

# Set Your Sights On a Good PASTURE SITE

*Where should you put fences and water to maximize forage and beef production efficiency? Forage specialist Bruce Anderson shares his best tips in pasture site evaluation.*



**D**o you have your grazing program under control? To carry out a successful grazing program, the first requirement is control – control of space, control of numbers, control of time and control of animals.

Controlled grazing allows you to establish your own production and lifestyle goals. These can include higher stocking rates, increased rates of gain, flexibility to graze two or more herds at one time, ease of workload, and simple to operate. By planning fence and water sites in advance, and on paper, you can accomplish these goals in the least amount of time with the least amount of readjustments.

## WHERE TO START?

Begin by planning an ideal paddock and water layout. Try to design it to be as intensive as possible while minimizing the amount of work needed to make it operate. Overdesign if necessary. Remember, this layout will serve as a goal, something you might never actually attain. Still, you will use this plan to develop parts of it piece by piece. And by having the ideal layout already in mind, as you add improvements over the years

you won't need to change what was done earlier.

As you develop your layout plans ignore all existing fences, water sites and handling facilities. This doesn't mean you won't use existing facilities, especially as you begin actual modifications. However, your ideal layout must be designed without bias caused by existing facilities. Then you will be able to compare your existing facilities to your ideal layout and use them to most effectively meet your production goals.

Share your paddock and water layout plan with your spouse, kids, employees, veterinarian, Extension ag agent, district conservationist, and anyone else who might become involved in its development and operation. Explain why you think each fence and water site is ideal for your situation. Then listen to their ideas that might make it better.

## BUILD ON YOUR CHARACTERISTICS

Design your paddock and water layout to fit your resources and desires. Every farm and ranch has its unique characteristics. Always consider environment topography, vegetation, productivity, type of livestock and access.

There is no such thing as "one size fits all."

**Environment.** Producers in low rainfall regions (under 20 inches annually) tend to develop wheel designs, especially if access to or economics of numerous water sites is prohibitive. Block designs often are better choices in higher rainfall regions. Determine erosion potential -both wind and water – due to soil type and topography. Make sure your layout doesn't encourage certain areas to become damaged by heavy animal traffic. Uniformity of temperature and rainfall during the grazing season as well as its reliability will greatly influence the amount of flexibility needed in your design.

**Topography.** North or south facing slopes, steepness of hills, inaccessible areas, sources of water, hill crests and valleys, soil type and wetlands all affect where you should place fences and water sites.

**Vegetation.** Different forages have various effects on livestock and are more effectively grazed at different times of the year. Some species respond to, or may need, more management than other



species. Your animals prefer to graze some plants more than others, and they prefer to relax in some areas more than in others.

**Productivity.** Moist, fertile soils are more productive than droughty, infertile sites. More productive soils usually respond better to your inputs of fertilizer, weed control, seeding and grazing management.

**Type of livestock.** Nutrient requirements of your animals differ during the year and among animals. Calves, yearlings, breeding season animals, lactating animals and dry females have different needs. Also, the number of different groups of animals and the size of each herd will affect your plan.

**Access.** Will you need to be able to easily move one or a group of animals from any paddock to a working facility at any time? How easy is it to go from one paddock to another? What type of equipment needs to travel to various areas? Will flooding or heavy rain prevent equipment access or animal movement?

***How do you use information about these basic characteristics? Keep the following guidelines in mind as you identify locations for fences and water.***

1. Maintain flexibility. Herd size, number of herds, plant growth rate, nutrient needs and availability change during the year and from year-to-year.
2. Fence paddocks so the grazing environment (topography and vegetation) within each one is similar.

3. Separate north-facing and south-facing slopes. South-facing slopes warm up and begin growth as much as two or three weeks earlier in spring than north-facing slopes. They get hotter and drier in summer, as well. Plants on south-facing slopes grow slowly, while north-facing slope plants continue to rapidly grow. Fall growth will continue longer on south-facing slopes.
4. Fence along ridgetops rather than along gullies; upkeep is easier and there is less erosion due to trailing. Also, place fences on the windward side of ridges to reduce snow drifts.
5. Separate hillcrests and valleys from side slopes. Livestock will graze flat areas rather than slopes when given a choice.
6. Fence paddocks so livestock graze on the contour. Grazing distribution will be more uniform and less erosion from up-and-down trailing will occur.
7. Fence shady and sunny areas separately. This will reduce nutrient transfer by manure and urine, and will reduce trampling under trees.
8. Place lanes or alleyways on high, dry ground and follow the contour. Animal traffic often will cause paths or bare ground. Paths on up-and-down slopes will cause much erosion.
9. When practical, build fences in straight lines. They are less expensive, easier and faster to build, easier to maintain, and last longer.
10. Square paddocks require the least amount of fence and provide the most uniform grazing when grazing periods are longer than one day. They aren't as practical on hilly land where topography and contour considerations are more important.
11. On level to slightly rolling ground, consider making larger, rectangular paddocks that can be subdivided easily using temporary, portable fencing.
12. Place gates in the corner animals will naturally walk to when they leave a paddock to go to water, the barn or shelter.
13. Separate soil types when possible. This is especially important if there are different plant species growing. Also, plants growing in good soils are more productive and can be grazed more frequently than those growing in poor soils.
14. Try to equalize each paddocks forage production potential or carrying capacity. In practice, this means paddocks will vary in size.
15. Identify and fence separately areas that might be conveniently used to harvest hay off during times of excess forage growth. Have adequate access to hay production areas to allow grazing of regrowth after haying.

