

# CATTLEMEN'S CORNER BEEF NEWSLETTER

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## Utilizing Crop Residue as a Feed Source

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This article is similar to one I published last year however, I think the subject is very timely and much of the information has been updated.

High hay and grain prices often force cow/calf producers to search for lower cost feed alternatives to stretch existing hay and forage supplies. Grazing crop residues such as grain fields that have been irrigated after harvest to sprout leftover kernels of grain or cornstalk residual is a frequent sight. Baling and feeding baled cornstalks is becoming more commonplace. Utilizing crop residues can reduce feed costs, however there are several factors that should be considered.

**Feed Value.** Perhaps the greatest challenge in utilizing any crop residue as a feed source is the wide variation in nutrient content and digestibility. Sprouted grains are high in nutrient value although straw residue and plant density can impact intake. On grazed cornstalks, nutrient content declines with each day the cattle are in the field. In a large field of cornstalks, cattle will seek out and consume any missed ears, spilled kernels, leaves and cornhusks first. They will then consume the more lignified stalks which are of much lower nutrient value. The nutrient value of baled cornstalks can vary greatly depending on field conditions and harvest methods. Some growers simply bale the windrow left from the combine. Others will swath all remaining cornstalks and then rake them into a larger windrow. Swathing and raking corn stalk residue will increase the tons per acre harvested but will also increase the amount of lignified stalks and dirt content of the bales. Table 1 shows the variation that existed in several different loads from Northeast Oregon in 2007. One load that was sampled in the Burns, Oregon area actually tested with 7.4% crude protein, which would be considered high.

**Table 1.** Baled Corn Stalks Analysis Results\*

	% DM	% CP	% TDN	NO3-N ppm)
1	85.8	3.7	53.4	N/A
2	82.1	4.5	52.5	1270
3	84.6	5.1	54.3	1560
4	77.8	5.2	49.8	750
5	84.8	3.9	55.2	705
<b>Average</b>	<b>83.02</b>	<b>4.48</b>	<b>53.04</b>	<b>1071</b>

\*reported on a dry matter basis

**Feed Comparisons.** In order to place an appropriate value on crop residues, producers can make comparisons with something common such as alfalfa. Moisture should be the first comparison that is made. . . . continued on page 3

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## Back to Basics: “You Cannot Starve the Profit Out of a Cow”

Ron Torell, University of Nevada Cooperative Extension Livestock Specialist

I have to admit that as a youth and then as a young extension agent fresh out of college I was a bit intimidated and humbled by the many old-timers of the beef industry in Nevada. I looked up to these individuals who were one or two generations older and much more experienced than I. People like Oren and Eyer Boise, Dirk Agee, Hillary Barnes, Charley Van Norman, John Jay and Hughey Reed, Lynn Wines, Chris Gansberg, Norman and Arthur Glaser, Lloyd Sorensen, Stanley Ellison, Joe Riordan, Big Bill Davison, Dr. A.A. Cuthbertson, Dr. Barney Cannon, Nelo and Pete Mori. These and many more men and women shaped the livestock industry of Nevada while acquiring a wealth of education through the school of hard knocks. They were tough people that made a living during tough times in a tough desert range environment. They scratched out a living without the benefit of big machinery, without rapid communication or transportation systems, and with limited research-based production information.

“We had a body condition scoring system back then, too. It was thin, darn thin, and dead.”

Just as it is today, wintering beef cows was the toughest and most expensive aspects of beef production. The tough winters made or broke many operations. A few of the quotes I picked up on from these old friends are: “Our goal was to get the cows through the winter alive.” “The tough ones would survive.” “We would count the hay stacks in the fall, divide by the number of days we thought the winter would last. That is how we balanced the ration.” “We had a body condition scoring system back then, too. It was thin, darn thin, and dead.” The quote from these individuals I remember most is the old saying “*You cannot starve the profit out of a cow.*” This quote holds true today and is the centerpiece of our conversation in this issue of Back to Basics.

“We had different life objectives back then. Our wants and needs were few. We lived a slower, cheaper and simpler life.” The cow of the 1910 to 1950’s was what the old-timers called a small durum cow that was tough. Weaning percentages were low in spite of low milking, smaller framed cows that produced small calves. Old-timers kept open cows over so they could maintain a brood cow inventory. Almost without exception cattle were marketed as yearlings weighing near 600 pounds. The railroad was the standard method of transporting grass fat live cattle to the eastern end market. There were no refrigeration transportation units which limited marketing options. These were generally low input - low output operations.

Through genetic selection and application of technology, today’s cows are larger framed, higher milking, and capable of producing a 500 to 600 pound calf at 205 days of age. Offspring of today’s cattle go on to the feedlot and perform. They hang a carcass that appeals to the consumer worldwide.

