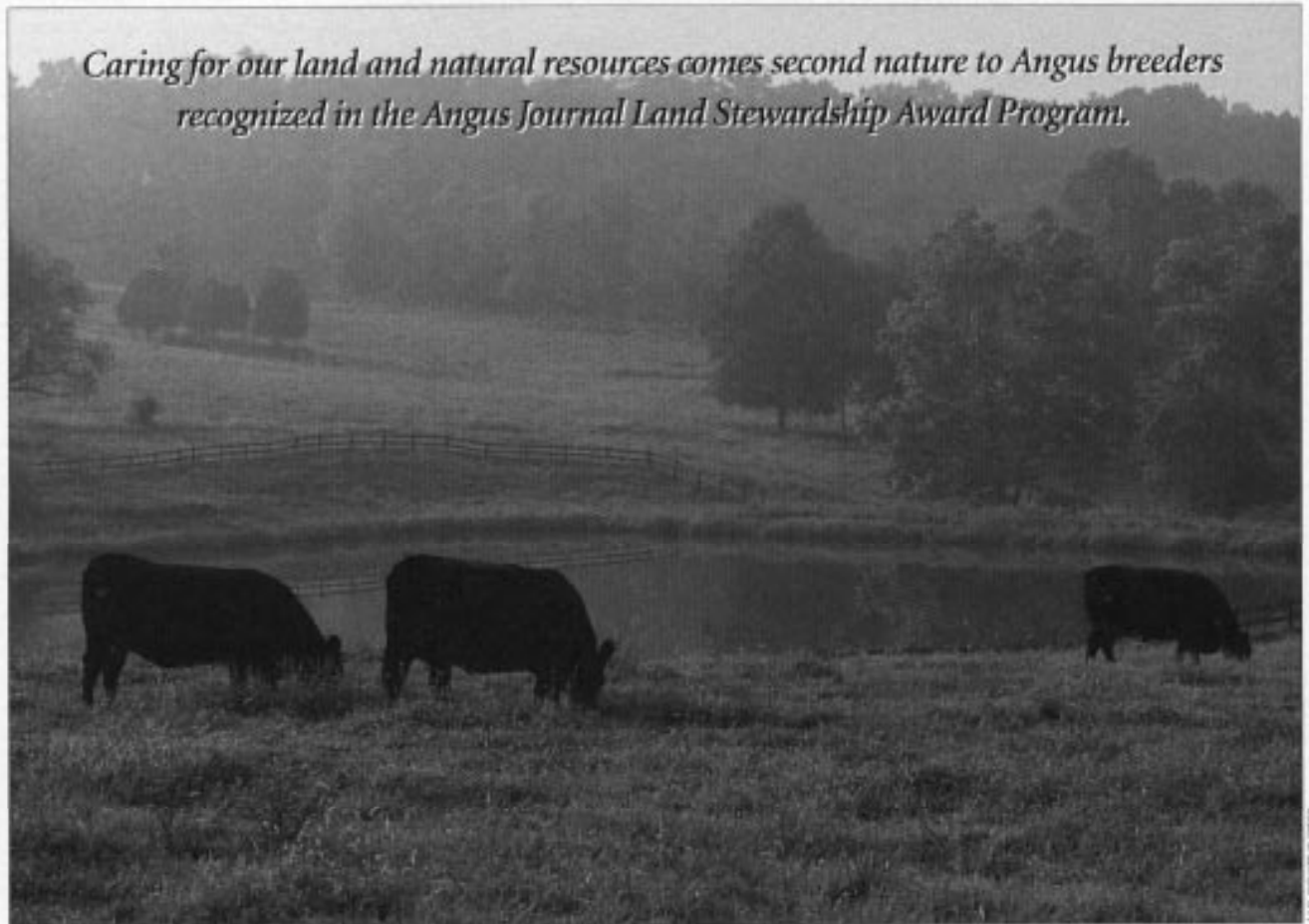


Stewards of the Land

Caring for our land and natural resources comes second nature to Angus breeders recognized in the Angus Journal Land Stewardship Award Program.



