

Grazing, Not Haying

Irrigated pasture can be more productive than haying.

by Heather Smith Thomas



Utilizing irrigated hayfields for grazing, combined with well-planned management, can often be more productive than the alternative — haying. In fact, some producers are changing from haying to grazing irrigated fields due to numerous management advantages. Jeff Mosley, Extension

range management specialist at Montana State University, says that in some situations, grazing simply makes more sense.

Depending on the terrain, haying may or may not be practical for the producer. “Some irrigated hayfields are irregularly shaped near streams or have terrain constraints, and swathing or baling them is slow and inefficient,” Mosley says. “The cut hay near a creek may take a long time to dry before it can be baled, so regrowth is delayed while waiting to bale, and the risk of getting the hay rained on increases.”

In this case, if irrigation depends on a creek that has less water in late summer and the ditch was turned off to dry out the field enough to harvest the hay, there may not be enough water later to get the ground wet again for fall regrowth and, consequently, production is lost.

According to Mosely, grazing is also appealing because fuel costs are less than for haying. Although producers need to consider switching from haying to grazing may require additional investments in fencing or water developments. Even if stock water is present, the volume may be inadequate to meet the demands of the high stock densities needed to properly manage irrigated pastures. Additional fencing may be needed to avoid negative

impacts to riparian areas when hay ground adjacent to creeks is converted to irrigated pasture.

He also advises producers to maintain their stocking rate at first rather than increasing it when they switch from haying to grazing. In general, tonnage harvested by proper grazing management of irrigated pasture is about the same as the tonnage harvested by proper hay production on irrigated hay land. Sometimes the tonnage goes up with grazing, but it can also go down since individual producers are often better at either managing grazing or managing haying.

Research in Utah

Randall Wiedmeier, Extension professional and livestock specialist at University of Missouri Extension, spent 25 years at Utah State University in Logan working with range and forage projects to maximize grazing land utilization. While he worked at Utah State, Wiedmeier helped address some of the problems ranchers were having with public lands. He explored ways ranchers could extend their private grazing by better use of private land as an alternative when facing curtailments on grazing permits.

“We looked at maximizing irrigated pastures, first to determine which grasses would work best in our Great Basin and Rocky Mountain areas. We also did some work on winter grazing and were able to maintain a cow-calf pair on about one acre each year, with year-round grazing,” Wiedmeier says.



For several years the university ran tests with cattle grazing on various grass species – not just the clip tests to measure production. During the projects, perennial ryegrass, orchard grass, meadow brome and a couple of endophyte-free fescue varieties were used.

Aspects evaluated included ease of establishment, productivity of the grass and its ability to withstand management intensive grazing. Of the grass varieties, fescue resulted as the most desirable by a distinct margin. Wiedmeier notes fescue is not the most palatable grasses, and cattle will select something else if there are other grass available, but they will eat it. With tall fescues, the university was able to harvest about 12,000 lb. of dry matter per acre for a 180-day grazing period in the Cache Valley of Utah.

Fescue is a hardy, productive grass, which is why a majority of the cow-calf industry in the U.S. utilizes it. Regarding carrying capacity, Wiedmeier says a cow-calf pair with a fairly fast-growing calf and a fairly productive cow, allowing for 46 lb. of dry matter intake per cow-calf pair per day, could graze on 1.9 acres for 180 days. This statistic is based on the assumption that management intensive grazing is used, moving cattle every day and utilizing poly wire temporary fencing. Ultimately, the cattle were on and off the paddocks very quickly.

Many producers don't want to move cattle daily, but Wiedmeier believes it pays off and extends the grazing. "Intensive rotation will increase your carrying capacity by 40-50% compared with other systems. It all boils down to profit per acre," he says. "With an intensive system like this, we could easily wean a 700 lb. calf in 220 days."

He points out calves raised on irrigated pasture are always heavier than calves raised on dry rangeland, partly because their mothers milk better.

Practical profitability

Grazing can lend flexibility to ranchers that encounter governmental changes as well as be more profitable than putting up hay on pastureland. Utilizing irrigated pasture can prove a feasible option if a rancher's public grazing is eliminated or reduced and, as a result, he or she has to run cattle at home on hayfields rather than putting up hay. In the West, administration changes can cause uncertainty as to whether or not ranchers will be able to continue to use the range—or if the agencies will make it so difficult to use the range that some pressured ranchers quit.



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Wiedmeier compares and contrasts the profit of managing and harvesting hay versus the input required to produce it. For example, if a person can put up seven tons per acre per year at \$200 per ton for good alfalfa hay, the result would total \$1,400 per acre before the costs of irrigation, machinery and all of the other costs involved in making hay are deducted. If hay prices are lower than that, the rancher's profit per acre would be less. "By the time you take at least \$600 an acre off that for growing and putting up the hay, you might make \$800 an acre on years with high hay prices," Wiedmeier says. "If a person has to replace older machinery, this expense would take a big chunk out of the profit for haying."

This would result in less profit on grass hay, which is worth less per ton, and in Western climates might only make one cutting per season instead of three. He points out, depending on cattle prices, a cow-calf production system might offer a \$1,000 per acre return.

"I was raised in an area in Montana where we put up hay all summer and fed hay all winter, sometimes from October through May. Putting up hay is always risky, especially with the weather," Wiedmeier says. "It costs just as much to put up mediocre hay as good quality hay. Pasturing takes the risks out of this equation."