Today we strive to produce a three-in-one package cow. In other words, come fall we try to have a high percentage of our cow herd have a calf at their side and one in-utero for next year. Our input costs are so high we have to have that three-in-one package to economically survive.

Somewhere along the line as an industry, we have lost site of the low input factor and have evolved into high input, high output. In spite of recent record high prices for our product, our bottom line has narrowed or disappeared primarily due to escalating input costs, i.e. feed, fuel, labor, and transportation. Topping the list of these expensive inputs has to be wintertime feed, the key ingredient to maintaining that three-in-one package. The beef cow’s nutritional requirements have not decreased simply because feed prices have increased. The million dollar question becomes, how do we make livestock production in the Great Basin economically viable with input costs at these elevated levels?

Over the next few issues of Back to Basics I would like to address that question. I will call on information researched and published from another group of old-timers that I respect and have learned from over the years and who are members of the professional community. These individuals tell the same story as those icons of the industry mentioned earlier, “*You cannot starve the profit out of a cow.*”

I do not have all the answer but promise to provide food for thought on the subject. Management is the key element to economical survival with today’s rising input costs. 

**Utilizing Crop Residue as a Feed Source . . . continued from page 1**

When adjusted for moisture to match alfalfa hay, the price for \$55/ton cornstalks becomes \$59.64/ton. Eighty-five dollar/ton baled cornstalks are now \$92.17/ton. One other moisture content consideration should be the potential for mold developing in the bale. Bales that are less than 85% dry matter can develop mold if stored for very long. Nutritional content should be the next comparison. Protein, TDN, net energy for maintenance (NE<sub>m</sub>), and metabolizable energy should be considered. How do those figures compare to each other and to the cow's actual nutrient needs? Table 2 shows those comparisons.

**Table 2.** Nutrient Comparisons and Needs

	CP	TDN	NE <sub>m</sub>	ME	Ca	P
Corn Stalks	4.5%	53.0%	.49 Mcal/lb	.87 MCal/lb	.39%	.17%
Alfalfa Hay	17%	60%	.60 Mcal/lb	.99 Mcal/lb	1.39%	.24%
Requirements 1000 lb. cow	7.32%	51.3%	7.57 Mcal	14.5 Mcal	.21%	.17%
Requirements 1200 lb. cow	7.31%	51.4%	8.68 Mcal	16.6 Mcal	.22%	.17%

In order for a 1200 lb. cow to meet her needs for net energy, she must consume 21.3 lbs. of cornstalks daily on an as fed basis. To meet her needs for protein, she would have to consume over 31 lbs. of cornstalks. Rate of passage of baled cornstalks will be much slower than with higher quality feeds. This will reduce intake and make it impossible to meet a cow's nutrient requirements solely with baled cornstalks.

Other considerations should include feeding methods and dirt content. One producer this fall reported scattering bales around the pasture and cutting all but three strings on the bale. Cattle were then allowed unrestricted access. This resulted in waste loss of up to 40%. It was also reported that some bales were up to 8% dirt by weight. It appeared that the farmer doing the swathing and baling attempted to pick up every little bit of cornstalk. It is important to consider these and other additional factors when determining the true value of baled crop residue.

**Grazing.** Perhaps the most cost effective method of utilizing crop residue is by grazing. This eliminates the fuel and machinery cost associated with harvesting the residue. One common problem with grazing crop residues is a lack of fences around fields. This can be easily remedied by utilizing portable electric fencing. Portable electric fencing can also be used to strip-graze the field which greatly increases the utilization rate. Research shows that a 3 day strip-graze yields 40% more grazing days per acre as compared to a 14 day strip-graze.

**Animal class.** Dry, pregnant (mid gestation), mature cows are best suited to utilize crop residues. Their nutritional requirements are low as compared to lactating and late gestation animals. Growing calves, feeder cattle and replacement heifers are not suited for crop residues. In most instances, their nutrient requirements will not be met which will reduce their growth and performance.

**Other considerations.** When feeding crop residue it is important to consider any possible negative effects of the feed. For example, certain types of grass seed straw can have high levels of alkaloids that can potentially cause negative effects on the cows, such as fescue toxicosis. All cereal grain hays should be tested for nitrates, and corn stalks are no different. Table 1 shows the nitrate-nitrogen (NO<sub>3</sub>-N) levels of the tested corn stalk hay sampled in NE Oregon. While not alarmingly high, samples 2 and 3 should not be fed at a rate greater than 50% to pregnant cattle, as nitrate toxicity may occur and cows may abort fetuses or die.

