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# Iowa Beef Center

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*To enhance the vitality, profitability, and growth of the beef industry of Iowa*

## Feedbunk Management

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“The eye of the master fattens the cattle” was printed on the title page of the first edition of Feeds and Feeding by W. A. Henry in 1898. This adage has been used to characterize cattle feeding as an art in addition to the science. The art of cattle feeding most certainly relates to feedbunk management. This art historically has been gained through experience ( i.e. “the eye of the master”). In other words if you feed cattle long enough and make enough mistakes, you just know how to do it. In today’s cattle feeding business, narrow margins dictate that few mistakes can be tolerated.

This fact, along with employee turnover or multiple employees making feed calls at feedyards has led to the development of more systematic approaches to feedbunk management. These approaches rely heavily on records and the “science,” but also require judgment. Several systems are in existence in commercial feedyards that are similar in principle. Dr. Rob Pritchard at South Dakota State University has developed a system, initially to simplify feed calls and feedbunk management for the many students responsible for these duties at his Beef Feedlot Research Center. What Dr. Pritchard discovered was that Midwestern cattle feeders could improve their efficiency by using a systematic approach to feedbunk management and has developed a bunk scoring approach to teach his system.

This paper is a brief review of feedbunk management, its increasing importance with today’s feeding systems, the principles of systematic feedbunk management (including the SDSU) system and some of the factors that influence feedbunk management.

### **Why the interest in feedbunk management systems?**

Feedbunk management is much more important in high grain rations. As ration energy levels have increased as

shown in figure 1, problems associated with acidosis such as sudden deaths, brainers, founder, rumenitis, liver abscesses, clostridial infestations and off feed conditions have increased (Stock and Britton). Cyclic feed intake upsets the steady environment in the rumen and a yo-yo pattern of feed intake is established. This along with the increased level of fermentable carbohydrates (grain) increases the acidosis risk.

Figure 1. Average Percent Grain in Rations of Iowa Feedlot Enterprise Record Participants



Also recent research has indicated that feeding cattle at 97-98% of full feed gives the same performance as 100% (2-3% more efficient). Programmed systems of planned feed deliveries for the entire feeding period have been studied. This research interest has led many feeders to place an increased importance on feedbunk management systems.

### **What is feedbunk management?**

My definition of feedbunk management is to deliver a consistent, nutritious, fresh ration in a manner that maximizes (or nearly maximizes) feed intake and minimizes waste and spoilage. Therefore feedbunk management includes not only feed delivery decisions,

but also feed mixing, nutrient balancing, feedstuff quality control and characteristics, feed processing, and other factors related to feed presentation.

Feed delivery decisions (feed calls) are essentially an estimate of the amount of feed a pen of cattle will consume. Factors such as cattle size, weight, breed, ration, weather effects and health must all be taken into account. Also the effect of a given feed intake on intake at subsequent feedings must be accounted for. For example, cattle may consume the feeding just after an increase, but lose appetite and crash a day or two later. This is the classic mistake that sets the stage for roller coaster consumption patterns.

### Systematic Feedbunk Management – Bunk Scoring Systems

The following is a brief review of the SDSU bunk scoring system with a sprinkling of “thumb rules” from other sources. For more information on feedbunk management, see the list of references at the end of this article. One such article is by Johnny Horton of Nutrition Services Associates, Hereford TX (1990). He suggests that feed calls be made prior to the morning feeding with two additional observations made during the day, one during consumption of the first feeding and one in the afternoon prior to feeding. Feed should never be increased by more than 10%. Decreases of more than 10% may be justified to force cattle to clean the bunks. Feed calls should never be decreased in the afternoon. At the ISU Beef Nutrition Farm feed calls are made in the morning and both morning and afternoon feedings are then mixed. Afternoon feeding requires only delivery of the previously mixed feeds. This is partly because of the feeding system at that facility, but works well. Several factors affect the feed calling decision. Horton suggests that a good bunk reading sheet contain the following:

- |                   |   |
|-------------------|---|
| 1. pen number     | 6. days on feed                         |
| 2. lot number     | 7. days on ration                       |
| 3. head count     | 8. indication of slick bunks            |
| 4. in weight      | 9. indication of when bunk last cleaned |
| 5. current weight | 10. amount of feed fed last 5-7 days    |

Table 1 shows the SDSU Bunk Scoring System. This system allows the feeder to estimate actual consumption rather than feed deliveries, see trends in intake (increasing, decreasing, steady) and by keeping at least 4 days of records available accounts for the delayed response in cattle behavior to a feed change.