## GET YOUR GRAZING PROGRAM UNDER CONTROL

1. **Control of spaces.** *How much area will be made available to graze at any one time?*
2. **Control of numbers.** *How many and what type of animals will be placed in an area?*
3. **Control of time.** *How long will animals be in and/or out of a grazing area?*
4. **Control of animals.** *You determine who, when, and where grazing occurs. The animal does not decide.*

*Continued on page 30*

# PASTURE SITE

Continued from page 29

## WATER UNDER CONTROL

Most producers beginning to design paddock and water layouts don't realize how valuable numerous water sites can be. They fail to identify all water alternatives to obtain, deliver, and store water. Plastic pipe can be economically used to distribute water to multiple sites.

Limit access to stream and pond banks. Mud, manure and urine get into the water when livestock are allowed to walk into ponds and streams. It is best to siphon water from the source into a nearby tank and fence out the water source. This reduces problems with disease and parasites from poor water quality that occurs whenever animals are allowed to stand directly in the water.

Calf weaning weights have been shown to be 25 pounds higher or more when watered from a well or from a tank connected to a pond. What kind of water would you want to drink?

Although most paddock and water layouts begin with using lanes or radial fences to provide animals access to one or more watering sites, ideally, water should be available in every paddock. For some producers, this may be cost prohibitive. Still others find that reducing the distance animals travel to drink is beneficial over time. It reduces trampling of vegetation, reduces transfer of nutrients towards the water source, reduces soil compaction and erosion near the water source, and usually requires less fencing. It also makes it easier to have more than one group of animals grazing within the grazing unit.

The size of water tank you will need is affected by the distance between the tank and your animals as well as the rate which water flows into the tank. The reliability of this water flow also should be considered. Whenever the distance to water is great enough that animals move to drink as a herd, storage must be large enough to satisfy all the animals at once. You should provide enough access so at least 10 percent of animals can drink at once. A guideline is to provide at least 1.5 inches of space per head.

As distance to water becomes smaller and terrain permits all animals to see each other and the water site at the same time, getting a drink becomes an individual function. Storage needs can be reduced, some producers get by using plastic tanks under 20 gallons or a single fountain bowl. However, it is absolutely essential that water flows into these

small containers as fast as an animal can drink so animals will be confident that water is available when they arrive to drink. Otherwise, animals will start to challenge each other for drinking privileges.

## CONTROL LANES & ALLEYWAYS

Lanes and alleyways make it easier to move animals from paddock to paddock, to provide access to limited water sites, and to provide access for equipment. They can be incorporated into any design.

Lane width depends on its use. Often it is best to make the lane only as wide as absolutely necessary since forage in the lane usually becomes soiled and wasted. Twelve-foot lanes are adequate for herds less than 50 cows. If pickups, tractors and hay equipment will use the lane, 18- to 24-foot widths often are needed. Avoid right-angle corners; round them instead. If lanes have curves, and especially corners, flag the lane before constructing permanent fences. Then drive your equipment through the lane to be certain all areas are accessible.

Sometimes lanes are made very wide — 30 feet or more. These can be convenient if springloaded wires are used. Equipment then can turn inside the lane.

Extra-wide lanes can also serve as small paddocks for one or two days of grazing. Paddock-like lanes are useful with Texas block designs to improve flexibility of animal movement and to provide a working area.

Place lanes on the highest and driest ground possible to avoid mud and erosion. Use culverts and gravel as necessary if the lane will be heavily used. Lanes sometimes become 'sacrifice' areas due to heavy use.

Always put lane gates in the corner of paddocks nearest to where the animals are going, such as the barn or water tank. Otherwise, some animals will always end up on the paddock side of the fence instead of in the lane, increasing your work load to herd them to the right spot. Make lane gates the same width as the lane. This will allow you to use the gate to prevent access to other parts of the lane.

*More about the author: Bruce Anderson serves as Extension forage specialist, department of agronomy, at the University of Nebraska-Lincoln. He presented this information at the 1994 4-State Beef Conferences in Iowa, Missouri, Kansas and Nebraska.*

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