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## Integrated Resource Management (IRM)

Gordon C. Keetch  
U of I Extension Educator, Adams County

When I began working in Extension twenty-three years ago, I was mentored by two outstanding animal scientists, J.D. Mankin and Ed Duren. They taught me the concept of Integrated Resource Management (IRM) by involving me in the Idaho Total Beef Program.

Integrated Resource Management (IRM) is accomplished when “key performance indicators of an operation are analyzed, decisions are made, and action is taken to ensure maximum profitability and competitiveness through the optimum use of all available resources”.

Let’s break down this definition for a cow-calf operation. Resources involved in the production of a product (a calf) to sell include the land, the cattle, the labor, the capital and the management. On a large operation, your management team would include a farm manager, a range manager, a cow manager, a foreman or foremen and an office manager. On a small operation, the rancher manages all resources himself so he would consult with a specialist in each area. His IRM team could include his banker, his veterinarian, various Extension specialists and allied industry consultants. The strength of the IRM team is that many heads are better than one and integrating the expertise from multiple sources will improve the decision making.



The factors that make the IRM concept successful are cooperation, thrust, responsiveness and informational. Cooperation is the willingness of individuals to work as a team to further the common cause. Thrust implies that there is energy and power that will result in aggressive action. Responsiveness indicates a willingness to make a decision and adopt a bold course of action. Information gathering is essential in order to analyze and formulate decisions.

Information gathering is essential in order to analyze and formulate decisions.

Profitability is an important measurement for a producer. Four key indicators on herd performance are open cows, growth, length of calving season, and death loss. Records are necessary to establish a data base to analyze and help identify problems or opportunities. The “Red Pocket Book” was developed in Idaho and adopted nationally to help gather information on the key indicators.

When data on any of the key indicators indicates that a problem exists, then the cause of the problem needs to be identified. Once the problem has been identified, then management can be changed to solve the problem. The effectiveness of the management change will then be confirmed in next year’s production records.

The IRM concept is effective in facilitating the transfer of scientific knowledge, the adoption of profitable management practices, and the sharing of successful programs with other producers. The involvement of various disciplines broadens the knowledge base for analyzing and solving problems. Integrated Resource Management can help improve your profitability.



## COOL . . . What does it mean for you as a producer?

Stephanie Etter  
U of I Extension Educator, Canyon County

If you have sold any animals recently you may have been asked to sign an affidavit as to the country of origin of your animals. This is a result of the Country of Origin Labeling (COOL) law which went into effect on October 1<sup>st</sup>. The purpose of the program, as the name implies, is to market meat based on its country of origin. In recent surveys, 85% of consumers want to know where their food comes from. Results from the same survey show that 90% of consumers believe knowing the country of origin will allow them to make safer food choices. It should be noted however, that COOL is not a food safety program.

So, as a livestock producer, what steps do you need to take to comply with the law? As mentioned in the July newsletter article on COOL, producers will be responsible for recordkeeping. As the person with firsthand knowledge of your animals and where they originated, it will be your responsibility to inform future buyers of their origin and maintain records sufficient to back up those claims for one year following the transaction. If it is not part of your normal production records, start today by conducting a herd inventory. Any animal in the United States as of July 15, 2008 will be grandfathered in as US cattle. It is important to document all animals in your herd currently so when they are culled you can provide the proper documentation to substantiate your claims. Normal production records can be enough to substantiate claims given they are well organized. Producers should use this as an opportunity to get herd inventory records, feed bills, shipping records and purchase and sales receipts in order. Even if they are not needed to prove origin claims, the process of getting these records in order will help any operation get a better picture of their operation, input costs and areas for improvement.

From this point forward any replacement animal you buy should be accompanied by an affidavit from the seller stating the country of origin for that animal. The exact wording of the affidavit is not important. What is important is that the affidavit is made by someone with firsthand knowledge of the origin of the animal and it identifies the animals unique to the transaction. Information which could be used to identify animals include: identification numbers, type and sex of the animals, number of head in the transaction, date of transaction and name of buyer. If you know you will be doing repeat business with a person or company you may use a continuous affidavit. These are valid for more than one transaction and are effective until canceled by the party issuing the affidavit. However even these continuous affidavits must be linked to records identifying animals unique to the transaction. For example, you signed a continuous affidavit on October 1<sup>st</sup> of this year with Buyer X, who buys your calves each fall. In October 2009, when you sell to Buyer X, you do not have to fill out another affidavit, but you must record the animals included in that transaction in your records.

For more information on COOL and examples of affidavits, visit the Agricultural Marketing Service website at <http://www.ams.usda.gov/cool> or National Cattlemen's Beef Association <http://www.beefusa.org/>.