**Table 1. SDSU 4-Point Bunk Scoring System**

Score	Description
0	No feed remaining in bunk.
1/2	Scattered feed present. Most of bottom of bunk exposed.
1	Thin uniform layer of feed across bottom of bunk. Typically about 1 kernel deep.
2	25-50% of previous feed remaining.
3	Crown of feed is thoroughly disturbed. >50% of feed remaining.
4	Feed is virtually untouched. Crown of feed still noticeable.

As mentioned earlier, feed calls are made prior to feeding using information on consumption and bunk scores from previous days. Table 2 shows an example bunk sheet for four pens that give a feel for how feed deliveries, used in conjunction with bunk scores, might be interpreted. For each pen, the amount of feed fed and the appropriate bunk score are documented every day. For example, on day 1 pen 13 was fed 249 pounds and received a bunk score of 2.

Some of the factors that affect feed call decisions include cattle aggressiveness and weather. Horton (1990) suggested that at the time of feeding, 25% of the cattle should be lined up ready to eat, 50% should be standing and working their way to the bunk and 25% should be getting up and stretching. There may be times when the bunk is read as slicked, but because the cattle are not aggressive, you wait to increase them.

Weather can effect cattle feed intake and feed call decisions. Heat can dramatically reduce appetite, and should be factored in. Also rain can effect feed palatability, especially in warm weather. Stale feed should be removed from the bunks and discarded. Rain also effects feed consumption because of the secondary effects of muddy lots. Mud, by virtue of restricting cattle movement and making access to feed and water more difficult can severely reduce feed intake. Finally, cattle seem to have the ability to sense the coming of cold fronts. They do increase intake generally during cold weather, especially relative to hot weather, but may become increasingly aggressive as a cold front approaches. Because of this some feeders supply “storm rations” consisting of additional roughage or higher levels of a lower energy ration. This concept did not improve performance however in a Nebraska study (Mader, 1991).

Other factors to consider in feedbunk management relate to feed presentation. Rations should be fresh and palatable and uniformly nutritious. Therefore mixing

and ingredient selection and processing are important. Fine particles that separate in the bunk should be avoided. These may contain concentrations of minerals or feed additives, or highly fermentable grains. The use of ration conditioners, high moisture feedstuffs or improvement of uniformity of particle size may help reduce fines.

In summary, good feedbunk management may reduce the incidence of acidosis related problems, simplify feeding decisions for employees, but most importantly improve efficiency and reduce the cost of production. Data summarized by Pritchard (1993) comparing pens of cattle fed with widely varying bunk management had tremendous differences in efficiency and gains. To learn more about bunk management the following articles are suggested:

**References:**

Pritchard, Robbi, 1993. Bunk management. Proc. "Delivering the Difference," a Land O'Lakes conference.

Horton, Johnny M., 1990. Bunk management, feed delivery and water trough management. In Cattle Feeding: A Guide to Management, Albin and Thompson, Ed., Trafton Printing, Inc, Amarillo, TX.

Fox, Danny and Don Gill. Feedbunk Management in Feedlots. Great Plains Cattle Feeding Handbook. Factsheet GPE-4001.

Loy, Dan. 1986. Feedbunk Management for Feedlot Cattle. ISU Extension Factsheet Pm-1245.

Mader, Terry, 1992. Feedlot Roughage Levels and Changes. Proc. Winter Environment Beef Cattle Symposium. Sioux Falls, SD.

**Table 2. Example bunk sheet (data from SDSU)**

Feedlot: \_\_\_\_\_

Date:	1	2	3	4	5	6	7							
Days on Feed: _____ Ration Number: _____														
Pen #	Pen Crashed													
13	249	2	201	2	201	½	207	0	207	½	207	0	213	0
Days on Feed: _____ Ration Number: _____														
Pen #	Consistent													
15	303	½	303	½	303	½	303	½	303	½	303	½	303	½
Days on Feed: _____ Ration Number: _____														
Pen #	Right on track													
32	255	½	255	½	255	0	255	½	255	½	255	0	258	0
Days on Feed: _____ Ration Number: _____														
Pen #	Increasing DMI													
35	237	½	237	½	237	½	237	½	237	½	240	0	246	0