Nutrient Management

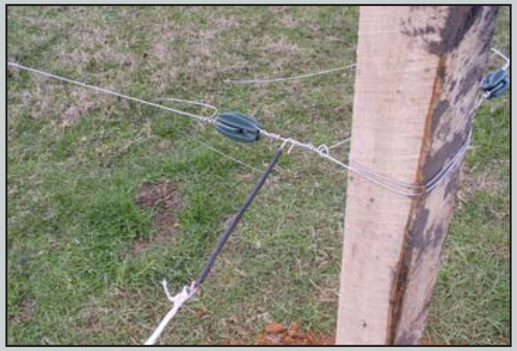
Nutrient management plans determine the nutrients present in the soil, those entering each field as fertilizer materials and those leaving the field as harvested crops, so ranchers can optimize production.

What it does for you

- ❑ Identifies the sources and quantities of all plant nutrients on the farm.
- ❑ Assesses the potential availability of nutrients based on the type, placement, timing and application methods.
- ❑ Optimizes use of nutrients.
- ❑ Reduces chance of environmental problems.
- ❑ Can reduce fertilizer costs and improve yields.
- ❑ Maintains or improves the condition of soil.

Considerations

- ◆ Nutrient planning is a dynamic process.
- ◆ Soil and manure analyses must be performed.
- ◆ Nutrient management plans are a requirement of all Confined Animal Feeding Operation permits.
- ◆ Land managers must fertilize and lime according to soil tests and account for nutrient credits from all sources.
- ◆ Clovers can be seeded into grass to provide nitrogen.
- ◆ Organic matter of the soil must be monitored.
- ◆ A well-managed grazing system can "spread" nutrients throughout the field.



Electric Fencing

Electric fencing is an effective way to control livestock and offers two advantages over other fencing.

One is cost. The cost to install a four strand, barbed-wire fence is about $5,000 per mile. The cost to install a typical single-wire, electric fence is about $600 per mile. Additional wires are about 5 cents per foot.

The other advantage of electric fencing is its ease of construction, which improves forage management opportunities. Small pastures can enhance harvest efficiency and increase forage.

In search of greener pastures

Rotational grazing benefits cattle, grasslands

Whoever said the grass is always green on the other side of the fence, must have visited the John Spain farm in Northwest Arkansas.

Over the past 18 years, the Spain's converted their property into a well-defined, well-managed rotational grazing program, resulting in a 100 percent increase in production. When they changed to the management intensive grazing program, they saw another 91 percent increase in production.

"We decreased our acreage under the rotational grazing program to 300 acres, but were still able to maintain 130 cows. The new grazing program increased cow size and allowed us to sell some hay," Spain said.

When their feed bill steadily climbed as their production climbed,

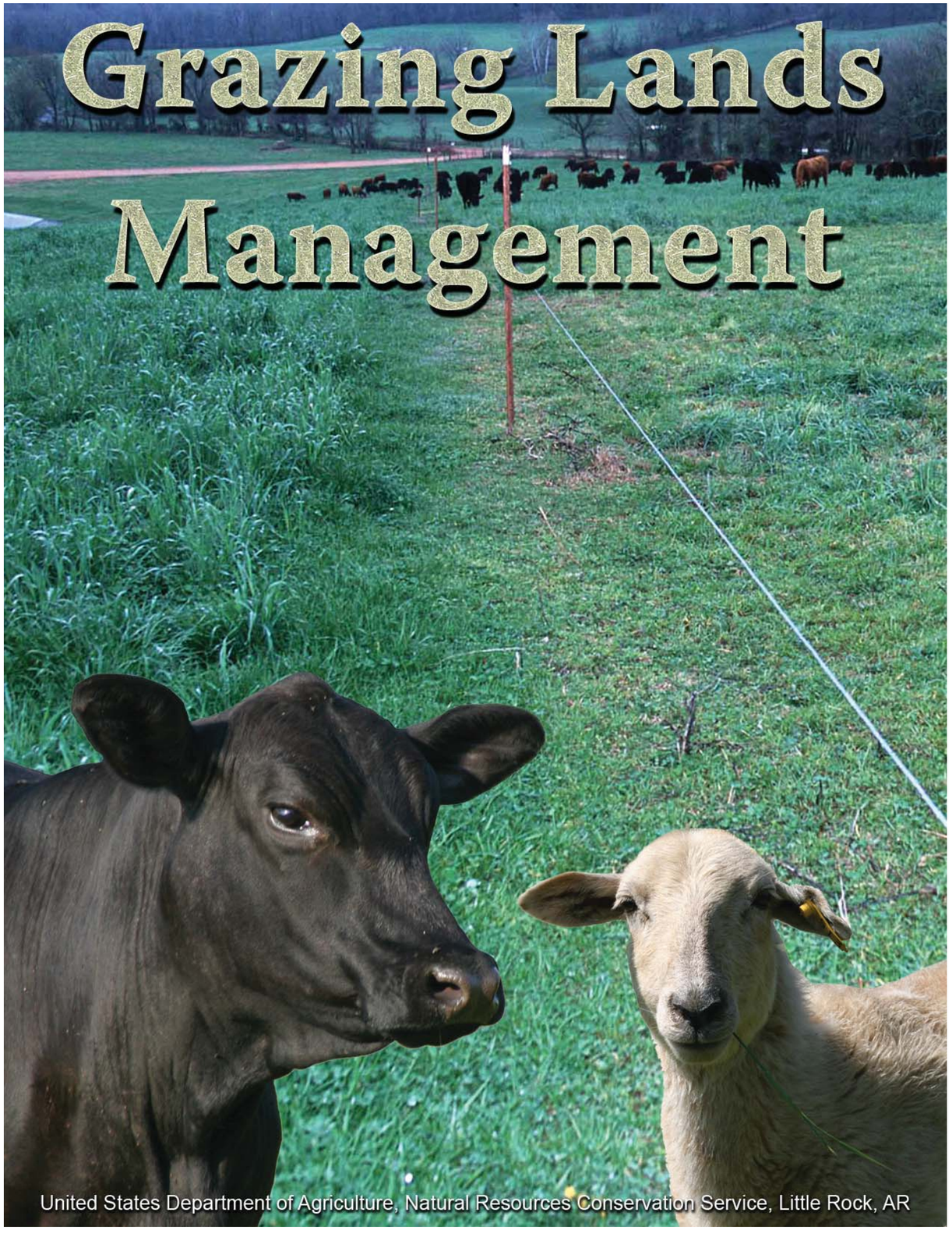
the Spains decided to switch to managed intensive grazing. Before the change their grain expenses exceeded $20,000 a year.