**Utilizing Crop Residue as a Feed Source . . .** *continued from pages 1 and 3*

**Summary.** Crop residue can be effectively utilized to reduce feed costs. It is important however to consider more than just price. Producers should consider the class of animals to be fed, harvesting method, and nutrient and moisture content of any baled residue and should be willing to test for quality as well as nitrate content.



## Shorten Your 2009 Calving Season — Identity and Sell Late-Bred Cows

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University of Idaho Extension Beef Specialist, Caldwell Research and Extension Center

About one-third (36.6%) of U.S. cow/calf operations have established breeding and calving “seasons”. According to USDA data, these tend to be medium- and large-sized operations since they account for 51.1% of all beef cows. Among these operations, more than half start calving in February or March.

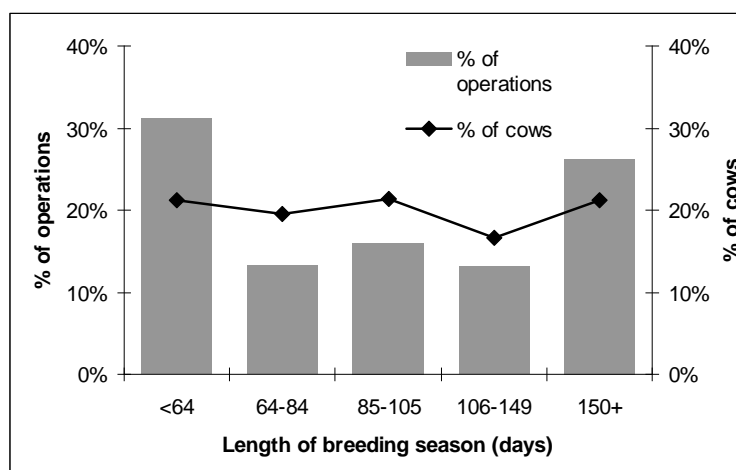
However, only 44.2% of single-season operations complete their calving season within a 60 -day period. Nearly one-third have calving seasons that last longer than 90 days.

### An Opportunity with a Shorter Season?

It appears that many cow/calf operations have an opportunity to shorten their calving season and possibly increase overall profitability through increased revenue and/or decreased costs. Several potential benefits of a shortened calving season have been identified:

- 1) Increased calf crop uniformity and value due to less variation in age and weight at weaning,
- 2) Improved cowherd reproductive performance due to more emphasis (and genetic selection) on reproduction via removal of less fertile females,
- 3) Fewer late born, light weight, and dink calves,
- 4) Reduced need and cost for calving season labor,
- 5) More effective nutritional management of the cowherd by meeting requirements of more cows (since most cows will be at a similar stage of pregnancy),
- 6) More effective cowherd and calf crop management, including proper timing of vaccinations, branding, health management, weaning, shipping, etc. for more animals.

A long calving season results from a long breeding season. Yet, the breeding season lasts less than 64 days on only 31.1% of all operations (Figure 1). Since these operations only have 21.1% of the beef cows, it appears that many are smaller operators.



**Figure 1.** Length of last breeding season by percent of operations and percent of cows (USDA NAHMS, 1997).

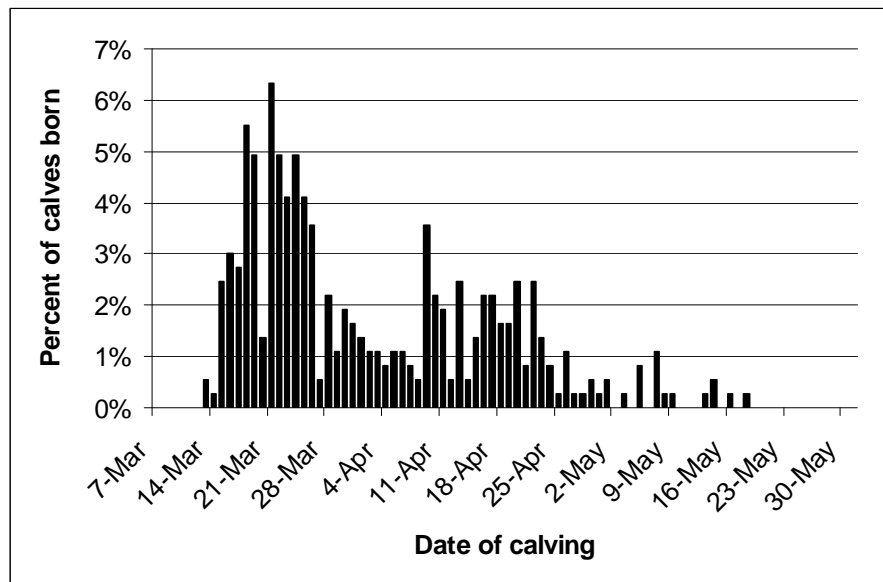
### Options for Shortening the Calving Season

The two primary methods to shorten a calving season include: 1) shorten the breeding season by removing bulls earlier, and 2) identify and remove late-bred cows. Since most western cow/calf operations lack facilities and/or labor to easily remove bulls earlier, efforts to shorten the calving season should emphasize the identification and removal of late-bred cows.