Nominees in this program are judged on their conservation practices, environmental awareness and educational efforts. These responsible ranchers and farmers understand that conservation practices not only benefit the environment, they are good for business and enhance the quality of their lives.

"The Angus producers nominated for this award all have excellent conservation practices. They are good models for others to copy. They work hard to protect the environment and at the same time keep their focus on making their beef enterprises profitable," says 1996 stewardship judge James Habiger, state conservationist, Salina, Kan.

This year one overall winner was selected for the Land Stewardship Program from a field of seven nominees. To emphasize the importance of youth in environmental education efforts, a special



Environmental Stewardship Essay Contest was added for members of the National Junior Angus Association. Four outstanding entries were received in this division and, at the judges' recommendation, we are publishing all four essays to share with our readers. (See pages 26 and 306.)

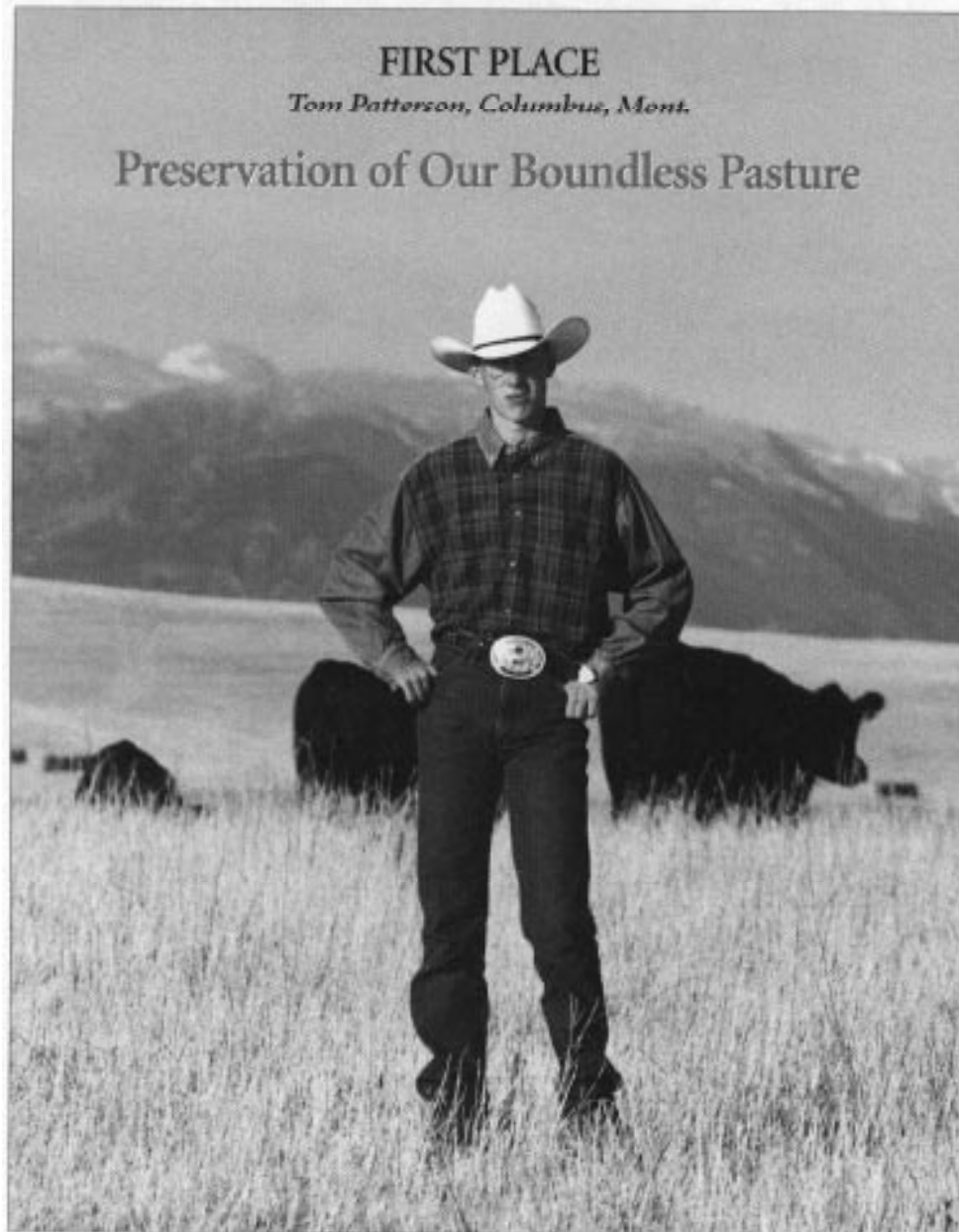
"All the essays provide food for thought and an invitation to action," says judge Lois Foster, Niles, Mich.

