

June 9, 1989

During Drought

Intensive Rotational Grazing

Will Utilize More Available Forage

Ronald E. Morrow, Department of Animal Science

Intensive grazing is a very popular discussion topic among cattle producers these days. The concept is an intriguing one to me, and I've really enjoyed the opportunities to tour the state and other parts of the country to talk about our work in grazing systems. Probably the most confusing issue is what to call this system that's been made possible by what we refer to as New Zealand technology--development of fencing and chargers. You will see the names controlled grazing, cell grazing, high intensity-low duration grazing, Savory system, wagon-wheel grazing, and intensive rotational grazing. I personally prefer controlled grazing or intensive rotational grazing. Regardless of the name, the concept deserves attention. Biologically, the concept as generally discussed is sound. Some of the specifics may never be proven or disproven because of the complexity of the animal-plant-soil interface. Economically, the concept is going to be dependent on several factors relating to cost of land, number of cattle, type of forages, type of cattle, etc. Routine recommendations on using intensive recommendations should not be made. A producer needs to carefully evaluate his/her production system and grazing objectives to decide whether or not to try the concept first and then how to manage the system.

Just as intensive grazing is variable in name, the procedures are also quite variable. Generally, we feel that any system that has eight or more pastures (paddocks or cells) is intensive grazing. Anything less is simply a form of rotational grazing. The upper number could be anywhere between 20 and 40, depending on the degree of forage utilization a producer wants to achieve. We generally say that a system should have cattle moved every 3-4 days as a minimum movement. We have rotated cattle as often as every 12 hours. Two reasons are discussed for the 3-day rotation. First, because of the selectivity of grazing of beef cattle, an animal might graze a spot in a pasture where the highest quality grazing is available. If that animal is still on the pasture 3 or 4 days later, it is back at that spot grazing the regrowth that has come back. This causes poor forage utilization. The second reason is we would like to have a constant flow of high quality forage through the rumen of the animal. If cattle are rotated on pastures every 3 days or less, then the quality of the material ingested by the animal is fairly consistent. If not, then the diet of the animal may be changing and rumen turnover is not constant and keeps the animal from performing as well as possible.

Questions that should be considered by a producer when considering the use of intensive grazing are discussed below. These are presented to establish a basis for how to manage an intensive grazing system in our state.

What is the production system? Backgrounding steers or developing replacement heifers could have different grazing objectives than cow-calf pairs just as cows of high milk production potential would be different than cows of low potential. The higher the potential for gain, the more possible return by using intensive grazing.

What are the grazing objectives? Usually this relates to whether a producer wants to utilize a high percentage of the forage available or wants to graze for high quality. Cow-calf producers with cattle of high genetic potential should graze for quality by turning animals in to graze for a short-time period (the best forage quality) and then move to another paddock. Backgrounders may want to turn steers into a pasture for high forage utilization to have a high production per acre of land.

What forages or forage systems are available? We feel the higher the quality of the animal, the higher quality the forages need to be. Intensive grazing then gives the management potential to truly match animal type to forage resource. I'm particularly excited about grazing alfalfa. We then have the potential to make beef cattle production competitive economically on some of our marginal cropland. On the other hand, we have a forage in this state that we must use in beef cattle production and use for a high degree of utilization. This is fescue. I'm convinced in my own mind that intensive grazing is one method of managing high endophyte fescue. Fescue could be grazed for a high degree of utilization until July. Incidentally, when I refer to a high degree of utilization, I mean putting 60-75% of the forage available in a pasture into the animal instead of the 30% we get with conventional continuous grazing.

What about the physical parameters? The biggest concern is water availability. Both location and amount can be a problem. First, keep in mind that increasing stocking rates will also increase the amount of water needed (10-14 gallons per animal each day) which can be a heavy load on some water systems. Since animal behavior is such that all animals may go to water at the same time, watering space can also be a problem. Another physical concern is the shape of the paddocks. Since the primary reason for intensive grazing is forage utilization and a secondary reason is the nutrient recycling (urine and feces deposited back on the pasture), uniform grazing of all a pasture is extremely important. Therefore, we tend to discourage real long, narrow paddocks.

What about management of the system? The two biggest concerns are stocking rate and frequency of rotation of pastures. Stocking rate has to be determined by forage availability (pounds of dry matter) in a pasture and animal consumption per day. Dry matter intake is around 3% of body weight. A 600 pound steer would eat about 18 pounds of dry matter day; a 1000-pound cow about 30 pounds. This will vary with forage quality, condition of the animal and milk production of the cow. If a pasture has 2000

pounds of dry matter per acre and we are going to utilize 70% of it, we would have 1400 pounds of dry matter for consumption. That acre would graze 45-50 cows for a day. If we had 20 paddocks to give each one a 3-week regrowth period, then we would graze that number of cattle on 20 acres. This works if that pasture grows back that amount of dry matter in the 3-week rest period, which is highly dependent upon rainfall distribution as well as forage type and soil fertility. The second concern in management of the system is how often to rotate pastures. This should be determined by forage availability of the pasture and not a time interval. I think a big concern is not to graze the pastures real short (an inch or less) because of leaf area left for photosynthesis and subsequent regrowth of the pasture. If we graze our pastures down to about 2 inches and move to the next pasture when the forage is 6-8 inches tall, we should graze the best quality forage and get the most rapid regrowth.

What about labor? The first impression of many producers is the anticipated extra labor requirement. In reality, this should not be a concern. With new developments in electric fencing, the labor to divide pastures is not great. I would recommend using a aerial photo to use as a base for measuring of paddocks. The other labor requirement is rotating pastures. Cattle learn the system very quickly and are usually at the gate waiting for you.

What is the bottom line? Intensive rotational grazing is a sound concept that you can probably double your production per acre, if that parameter is important to you. For the average producer in the fescue belt, the technique can be used effectively to better manage pastures and get more return for the fertilizer dollar. Unless you are using forages other than fescue, do not plan on grazing the intensive pastures the entire season unless you have an abnormal amount of rainfall. Intensively graze early in the season when the fescue is growing fast and then go to backup pastures (areas hayed and allowed to regrow) when the fescue slows in growth. Consider using warm season grasses, summer annuals and alfalfa for higher quality grazing in the summer months. Don't overlook other grazing techniques, especially for cow-calf producers. Two good ones are forward grazing and creep grazing. Forward grazing is allowing animals with the greatest nutrient requirement to graze a pasture first to select the best quality forage. Then come in with other animals to graze the pasture down further and clean up what the others left. Creep grazing is having an area of a better quality forage in pastures where calves can graze. Since a calf is a very selective grazer, calf gain can be increased by giving them access to a forage creep area and not have to keep high quality pastures for cows that have slowed in milk production.