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Shorten Your 2009 Calving Season . . . continued from page 6

Data that illustrate the distribution of calves born during an operation’s calving season are valuable. For instance, the distribution of calves born during a 67-day calving season for a 200-head commercial cowherd is included in Figure 2.



**Figure 2.** Calving distribution during a 67-day calving season on a 200-head spring-calving commercial cowherd (2 years data combined).

In this cowherd (typical of many U.S. herds), over 72% of calves were born in the first 30 days of the season (Table 1). Only about 6% of the cows calved during the last 23 days of the calving season (which constituted over one-third of the entire season).

**Table 1.** Distribution of calves born during the calving season by 15-day periods

Day of calving season	% of calves born	# of calves per day
1 to 15	49.5	3.3
16 to 30	22.5	1.5
31 to 45	22.0	1.5
46 to 60	4.7	0.3
61 to 67	1.4	0.2

If the 12 late-calving cows in the cowherd (6% x 200 cows = 12 cows) had been removed during the previous fall, calf age at weaning would only vary by 45 days (rather than 67 days). Additionally, the average calving date among these 12 cows was 33 days later than cows that calved during the first 45 days. This equates to an average postpartum interval that is 33 days shorter than the rest of the herd – giving these females much less time to recuperate and “prepare” to re-breed.

The average beef cow should re-breed approximately 82 days after calving in order to maintain an average calving interval of 365 days (365 days/year – 283 days of gestation = 82 day post-partum interval). In the above scenario, the 12 late-calving cows have an inadequate “rest” period during their post-partum period. Compared to early-calving cows, these cows are slower to start cycling, and therefore have fewer estrus periods while exposed to bulls.

**Shorten Your 2009 Calving Season . . . continued from page 7**

Few management options exist to help late cows re-breed except for lengthening the breeding season, which lengthens the subsequent calving season. Unfortunately, extending the breeding season for late-breeding cows will perpetuate sub-fertility.

**Pregnancy Checking**

Among western cow/calf operations, 54.6% palpate their cows for pregnancy (USDA NAHMS, 1997). Of the operations that don't pregnancy check cows, the most common reasons identified included the requirement for labor and time (34%), cost (19%), generally difficulty (14%), and lack of facilities (11%).

Currently, there are 3 methods available to pregnancy test cows, including physical examination (rectal palpation), ultrasonography, and chemical tests.

During rectal palpation, a veterinarian looks for 4 possible signs including palpation of:

- 1) the amniotic vesicle (beginning about 28-35 days after conception),
- 2) the fetal membrane as early as 30 days post-conception,
- 3) placentomes (cotyledons and caruncles) by day 75-80 of pregnancy,
- 4) actual fetus around day 65.

Ultrasonography has become more popular in recent years through the use of a rectal probe. Evaluation for pregnancy via ultrasound can be accomplished slightly earlier than rectal palpation, but still requires about 26-28 days post-conception.

New technologies that evaluate a body fluid (e.g. milk or blood) for the presence of absence of specific compounds are starting to become available to help producers determine the pregnancy status of cattle.

Progesterone tests are based on the concentration of progesterone (produced by the corpus luteum) in blood or milk which are associated with pregnancy. The test requires blood or milk from a cow bred 21 to 24 days before, and is very accurate (nearing 100%) for diagnosing a cow as not pregnant.

Early Pregnancy Factor Tests use milk or serum to determine if the Early Pregnancy Factor compound is present as a result of a signal from a fertilized egg shortly after conception. One such test can only be done 7-20 days after insemination.

Pregnancy-Associated Protein Tests are based on the presence of proteins that serve as signals and are exchanged between the dam and embryo in order to maintain pregnancy. These tests can be done beginning around 18-30 days post-breeding.

Some of these chemical tests focus on the identification of non-pregnant cows earlier than can be done via palpation or ultrasonography, so that cows can be "re-synchronized" and inseminated earlier than would occur normally. However, for many range-based cow/calf operations, early detection of pregnancy may not be as valuable as in confined beef or dairy cattle operations.

