



### **Some Cattle Feed Supplements Reduce Forage Intake and Digestibility**

**7/97 BOZEMAN** - Montana stock growers face a strange "Catch 22." Montana range forage can become deficient in protein and energy by mid-summer, leading to a need to feed supplements. However, studies show that some supplements may reduce both forage intake and digestibility.

The effect of the range quality drop in late summer can be significant. In one study in the Northern Great Plains, yearling cattle that had gained three pounds a day from mid-May to mid-July were reduced to an average of two pounds or less per day average weight gain for the whole summer.

Low weight gains after Aug. 1 are not only the results of inadequate nutrients in the forage.

"Studies have shown that grain-based supplements have reduced forage intake and digestibility to such an extent that there was no benefit from supplementation," says John Paterson, Montana State University Extension Service beef specialist.

Supplements can stimulate a change in the microbes in the cattle rumen, says Paterson. The microbes in the rumen that do a good job metabolizing grain-based supplements are not the same microbes that work best digesting fibrous forage. By favoring the microbes that do well with supplementation, those that do the best job on forage may be reduced.

Paterson's comments on grain-based supplements referred to a two-year study by Elaine Grings, Bob Short and Ron Heitschmidt of the USDA-ARS at Fort Keogh near Miles City. Their 1986-87 study showed that after about Aug. 1, weight gain by steers on range fell dramatically, with some steers losing weight. Their presentation at April's Montana Livestock and Nutrition Conference pointed out that studies in the 1990s did not support studies from the 1980's showing that protein supplementation of yearling steers improved production efficiency.

With conditions and study results differing this much, cattle producers will need to consider varying their use of supplements and/or changing their grazing strategy to match conditions, says Paterson.

"When ranchers believe they have a potential deficiency, they need to follow a logical approach to determine what is deficient," he adds.

He recommends that they have forage tested for energy, protein and even minerals.

If producers find that their range forage quality after Aug. 1 is deficient in most years, they need to consider different types of supplements and a different grazing strategy, he says.

There are excellent mineral supplements on the market, says Paterson, which probably need to be fed with protein and energy supplements to be effective. Another option might be to change grazing strategy to try to get more beef produced from existing resources.

"One approach might be to use what is called an 'intensive early stocking' strategy," says Paterson. This involves stocking pastures heavily early in the summer when forage quality and quantity are high and then removing the cattle when nutrient supplies begin to limit animal growth.

"Results from Fort Keogh showed that beef production per acre was increased by an average of 24 pounds or 63 percent over season-long grazing," says Paterson. This was so even though weight gain per steer tended to be lower using an intensive stocking system. Because of this contrast, producers will hear differing economic evaluations of intensive early stocking depending on whether the evaluation is based on production per acre or production per steer.