"As long as we have young people like these four coming on, our nation will be in good hands," adds

judge Ralph Bridges, Lexington, Ga.

Both winners will serve as spokespersons for our industry and will be honored Monday, Nov. 18 at the American Angus Association Annual Meeting in Louisville, Ky. The NJAA essay winner will also receive an all-expense paid trip to Kennedy Space Center in Florida to watch Col. Mark Lee's space shuttle launch in February.

— Jerilyn Johnson



Tom Patterson, 16, is a fourth generation Montanan who lives on a ranch homesteaded by his great-grandmother. Today Tom's parents, John and Pam Patterson, and his brother, Mark, operate 3210 Angus on this ranch. Tom is a sophomore at Columbus High School and actively involved in 4-H, FFA, the Montana and National Junior Angus Associations, as well as the St. Mary's Catholic Church. Upon graduation from high school, Tom plans to attend a university to major in agriculture and eventually be involved in the purebred Angus business.

"I'm extremely proud to have been selected as the winner of the 1996 NJAA Environmental Stewardship Essay Contest," says Tom. "Environmental stewardship is one of the most important issues facing the modern day agriculturist. We have an obligation to future generations, in that we must all do our part to hand down the land in better condition than we received it. The privilege to meet Col. Mark Lee and witness a space shuttle launch is certainly a once-in-a-lifetime opportunity."

"We find ourselves in the peaceful possession of the fairest portion of the Earth." This is a quote from Abraham Lincoln describing our land, the United States of America.

When challenged to prepare an essay on environmental stewardship I was faced with many choices. Environmental issues are as varied and diverse as this great country. I proudly come from the area of our country known as, the last best place, Big Sky Country, Montana.

Montana and its surrounding states, collectively known as the Great Plains, face many modern day environmental challenges from water quality and urban sprawl to maintaining and increasing our standard of living without harming our surroundings. It is my job and the job of others in my generation to see to it that we remain dedicated to the principles, values and heritage given to us by our ancestors.

One of the greatest challenges confronting Great Plains agriculture is the spread of noxious weeds. In Montana there are 15 designated noxious weeds, meaning land owners are legally responsible for their control. Poisonous, pretty or both, this hit list of non-useful plants is a true danger to the productivity of public and private lands. I believe leafy spurge to be the most serious and devastating of these noxious weeds.

Leafy spurge is a deep-rooted, long lived perennial weed that is native to Eurasia and is extremely difficult to control. First seen in North

America in 1827, leafy spurge is highly competitive and can displace native vegetation often forming pure stands. Livestock carrying capacity on infested land is near zero because forage production is reduced and cattle and some wildlife will not graze in infested areas. Loss of plant density, loss of wildlife habitat, reduction in land values and legal responsibilities for managing the weed are additional liabilities of leafy spurge.

Spurge is also a serious problem in cropland, where herbicide rates required for effective control are higher than labels permit. Over 2.7 million acres are infested mainly in the northern Great Plains and the prairie provinces of Canada.

A recent economic impact study of leafy spurge calculated losses of more than \$144 million dollars a year for control and lost forage in the states of Montana, North Dakota, South Dakota and Wyoming. Leafy spurge control must be considered a long-term management program.

