disease" because of selenium deficiency. About 3% of calves that make it through the neonatal period die before weaning, these deaths are due to pneumonia, BRSV, blackleg, and similar infectious diseases. With over 50% of our reproductive losses due to cows that don't become pregnant we will discuss this aspect first.

### ***What steps do we need to take to get the cows pregnant?***

First, be sure the cows are in good body condition prior to calving. The cows' ovaries are beginning to produce the eggs that can become next year's calf well before calving and the cows need to be in positive energy and protein balance for that to occur. The cows should be in body condition score 5, 6, or 7 (on a scale of 1 to 9 with 1 being too thin to stand and 9 being obese). Body condition scores of 5, 6, and 7 is optimum for most beef herds. Cows with body conditions scores of 3 and 4 may need additional feed before calving—so think about segregating these cows from the main herd for supplemental feed or marking them for culling after they calve (don't expose them to the bulls). This assessment of body condition can easily be done at the time the cows are checked for pregnancy at 4-7 months of gestation. In addition to general nutrition, be sure the cattle have adequate trace mineral supplementation. Copper deficiency and selenium deficiency both decrease reproductive performance in beef cattle and both problems are very common in California. If you are in doubt of the cows' mineral status, your veterinarian can take a few samples at the time of the pregnancy check to supply that information.

Second, be sure the bulls are ready to perform. Your veterinarian should check each bull for semen quality, any infections of the reproductive tract (seminal vesiculitis, etc), general soundness (feet, legs, body condition), and eyes (no cloudiness or eye infections). Additionally, all bulls should be checked for Trichomonosis before the breeding season. This is particularly important if any of your neighbors have had problems with "Trich". More than 10% of California beef herds are infected with "Trich" by conservative estimates. Checking the bulls **before** the breeding season will eliminate or minimize economic losses. Checking after the breeding season will only help to diagnose an existing problem; but losses for that year will continue. It is very

important that the bulls are checked for breeding soundness and “Trich” *before* each breeding season.

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