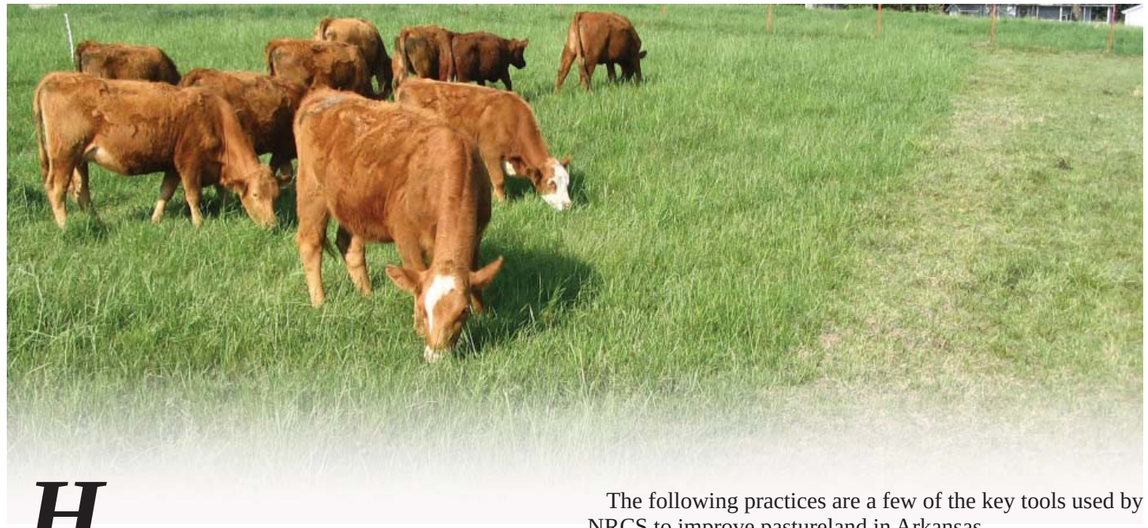
"We started small and cheap," Spain said. "We converted a 24-acre pasture into four, six-acre paddocks, using the least expensive wire and posts we could find. I had 65 cows in each herd, so the six-acre paddocks gave me a stock density of 11 pairs per acre."

Now the Spain's run 65 fall calving cows and calves, 55 spring calving cows with calves, 47 yearlings and 52 "salebarn type" cows on 219 acres of forage. One hundred fifteen acres of this is Bermuda, clover and annual rye grass divided into 19 separate paddocks and over seeded each fall with rye.

"I provide the cows with approximately three days of grazing per paddock and make a complete rotation over all paddocks every 28 days," he said. "The cows enjoy moving to new forage every few days and since the cows are confined to smaller areas, it makes it easier to check on them. Now my pastures always look like a golf course.

