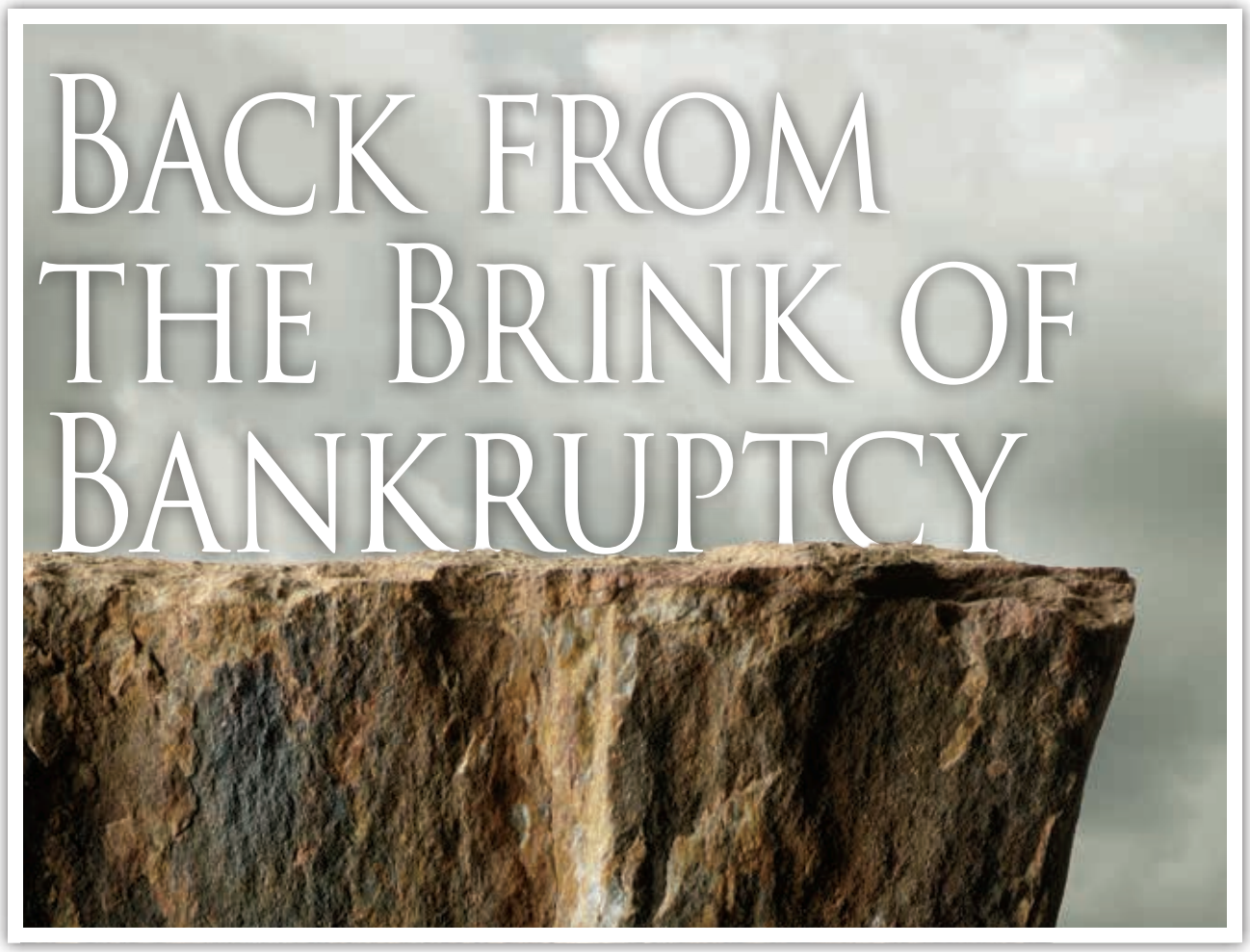

For Walt Davis, an effort to cut costs changed his management philosophy.

Story & photo by Troy Smith, field editor

It is possible to guide a ranch to high levels of production and still find yourself headed down the road to ruin. Just ask Walt Davis. The Calera, Okla., rancher, author and ranch management consultant has been there and done that.

Davis didn't go broke, actually, but he came close. He found that maximum production and the accompanying bragging rights brought little satisfaction — when his ranch was bleeding red ink. So, Davis turned things around by focusing on ranch sustainability through long-term profitability.

After having it both ways, he swears that profitability is way more fun.

Walt Davis's introduction to ranching occurred on the no-frills West Texas operation that his father managed in much the same way it had been run by two previous generations. The outfit was fairly typical of 1950s-era ranches in the region. Other than stock water development and a bit of supplemental nutrition (salt, mineral and seasonal protein), the operation was pretty low-tech. Livestock were expected to survive, reproduce and perform on the natural production of the land.

Similar management was applied when the family moved its operation to southeast Oklahoma. Davis says his father maintained a biological approach, still trying to match livestock production to the ranch's natural resources. Davis contrasts that with the more modern industrial mind-set, where managers attempt to change the environment to suit the kind of livestock production they want.