It's important to remember that no single management practice or treatment will eradicate this weed. A combination of control methods, plus annual monitoring is essential. Four methods are used to manage leafy spurge: physical, chemical, plant and biological control.

Physical control involves cultivation, mowing, burning and pulling by hand and is usually used in a combination with herbicides. This method is a Band-Aid solution and has met with limited success.

Chemical control, until the mid 1980s was considered the

best long-term management strategy. The down side of this method involves the extreme annual expenditure of chemicals, application time, living with chemical residue and side effects that often times accompany herbicide use.

The third management control is the use of plant competition; this primarily involves grazing management with sheep or goats. Cattle will not graze leafy spurge, however sheep and goats find it to be palatable, nutritious and actually thrive on it, as proven by Montana State University experiments.

Tom Elliott, purebred Angus breeder and owner of the historic N-Bar Ranch, Grass Range, Mont., has been an industry leader in the control research of leafy spurge on his ranges. In a recent conversation Mr. Elliott related to me that he has had a growing spurge infestation on his ranch since the 1920s that has grown to encompass several thousand acres. After years of aggressive, but ineffective, herbicide applications Elliott realized that he must seek an alternative approach.

"I started challenging the foundations of my thinking about leafy spurge. It was at this point that I began to realize you cannot isolate one aspect of life from another. I was trying the AMA approach. I was going to carve that spurge out of there and restore order and harmony. It occurred to me that the only difference between a weed and a flower was a judgment based on a belief system. Now, the belief system operating in this good

stockman was that if a cow can't eat it, it's bad," Elliott stated.

It was then in 1985 that the N-Bar began to utilize sheep to control their leafy spurge infested rangeland; 4,000 sheep graze the heaviest infestations of leafy spurge each year.

Since 1990, I have been involved in a continuing pilot research activity known as the Stillwater Project. The Stillwater Project began as an idea to enhance the educational opportunities for students by exposing them to some practical hands-on training. It's a joint venture between the Stillwater County Extension Office, Stillwater Weed District, along with the Columbus High School Agriscience program and the Columbus FFA Chapter, all headquartered in Columbus, Mont.

The mission of the Stillwater Project is to explore the use of biological agents in the control of leafy spurge. Biological control specialists in the USDA's Animal and Plant Health Inspection Service began to concentrate on insects that would feed only on the target weed, leafy spurge.

There are six naturally occurring enemies of leafy spurge now being released in North America. These insects, that originated in Europe, were rigidly examined by U.S. scientists before they could be introduced. The scientists determined these insects to be safe from foreign organisms that could damage desirable plants in our country and that these insects would not attack or harm rangeland grasses or growing crops. In essence, the tests showed these six insects are highly selective in their diet,

feeding on leafy spurge exclusively.