"The willingness to practice flexibility not only helped us get where we are today, but it will take us where we're going tomorrow," Spain said.





Healthy pasturelands provide livestock products, flood protection, wildlife habitat, purification of air and carbon sequestration. These lands also provide aesthetic value, open space and vital links in the enhancement of rural social stability and economic vigor.

Arkansas has 34,434 farms with more than 3.6 million acres of pastureland, excluding woodland pasture, according to the 2002 Census of Agriculture.

The Natural Resources Conservation Service (NRCS) offers several programs to help landowners address natural resource concerns related to pasture management.

NRCS grassland specialists and conservation planners work with farmers on resource assessments of pastures to help design effective grazing systems.

Assistance available includes:

- Maintaining and improving private grazing land and its management;
- Implementing grazing land management technologies;
- Protecting and improving the quality and quantity of water;
- Maintaining and improving wildlife habitat;
- Enhancing recreational opportunities;
- Maintaining and improving the aesthetic character of private grazing land;
- Identifying opportunities and encouraging diversification; and
- Encouraging the use of sustainable grazing systems.

All owners and managers of private grazing land are eligible to receive technical assistance from NRCS.

The following practices are a few of the key tools used by NRCS to improve pastureland in Arkansas.

Prescribed Grazing

Prescribed grazing (pasture management) matches forage composition and herd requirements to optimize production.

What it does for you

- ❑ Saves money by reducing feed and fertilizer and pesticide application costs.
- ❑ Yields a higher availability of quality forage and extends the grazing season.
- ❑ Decreases weed pressure.
- ❑ Optimizes animal performance and increases carrying capacity.
- ❑ Increases profits and results in a more sustainable operation.

Considerations

- Pasture can provide all the nutrients needed by most livestock.
- Prescribed grazing increases the health of the animals and decreases stress through better management.
- Pastures can be managed so that high-quality forage is consistently available to livestock.
- The best forages to use are those that match the animals' needs and production potential of the soils.
- As forage gets older, the nutrient content drops. Pastures should be either grazed or mown for hay to encourage new growth of high-quality forage.
- Wildlife habitat can be increased with a well-managed grazing system.

Filter Strips

Filter strips are vegetative strips that protect water quality by intercepting runoff from agricultural fields. Riparian herbaceous cover is a similar practice that can also be useful to people grazing livestock.

What it does for you

- ❑ Protects stream and river banks.
- ❑ Reduces soil erosion.
- ❑ Encourages wildlife usage.
- ❑ Protects ditch banks and reduces sedimentation.
- ❑ May provide income through USDA cost-share programs.

Considerations

- The major perceived cost of buffers is the removal of land from agricultural production; however, these areas may be flash grazed and not decrease production of a livestock operation.
- Native species of vegetation are preferred by wildlife, but these species may not be the best for water quality.
- Some costs (seed, fencing, alternative water development) can be recovered through USDA programs.
- The width of buffer strips needs to be increased on steeper farm land.
- Loss of land may not be costly if the area is low yielding due to shade, compaction or wildlife damage.

Alternative Livestock Watering

Alternative livestock watering systems are designed to provide an alternative to watering animals directly from streams, rivers and lakes.

What it does for you

- ❑ Decreases soil erosion and helps maintain stable stream banks when a stream side filter is re-established.
- ❑ Provides a year-round supply of clean, freeze-proof water for livestock through a well-designed watering system. When used in conjunction with protected heavy-use areas, they provide a solid, mud-free watering area.
- ❑ Provides more flexibility in managing forage grazing systems, manure distribution and pasture utilization.
- ❑ Develops wildlife habitat along stream sides where the riparian zone has been re-established.

Considerations

- Several options are available when choosing an alternative livestock watering system. The best type will depend on many factors including site layout, water requirements, availability and cost of utility water and electricity, and the location and type of water source.
- Types of alternative watering systems available include: AC electric pumping systems, gravity flow systems, improved cattle crossings, ram pumps and solar DC pumping systems.

Heavy Use Areas

Protected heavy-use livestock traffic areas require special consideration and construction to prevent erosion and muddy conditions.

What it does for you

- ❑ Provides stable, safe footing for animals and farm operators.
- ❑ Provides convenient, mud-free access by animals and operators during wet weather.
- ❑ Reduces the amount of gravel required to maintain access areas.

Considerations

- Gate openings, areas around water tanks, feeding areas, travel lanes or hay storage areas may need protection.
- Heavy-use areas should be located away from water wells and streams to provide an appropriate buffer.
- These areas can be constructed by establishing grade to provide drainage, installing a permeable geotextile material (place material between the subgrade and the aggregate), and covering with a minimum of 6 inches of gravel. Choose lime or small aggregate, such as crusher-run, to cap the heavy-use ares.