**Conclusions**

Many cow/calf operations either don't have established breeding and calving "seasons," or they have seasons that extend far beyond the industry ideal of 60 days. Condensing the breeding season by identification of late-bred females would help to decrease cost by enabling more effective management of the cowherd's nutritional needs and increase revenue by enabling the marketing of a more uniform calf crop.

Pregnancy checking via rectal palpation, ultrasound, or a newly available chemical test could identify cows bred late in the season. By removing late-bred cows, which typically constitute a small percentage (often 5-10%) of a cowherd, a calving season can be shortened by 3 weeks or more.



## Idaho State Land Grazing Fees

Neil Rimbey, U of I Extension Range Economist

Idaho became a state in 1890, with the passage of the Idaho Admission Bill (PL 105-296). Section 4 of this Act (titled "School lands") authorized that "Sections numbered 16 and 36 of every township of said state...are hereby granted to said state for the support of common schools..." Idaho was granted about 3.6 million acres of scattered sections. Through sales, trades and exchanges, the original acreage has declined to the current situation where Idaho currently owns and manages about 2.4 million acres. "School Lands" amount to about 2 million of those acres. Policy decisions related to State Lands are made by the 5 member State Board of Land Commissioners. The Land Board is comprised of the Governor, Secretary of State, Attorney General, Superintendent of Instruction and Controller. Management of these resources and their uses is provided by the Idaho Department of Lands.

Grazing of domestic livestock currently takes place on about 2 million acres of State Lands. They provide about 260,000 Animal Unit Months (AUM: the amount of forage that one mature cow will consume in one month) of forage and generate around \$1.5 million each year for the Endowment Fund. When grazing leases expire every 10 years, qualified applicants can contest the leases. If leases are contested by more than one party, oral competitive bidding takes place for the right to graze livestock on these leases, with the highest bidder generally being awarded the 10 year lease. The Land Board has "the power to reject any and all bids made during such auction sales, when in their judgment there has been fraud or collusion, or for any other reason, which in the judgment of said state board of land commissioners justified the rejection of said bids."

### **Grazing Lease Rates: Historical Levels**

Fees for grazing domestic livestock on State Lands have been set in a variety of ways through the history of the program. Until 1972, fees were charged on a cents/acre basis, with numerous changes in the annual rate over the 90 years under that system. In 1972, the Land Board changed the basis of fees to a dollar/AUM rate. From 1972 – 1980 the Land Board determined the charge per AUM based on departmental recommendation using an inventory of the parcel of land involved, the carrying capacity based on AUMs, and any federal exchange of use terms when applicable. With the bulk of state lands (estimated to be close to 90 percent of the grazing leases) being the scattered sections that were granted to Idaho at the time of statehood, grazing management of many state parcels are determined by the surrounding federal or private land managers. For example, a section of State Land surrounded by 10,000 acres of federal grazing land is used as exchange of use by the federal land management agency. In other words, the unfenced state parcel and the AUMs consumed by livestock on it become part of the management of the federal grazing allotment. The State Land AUMs are "exchanged" for use on the federal land grazing allotment.

After 1980, the Land Board set annual fees on a variable basis and they generally fell in the range of \$3 to \$6/AUM. Numerous appeals and requests for fee reductions were made during the early 1980's, given the depressed livestock prices faced by producers and continued inflation of input costs. The Board established an investigative task force to look at the fee issue. The Task Force recommended a single rate based upon the previous year's calf price (provided by USDA-National Agricultural Statistics Service-NASS) and this formula was instituted in 1984. Under this system, the NASS-provided calf price was multiplied by 5 or 6 to determine the fee for the 1985 grazing season. Controversy on fee levels continued into the 1990's, when the lamb market declined significantly and the cattle market increased. At this point, the Land Board created another Task Force to provide more review of the fee issue. Detailed study of the private grazing lease market was undertaken by the University of Idaho through 2 separate surveys of lessees and lessors of private forage and statistical analysis of NASS private lease rates. The Task Force recommendation to the Land Board was made in the fall of 1993 to adopt a formula that included indices on grazing lease rates, cattle prices and input costs. The Land Board adopted such a formula in October, 1993, which has been used to determine annual fee levels since the 1994 grazing season.

### **State Land Grazing Fees Since 1993: How Are They Determined?**

The formula adopted by the Land Board in 1993 is based upon the strong correlation that exists on a year-to-year basis in private grazing lease rates. The goal of the Task Force that reviewed fees at that time was to develop a formula that would track the private grazing market, consider livestock prices and input costs, and provide a high degree of predictability.