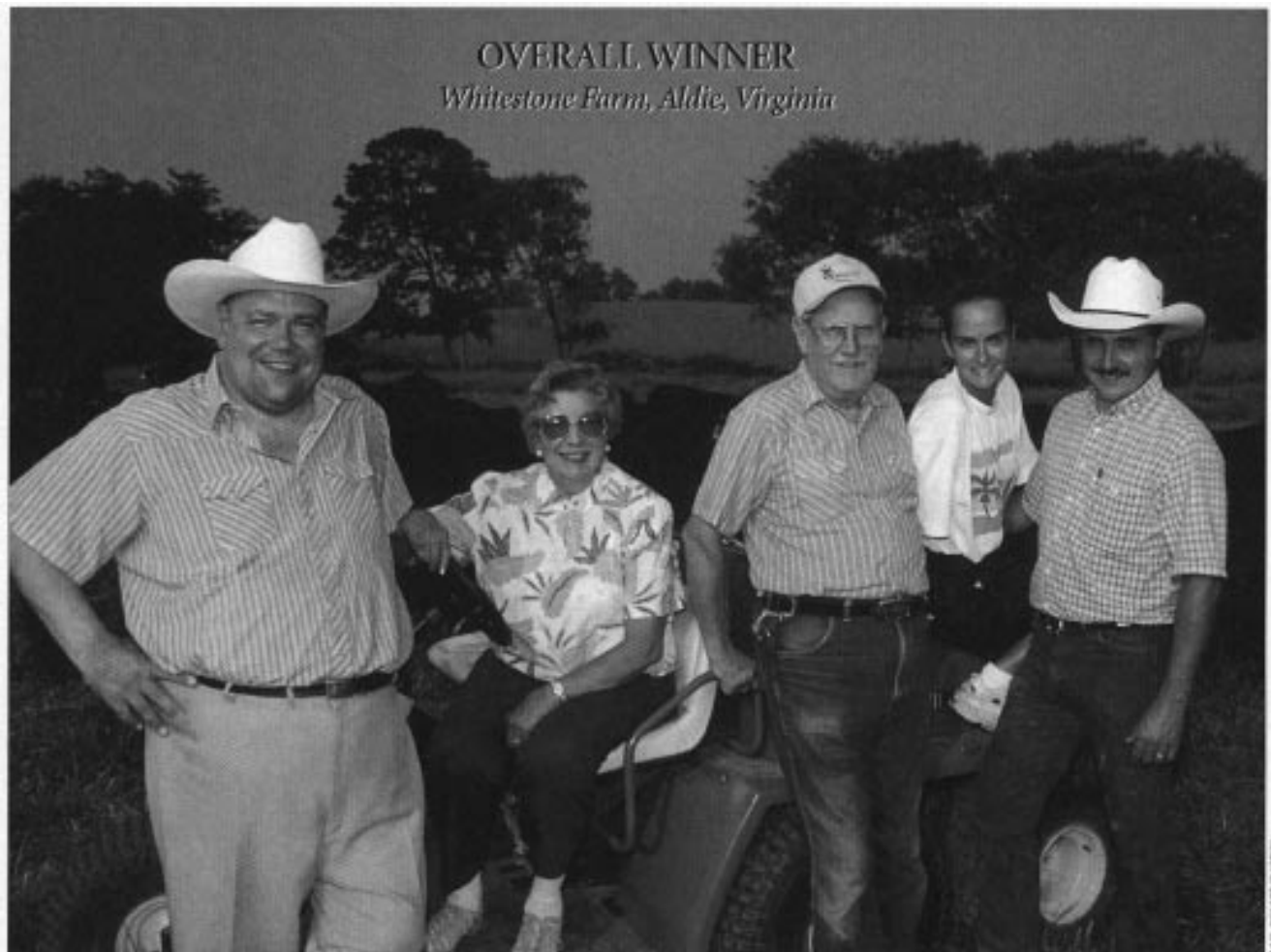
The Stillwater Project is developing an insect population with hopes of controlling leafy spurge within Stillwater County. An additional goal of the project is the reproduction, harvest and sale of the excess insects to USDA agencies which in turn will make them available to private individuals and ranches.

The N-Bar Ranch has found the combination of sheep grazing and insect release to be extremely effective and has produced dramatic results. The sheep decrease the amount of spurge canopy and give native grasses a better chance for sunlight and moisture. The insects destroy the root system, below ground and slightly above ground, eliminating the plants' chance of survival.

From my investigation, interviews and research participation I conclude biological control in combination with grazing to be the most promising, exciting and economically feasible method to control and manage leafy spurge on our Great Plains.

The land that Lewis and Clark once termed, "a common and boundless pasture," has evolved since their time in many directions. We must realize that our ecosystem is constantly changing and only through our stewardship and guidance will we ensure ourselves to remain in possession of that peaceful and fairest portion of the Earth that Abraham Lincoln described. ■

Stewards of the Land



Conservation-minded managers ... *Land stewardship is an important management goal at Whitestone Farm, Aldie, Va. Pictured (l to r) are: George Lemm, Katheryn and Marvin Robertson, Denise and Mark Duffell.*

For fifteen years Whitestone Farm has been producing purebred Angus cattle on some of the most productive soils in Loudoun County, Va. The farm is owned by partners Kitty and Robby Robertson and George Lemm and is operated by Mark Duffell, farm manager since 1988.