On many Western ranches, especially those that have less-than-perfect hayfields or odd-shaped meadows along a stream, it might be more profitable raising cattle on the land than hay. Marginal fields and pastures can be improved tremendously by intensive grazing management, in turn, greatly increasing the carrying capacity.

Success in Idaho

Even good hay ground can be profitably grazed instead of being used for hay. Jim Gerrish, owner and operator of American Grazinglands Services in May, Idaho, has been involved with innovative grazing systems for many years and is now raising cattle in east-central Idaho, practicing these principles on his own Circle Pi Ranch.

Gerrish implements daily pasture rotation with his cattle on land using center pivots. The irrigated pasture has high production potential and the ability to regrow rapidly. He does a fast rotation, putting water back onto a strip a day or two after it is grazed, accelerating regrowth and allowing opportunity to grow another crop. His pastures are also strip grazed under the pivots.

In his experience, well-managed pasture under center pivots will meet or exceed hay production, so a rancher is not giving up any productivity by grazing the land rather than haying, and the land offers more days of active growth. With haying it only grows up once or twice if there is a long growing season, but with grazing a rancher could have multiple cropping.

"Most of our pastures, we graze four times in a season. Compared to what is considered good hay production in our valley, which has a short growing season, on average, we get 40 to 50% higher dry matter production harvesting it with livestock than what we'd get if it were all being taken as hay," Gerrish explains. "This is a substantial increase and we can capture this with intensive management of the grazing."

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Grazing improves the soil and plant growth when the cattle manure is added to the field.

Eagle Valley Ranch near Salmon, Idaho, began using management intensive grazing several years ago, grazing cattle on irrigated forage that was originally harvested for hay and has increased the production per acre. Grazing also improves the soil and plant growth when the cattle manure is added to the field. Mike Kossler, the recently retired ranch manager, says ranch employees move cattle frequently and always try to leave residual forage. The amount they leave depends on the leaf base. If enough residual forage is left initially, it comes back a lot quicker.

“If it’s summer and the grass is a foot high when we go into a pasture, we might take it down to six inches and then leave it,” Kossler says. Every pasture is different; some may not grow as tall and the response, therefore, isn’t as quick.

“We are always analyzing growth rate. We might take five inches off and then let it grow for 30 or 40 days before we come back to it,” he explains. “Some pastures, with fertilizer added, might be able to come back to in two weeks. There’s no set routine. You just have to look at it and manage accordingly.”

Some of the grass pastures are pivot irrigated, some of the hayfields have wheel lines and some pastures are flood irrigated. Kossler has had to do some improvements to create some of his cell pastures, installing water developments for the cattle. To disperse the cattle and have the manure spread over the fields, some infrastructure with water lines and water tanks is needed.

In Idaho the grass grows quicker in the spring and early summer than in July and August when the weather gets hotter. Here, the irrigation helps keep the grass growing better.

According to Kossler, pivot irrigation is an easier way to keep things wet when it’s hot, versus flood irrigation. Pastures can be watered more effectively, putting a certain amount of water on them, whereas it can be harder to get across them with flood irrigation when the water won’t go as far. On the other hand, a rancher can set a pivot at 10%, put down 1.5 inches of water and go back at 30 to 40% with just ¼ inch of water. This option ensures better water management on exceptionally hot days and keeps the pastures wet.

“Regarding the forage mix, we just used what was already there. In some of the pastures we had a mix of timothy and brome, and if we got behind on grazing those down in the early summer we cut hay,” Kossler says. “We always have the potential to graze and hay some of those. We have a pivot pasture of 200 acres that we cut if it starts to make stalks. This gives us more flexibility.”

He also believes the hardest part of pasture management is knowing when to put the cattle on it. It’s crucial to not start too early. With 1800 acres to graze and keep clipped at the proper time so it will keep growing, it can be challenging to time it just right. Kossler points out the grass is short when it’s first coming up, so it’s important the cattle don’t stay on it very long, almost flash grazing, where the cattle get a bite and then move on. After that time period, the growth can rapidly increase. “That’s when you could actually bring in all the neighbors’ cows for about 3 weeks and graze the whole thing, but then you’d have to send them home,” he explains. “It’s always a balancing act, and the grass will always get ahead of you on a wet spring.”

Kossler had one 180-acre pivot he put into a clover/grass mix and ended up haying it in early summer – getting 2.5 to three tons to the acre. Then he let it grow back about eight to 10 inches tall and put the ranch’s calves on it after weaning, and they gained 2.5 lb. per day. That piece gave him two good crops.

“This type of grazing does amazing things for the cattle, but most important is what it does for your grass. It gives wonderful weed control, keeping weeds eaten off before they go to seed, and the cattle provide natural fertilizer,” he says. “Concentrating the cattle this way, they cover that ground with manure, and then they are out of there the next day. On green feed the manure is liquid and we didn’t even bother harrowing pastures. The grass is more vigorous and growing, and good quality feed. The only pastures needing dragged is where the cows are fed in the winter.” **HW**

Jeff Mosley’s guidelines for irrigated pasture

- Don’t apply water when cattle are in the pasture; irrigate immediately after they leave. Wait for soil to dry before grazing it again. Drying may take one day for sandy soils, three days for clay and four to five days for silt loams.
- Water use will be more when grazing versus haying. Regrowth of the pasture will be faster if it is grazed longer, rather than too short, before moving the cows. Rotations need to be faster in spring, when grass is growing faster, and slower in late summer. If forage gets ahead of the cattle, hay or stockpile that piece to provide feed later. **HW**