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**State Land Grazing Fees . . . continued from page 9**

The federal government uses a formula mandated under the Public Rangeland Improvement Act (PRIA, 1978) that calculates fees based upon changes in indices for private grazing lease rates, cattle prices and input costs. Regression techniques were used to analyze the relationship between Idaho private lease rates and the four indices. The resulting Idaho formula is PRIA-like, including the 3 PRIA indices along with another calculated index of Idaho private grazing lease rates in an alternative formulation. Land Board policy adopted in the 1990's required that IDL give a notice to lessees of at least 6 months when fees increased. NASS indices and lease prices are not available until January of each year. Because of these 2 factors, it was necessary to estimate the relationship using a two-year lag (i.e. 1997 indices are used to predict 1999 lease rates).

The original model developed and used since 1993 is:

$$IDFVI_{t+2} = -6.92 + (0.13 FVI_t) + (0.60 BCPI_t) - (0.33 PPI_t) + (0.74 IDFVI_t)$$

Where:

**FVI** is the index (1964-68 base period) of private grazing lease rates in the 11 western states

**BCPI** is the index (1964-68 base period) of cattle prices in the 11 western states

**PPI** is the index (1964-68 base period) of prices paid to produce cattle in the 11 western states

**IDFVI** is a calculated index (1964-68 base period) of private grazing lease rates in Idaho.

The formula satisfied the criteria established by the Task Force and Land Board. It provides a mechanism that adequately tracks the private grazing lease market and is predictable, with the formula explaining over 92% of the variation in Idaho lease rates over time. It also includes factors to account for the lessees' "ability to pay" through the inclusion of indices for cattle prices and input costs. In October, 1993, the Land Board adopted a base value of \$1.70 that would be used to update fees annually, through the formula.

**How the Formula Works**

Each December, NASS releases the indices for cattle prices and prices paid in the Agricultural Prices publication. Each January, the agency releases the private grazing lease information, in the Annual Agricultural Prices publication. Both of these publications are available on-line through the NASS website: <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1003>

When these items are available from NASS, they are input into the formula and used to derive an estimate of Idaho Forage Value Index (IDFVI) 2 years into the future. This estimate is divided by 100 and multiplied by the \$1.70 base value to derive the fee. As an example of the process, consider the following information from the 2006 NASS report and the calculation of the State Land fee for 2008.

**2006 Values: FVI = 414**

**BCPI = 418**

**PPI = 724**

**IDFVI = 398**

**State Grazing Lease Rate:**

$$2008 IDFVI = -6.92 + (.13 \times 414) + (.6 \times 418) - (.33 \times 724) + (.74 \times 398)$$

$$= -6.92 + 53.82 + 250.8 - 238.92 + 294.52$$

$$= 353.3$$

**2008**

$$\text{Fee} = 353.3 / 100 \times \$1.70 \text{ Base Value}$$

$$= \$6.01/\text{AUM}$$

**State Land Grazing Fees: What Have They Been?**

Indices, estimated IDFVI and the resulting fees between 1994 and 2008 are presented in Table 1. Generally, the fees have been in the \$4.50 to \$6 range since instituted in 1994.

. . . continued on page 10

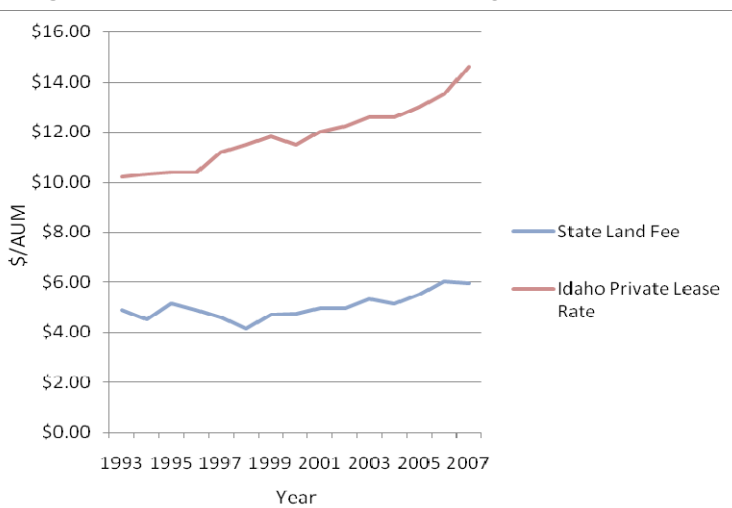
State Land Grazing Fees . . . continued from page 9

Table 1. Idaho State Lands Grazing Fee Formula, with indices. 1992-2008.