Their management goal is to protect the soil and water resources on their rolling northern Virginia topography. Conservation practices include controlled grazing of pastures,

no-till planting of crops, integrated pest management, timber management and wildlife food plots.

Top-notch pasture management keeps Mark Duffell and his six-person farm crew, one of which is his wife, Denise, busy all day, every day on Whitestone Farm.

Cattle production and forage management decisions are made with respect for the soil and water resources on Whitestone's 1,300 acres. A total of 600 acres are owned and 700 acres are leased from neighbors. About

1,000 acres is used for grazing by their 650-head purebred Angus herd. Nutritional needs of these animals are met through utilization of the high quality forage produced on this land. Rotational grazing methods are used which involve fencing of pastures to allow livestock access to new growth while regrowth occurs on the grazed area.

Pasture management on this land involves fencing livestock out of streams and installation of a livestock watering system to 30 subdivided pastures.

Six farm ponds designed by

the Soil Conservation Service also enhance water quality. Four of the ponds provide a clean water supply to troughs in pastures. All ponds are fenced to eliminate access by livestock and to provide habitat for wildlife.

Each year Whitestone Farm improves the condition of its pastures by re-seeding orchardgrass and clover with a Lilliston no-till drill. Fields are dragged with a chain harrow to distribute manure and improve soil fertility. Soil samples are taken annually.

Duffell relies on the soil test

recommendations when management decisions are made for lime and fertilizer application. He also credits the nutrients provided by cattle manure. Pastures are clipped twice a year for weed control.

Whitestone Farm has tackled a major soil erosion and water quality problem that plagues many cattle operations. They have developed a system for feeding cattle that minimizes soil erosion and problems associated with manure accumulation. A roadway was positioned through the farm in a way that provides efficient access to each pasture. Feed bunks on concrete pads are located along the fenced roadway and are designed for minimizing soil erosion and labor. The gravel roadway also minimizes equipment traffic through fields. Location of the feed bunks on concrete pads allows for easier, more efficient manure removal, as well.

Although not all feed is produced on the farm, Whitestone grows about 200 acres of corn and 55 acres of alfalfa for haylage. A cropping sequence is followed in accordance with a conservation plan developed by the Natural Resources Conservation Service.

Corn is no-till drilled into a winter cover crop of rye or barley for erosion control and reduction of runoff. Sod waterways are maintained in crop fields to enhance water quality. Crops are grown on gently rolling lands on soils very suitable for crop production.

Approximately 45,000 bushels of ear corn are harvested and stored in bins, 11,000 tons of corn silage produced and 125 tons of alfalfa haylage are bagged, weather permitting.

Woodland on 45 acres of this farm is fenced to deter



From dawn to dusk... Angus cattle are part of an efficient ecosystem on this northern Virginia farm as they graze forages grown on land unsuitable for crop production and co-exist with wildlife such as deer and waterfowl.

cattle from interrupting nesting activities of wildlife such as turkey and grouse. Two food plots are planted each year to sustain wildlife. The six ponds and fenced stream corridors provide excellent habitat for many wildlife species. Timber stand improvement on about 20 acres of mature hardwoods was implemented as recommended by the Virginia Department of Forestry due to the destruction caused by defoliation from Gypsy moth caterpillars. The area was selectively logged. Management practices were implemented to stabilize the soil and area immediately after harvest.

Whitestone Farm promotes conservation on a daily basis through land use management decisions that pay off. Clean water in streams and high quality forage production are assets of the farming operation. In 1992 Whitestone Farm earned a Clean Water Farm

award from the Loudoun Soil & Water Conservation District in recognition of their conservation efforts.

Their stewardship practices are also promoted to other cattle producers who attend their fall and spring sales and at beef education meetings they host with the Virginia Cooperative Extension Service.

