



## Rotational grazing maximizes pasture and cattle production.

by **Linda Sleichter**

**M**ark Janak and his cattle do a lot of traveling. In fact, some months the herd at J Bar Angus Ranch in Hallettsville, Texas, may move once a week. That may seem like a lot of moving to some ranchers, but the J Bar Angus Ranch uses a rotational grazing system.

Rotational grazing can be defined as the use of several pastures with one's being grazed while others are rested. Through his rotational grazing system, Janak's 175 cows are divided into 25- to 35-cow herds. The herds are rotated on pastures ranging in size from 25 to 40 acres on native pastures and from 15 to 25 acres on improved pastures. During the spring and early summer, the cow herd is moved every five to 10 days, depending on rain, temperature and fertilization.

"This rotational system helps add some extra gain to my calves, which means added pounds in the end," Janak says.

### Benefits

Janak says he decided to implement the rotational grazing system for three reasons: (1) it allows pastures to produce more grass; (2) it eases handling; and (3) it provides options to cut or graze the pastures according to moisture needs.

The grazing system at J Bar Angus gives the pasture a chance to rest when not being grazed, thus allowing fresh growth for optimum nutrition.

"Allowing pastures to rest also breaks the cycle of some worm larvae, which helps prevent parasite problems," he says. "Rotational grazing allows us to control cattle grazing, which encourages cattle to eat more of the grass rather than stomping it

out. And, once the system is in place, cattle learn to respect your authority and are easier to move from field to field."

Jimmy Henning, University of Kentucky (UK) Extension forage specialist, lists additional benefits of a rotational grazing system: utilization, yield, quality, persistence and nutrient recycling.

"Rotational grazing allows more of the forage to be used, the pasture to produce to its potential, the forage to be higher quality, some forage to persist more effectively, and nutrients to be recycled and dispersed," Henning says. "You don't waste much with this system."

Rotational grazing can help increase net profits by increasing yield of animal products per acre. It can also increase profits by decreasing the supplemental feed needed. While Janak's herd is on pasture, he does not feed a supplement — a fact he credits to his grazing system.

"If it wasn't for rotational grazing, supplemental feedings would be necessary," he says. "I have a tendency to understock to reduce the need to supplement in even extreme drought conditions."

Pastures benefit from this system because the cattle are allowed to eat the forage down and then are withheld from the pasture, allowing enough time for the forage to regrow. It improves pasture quality by encouraging even grazing of a paddock. Some forages, including alfalfa and some native warm-season grasses, need rotational grazing to persist well, but every forage does better with a graze-and-rest system.

Cattle benefit from this system by utilizing the forage more evenly. They get a better diet and more to eat overall. A study done at the University of Georgia found that the total calf gain per acre increased 36% in a rotational grazing system compared to a

continuous grazing system. The same study revealed a decrease of 29 pounds (lb.) of hay fed per cow in a rotational system compared to continuous grazing. These improvements are due in part to the improved grass quality and quantity.

### Disadvantages

As with any management system, rotational grazing has its share of disadvantages. Janak says that fencing and water are limiting factors in his system of rotational grazing.

"You have to do cross-fencing, which costs extra, and you must be able to work around a central watering place, such as a pond or large trough," he explains.

While the general perception is that a rotational grazing system is a time-intensive management strategy, Janak says he believes the time input is worth the payoff.

"The system I have set up, which is basically for spring and early summer, requires a trip to the ranch every five to seven days," Janak says. "This system helps add some extra gain to the calves, which means added pounds and [an] improved bottom line."

Henning says the majority of the time needed for a rotational grazing system is at start-up.

"The time investment is on the front end — making fences and setting up the system. But the payoffs make it worth it," Henning says. "Research shows that increased labor is not a limiting factor for this system."

But water is a limiting factor. Water is proportionate to gain, so access to water is essential to the success of the system, according to Henning.

Another disadvantage, according to an Oklahoma State University (OSU) Extension publication, relates to reduced

individual animal performance. Livestock in a rotational grazing system do not have the diet selectivity that animals in a continuous grazing system have. This lack of diet selectivity typically results in reduced animal performance, especially when animals are grazing warm-season forages.

### Getting started

Pennsylvania State University (Penn State) lists four steps to establishing a rotational grazing system.

#### 1. Determine number of animal units.

Animal units help determine the forage needs for a herd more accurately than number of head. Animal units take into consideration the different nutritional needs of cattle at different stages. One animal unit is based on the daily forage intake of a 1,000-lb. dry cow (see Fig. 1).

**2. Estimate acres needed.** By calculating the acres needed to meet the forage needs of a herd, a producer can have a better idea what size his paddocks should be. The number of acres needed depends on the number of animal units per pasture, as well as the type and quality of forage available.

For example, cool-season grasses (fescue, brome grass and bluegrass) are most productive in the spring and fall, while warm-season grasses (bluestem, Sudan and switchgrass) thrive in the summer months. By growing both a cool-season grass and a warm-season grass, the producer can maximize the efficiency of his pastures.

A good rotational grazing system will match pasture growth to animal needs. Cow-calf systems will have the greatest forage needs in the calving and breeding seasons, with a drop in forage need after weaning.

#### 3. Estimate number of paddocks needed.

This is dependent on the number of animal units and type of forage available, the number of days the animals will graze in a paddock, and the maximum rest period needed.

#### 4. Estimate size of each paddock.

Paddock size depends on the animal units in a herd, the pasture available and desired grazing period. To calculate paddock size, divide the total grazing acres available by the number of paddocks needed.

When considering implementing a rotational grazing system, Henning recommends producers look at the cost-return ratio. How much will it cost to get started? How are they going to get paid back?

“A producer shouldn’t borrow a lot of money to establish this system,” Henning says. “Start small by subdividing bigger pastures into small paddocks. Learn to use well what you have, and then think about expanding or changing what you have.”

**Fig. 1: Figuring animal units**

	Beef cattle animal units
1,000-lb. dry cow	1.0
1,300-lb. dry cow	1.3
1,000-lb. lactating cow (first 4 months postcalving)	1.4
1,300-lb. lactating cow (first 4 months postcalving)	1.6
2,000-lb. mature bull	1.7
550-lb. growing-finishing steer (2.0 lb. ADG)	1.2

Source: Penn State University forages

### Implementing the system

One key aspect to a successful rotational grazing system is knowing when to move the cattle to the next pasture. Henning offers these suggestions:

**Look at the pasture.** What does the grass look like? Have a mental picture of the stopping point and know when you want to move the herd. One good rule of thumb is to leave 3 inches (in.) of stubble for cool-season grasses and legumes, and 4-8 in. of stubble for warm-season grasses. However, those numbers may change with different weather conditions.

**Look at other pastures.** How fast is the grass growing on the other side of the fence? If it is growing well, then don’t wait as long to move the herd to the next pasture.

**Look at the forecast.** If you are expecting big rains and the pasture has a high legume content, move the cattle somewhere else so that your pasture doesn’t become a muddy mess.

**Look at the time of year.** During the spring cattle should be moved more often to

allow the grass to grow. However, in the fall the cattle should be allowed to eat the grass more thoroughly before the weather beats it down.

**Look at the cattle.** If cattle look like they are hungry, then move them. The type of cattle also has an effect on when you should move them.

### Resources

There are a number of resources available to producers implementing rotational grazing systems. Workshops and seminars are available to help get you started. Talking to fellow producers who have such systems in place provides great real-life experience and can help prevent costly mistakes. Local Extension agents are also willing to help producers implement such a management system. There is even software available to help producers plan and implement a rotational grazing system. The resources are there if a producer wants to pursue them.