Year	FVI	BCPI	PPI	IDFVI	Prediction	Fee
1992	275	316	440	261	288	
1993	279	333	451	301	266	\$ 4.90
1994	282	304	455	304	303	\$ 4.53
1995	301	277	473	307	287	\$ 5.15
1996	293	252	499	307	270	\$ 4.88
1997	310	281	512	330	245	\$ 4.58
1998	323	272	514	339	277	\$ 4.16
1999	326	281	516	348	280	\$ 4.72
2000	329	313	554	339	291	\$ 4.76
2001	345	330	559	354	292	\$ 4.95
2002	356	303	559	360	314	\$ 4.96
2003	367	342	593	372	303	\$ 5.33
2004	378	402	618	372	325	\$ 5.15
2005	400	413	686	383	354	\$ 5.53
2006	414	418	724	398	350	\$ 6.02
2007	427	394	762	431	354	\$ 5.96
2008						\$ 6.01

Figure 1 presents the calculated State Land fee levels, compared to the NASS-reported private grazing lease rates between 1993 and 2007. Private lease rates have increased from \$10.20 to \$14.60/AUM over the 15 year time frame. State Land fee levels have not shown the same pattern of increase as the private leases, perhaps indicating that the indices for cattle prices and prices paid have a “dampening effect” on fee levels.

Figure 1. Idaho State Land Grazing Fees and Idaho Private Land Lease Rates, 1993-2007 (\$/AUM).



**Future Direction and Issues**

Since its adoption in 1993, no additional analysis has been performed on the fee formula. The grazed forage market is dynamic and changes in response to a number of factors related to weather, livestock production economics, alternative forage markets and a number of others. It is important that the performance of the formula be monitored and updated when necessary to insure that the formula and resulting fees track these changes in the private forage markets. Performance and applicability of individual indices must also be determined.

There has been little controversy about fee levels and the performance of the formula over the time since it was initiated in 1994. Livestock producers and beneficiaries of the Endowment appear to appreciate the forward planning possible with the use of the current fee formula.

The base value used in the formula was an attempt by the Land Board to state what State Land forage was worth in the 1964-68 base period. There is a need to determine this value in a more scientific approach than was used by the Land Board in 1993 and to bring the base period into the 21<sup>st</sup> Century.

Past research has indicated that private grazed forage values are more a function of landlord services and forage availability than on forage quality. There is a need to survey lessees and lessors of private forage to determine types of leases in use, the value of landlord services and a base forage value applicable and comparable to State Lands.



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**Don't forget to THANK A VETERAN on Tuesday, November 11,  
as we honor them for their service to our country.**



Did you know this military fact? The Tomb of the Unknowns contains the remains of unknown American soldiers from World Wars I and II, the Korean Conflict and (until 1998) the Vietnam War. A guard at the Tomb of the Unknowns takes 21 steps during his walk. This alludes to the twenty-one gun salute which is the highest honor given any military or foreign dignitary. He also hesitates for 21 seconds after his about face to being his return walk for the same reason. The gloves the guard wears are moistened to prevent the guard losing his grip on the rifle. Guards are changed every thirty minutes, twenty-four hours a day, 365 days a year. For a person to apply for guard duty at the tomb, he must be between 5'10" and 6' 2" tall and his waist size cannot exceed 30." A guard must commit two (2) years of life to

guard the tomb, live in a barracks under the tomb, and cannot drink any alcohol on or off duty for the rest of their lives. They cannot swear in public for the rest of their lives and cannot disgrace the uniform or the tomb in any way. After two years, the guard is given a wreath pin that is worn on their lapel signifying they served as guard of the tomb. There are only 400 presently worn. The guard must obey these rules for the rest of their lives or give up the wreath pin. The shoes are specially made with very thick soles to keep the heat and cold from their feet. There are metal heel plates that extend to the top of the shoe in order to make the loud click as the guards come to a halt. There are no wrinkles, folds or lint on the uniform. Guards dress for duty in front of a full-length mirror. Every guard spends five hours a day getting his uniforms ready for guard duty. The first six months of duty a guard cannot talk to anyone nor watch TV. All off duty time is spent studying the 175 notable people laid to rest in Arlington National Cemetery. A guard must memorize who they are and where they are interred. Among the notables are: President Taft, Joe E. Lewis (the boxer) and Medal of Honor winner Audie Murphy, (the most decorated soldier of WWII) of Hollywood fame. The military members assigned the duty of guarding the Tomb of the Unknowns during Hurricane Isabel were given permission to suspend the assignment. The guards respectfully declined the offer, "No way, Sir!" Soaked to the skin, marching in the pelting rain of a tropical storm, they said that guarding the Tomb of the Unknowns was not just an assignment, it was the highest honor that can be afforded to a servicemember. The tomb has been patrolled continuously, 24 hours a day 7 days a week since 1930.