Whitestone Farm has implemented many conservation practices with help from Allen Gulick, a soil technician with the USDA Natural Resource Conservation Service; Pat McIlvaine, agronomist with the Loudoun Soil & Water Conservation District; Extension ag agent Gary Hornbaker, and Dana Malone with the Virginia Department of Forestry.

The combined efforts of these agencies and Whitestone Farm's interest in caring for their land, livestock, wildlife and

natural resources are evident in the photographs on these pages.

Nominator: Loudoun SWCD, Leesburg, Va.

1996 Nominees
William Borror & Family, Tehama Angus Ranch, Gerber, Calif.

Carl Bryson, Poplar Hollow Farms, Brevard, N. C.

Kenneth Elbert, Elbert Angus Farm, Pierce City, Mo.

Benny & Sam Holder, Barren River Angus, Gamaliel, Ky.

Kenneth Mauzey, Mauzey Soil Inc., Mendon, Mo.

Roger Pierce, Pierce Angus Farm, Hancock, Iowa

SOIL CONSERVATION



Whitestone Farm's fertile bottom ground is reserved for no-till corn and alfalfa production.



A new corn crop emerges after being no-till planted into a field with burned-down crop residue. This conservation practice keeps the topsoil in place and produces top yields.

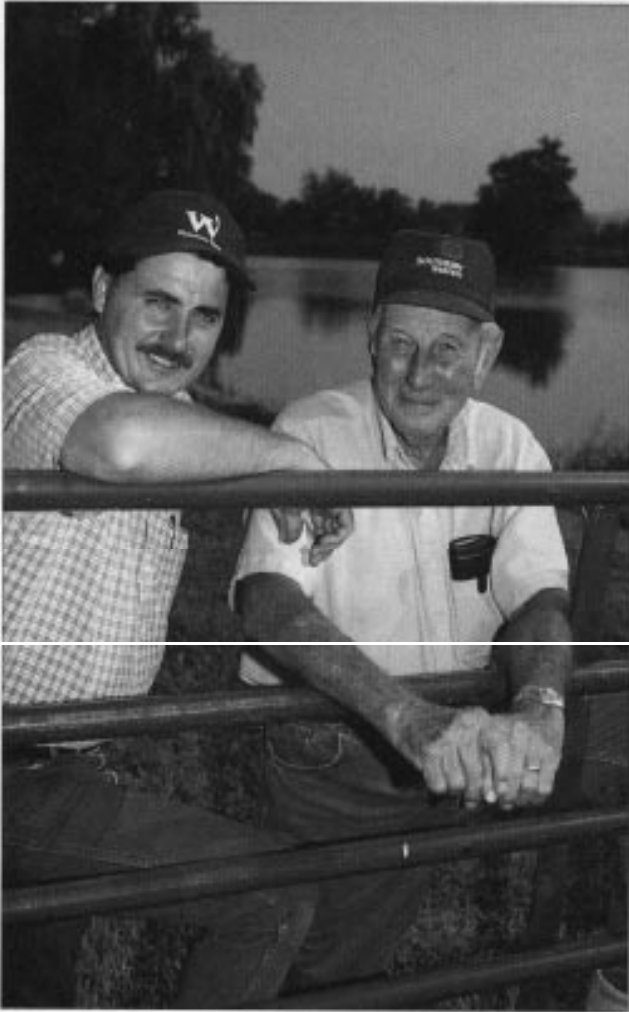


Grass waterways in the crop field slow down runoff and prevent erosion.



Mark Duffell overseeds clover in pastures with a no-till drill to naturally boost fertility of the soil as well as cattle gains.

WATER CONSERVATION



Farm manager Mark Duffell (left) and Allen Gulick, soil technician with USDA Natural Resource Conservation Service, designed the farm's environmentally sound watering system.



(Above and below): Water is piped to cattle waterers. Strategically located water tanks and fencing off streams prevent soil bank erosion and help improve overall herd health.



This fenced off farm lake serves as a scenic backdrop and as a quality water source and wildlife habitat for the farm.