Admittedly, Davis also adopted the industrial approach when he first took the helm of the family operation. He implemented more and more technologies to address soil fertility, weed control, livestock nutrition, animal health and pasture improvement. As a result, the ranch saw significant increases in hay and grain crop yields, and increased calf weaning weights. The ranch's gross sales volume soared.

The downside

However, as production levels increased, so did the ranch operating loan. Davis recalls how just maintaining those new levels of production required even more fertilizer and more pesticides. Due to selection for heavier weaning weights, mature cow size increased and more supplemental feed was required to satisfy higher nutritional requirements. Production costs kept climbing.

"We rolled along for several years, until we were deeply in debt," says Davis. "I had taken a profitable ranch to the brink of bankruptcy. I had very high production, but very little profitability, until I finally woke up and started making some changes."

Davis can rattle off a long list of management mistakes that nearly lost the family ranch — practices that promoted bin-busting crop yields and scale-tipping cattle weights that could only be achieved at ever-increasing costs. Davis says he owned too much machinery and burned too much diesel fuel. He relied heavily on cattle feed that had to be harvested and hauled to cattle. The nutrient demands of his cattle were too great, because of cattle type and because his production system forced him to be at odds with nature.

"I had ignored the beneficial relationships between the soil, plants and animals that exist in nature. That undermined the stability of my ranch resources," says Davis. "Trading increased production for degraded resources is a fool's bargain."

Making changes

Deciding that production costs had to be reduced significantly, Davis figured the obvious place to start was that part of the operation that incurred the most costs — the "farming" side. Taking stock of his own impressive collection of iron, Davis decided he could do without the latest hay harvesting and feeding equipment if he concentrated on better management of resources used for year-round grazing. He turned from high-maintenance "improved" pastures — grass monocultures that required expensive nitrogen fertilization — to complex mixtures of forage plants that included nitrogen-fixing legumes.

Davis shifted his calving season from January to late spring — a step toward matching the stage of highest nutrient demand by cows with the period of highest nutrient availability in grazed forages. This reduced supplemental feed costs dramatically, while also reducing calving losses and improving cow fertility.

"It seems so simple to me now to see the advantages of matching the time of calving to the time when forage quality is best," Davis adds. "I plan to calve when we're at least 20 days into green grass. Calving is easier and the cows are set up for breeding."

Granted, later calving meant lighter calves at weaning — about 100 pounds (lb.) lighter than when calves were born in January. So, instead of marketing in the fall, Davis started carrying calves through the winter on grazed forage and just enough supplement to maintain modest growth. Then, after adding "fast and cheap" gains on spring grass, Davis marketed calves in summer.

To have enough forage to manage calves over as yearlings, Davis reduced cow numbers by about 20%. Managing fewer cows plus yearlings also provided the basis for a drought plan. When drought does occur, calves can be sold earlier to save forage for the cow herd.

Davis also devoted more attention to grazing management, increasing the number of pastures used in rotation and using high stock density, whereby relatively large numbers of animals graze relatively few acres for a short period of time. Frequent moves to "new" forage allowed animals to graze plants at a proper stage of growth and increased overall grazing utilization.

Manage for the environment

Genetic selection focused on a biological type of cattle adapted to the environment and that fit a true "grazing" operation. Instead of seeking maximum production from heavy-milking cows weighing 1,400 lb. or more, Davis sought profitable production from smaller cows that gave less milk. Cows of this kind, that calved early in the calving season and got fat while nursing a calf, were the kind that fit his environment and management.

Davis says he selected for a pared-down suite of economically important traits, and against animals that didn't fit. Both are important, but he believes ruthless culling afforded the most rapid advancement toward a well-adapted and profitable breeding herd.

Another significant reduction in production costs resulted as Davis backed away from aggressive programs for chemical control of internal and external parasites. He says improved grazing management helped disrupt the life cycles of parasites and reduced opportunities for exposure to reinfestation, in a couple of ways.

First, rapid pasture rotations move cattle away from manure containing parasitic worm eggs. Long pasture rest periods mean cattle return after larvae have died. Secondly, if some worm larvae have hatched, moving cattle before they graze a pasture down below 3 inches (in.) of forage height reduces opportunity for cattle to ingest the larvae and become reinfested.

"Few larvae climb more than 2 inches up forage stems and leaves, so good grazing management is not just about leaving enough residual for regrowth. It's about outsmarting parasites, too," offers Davis.

Halting use of cattle dewormer was followed by a resurgence in dung beetles and their "recycling" of manure in pastures. After spraying for external parasites stopped, Davis saw populations of sand wasps, spiders and other insect predators rebound, while populations of horn flies, horseflies and face flies declined to levels that Davis judged inconsequential to the welfare and performance of his cattle.

"I stopped trying to manage against things I didn't want and focused on managing for what I did want — a healthy grazing resource," states Davis. "A lot of people don't want to believe it, but good grazing management can alleviate most problems with weeds, parasites and insect pests."

"I had taken a profitable ranch to the brink of bankruptcy. I had very high production, but very little profitability, until I finally woke up and started making some changes," says Walt Davis.

Based on more than 50 years of ranching experience, first following the industrial model and then striving to capitalize on biological relationships in nature, Davis says the latter has made his ranch more resilient, more stable, more sustainable and certainly more profitable. To producers interested in developing grazing operations with those attributes, he offers the following advice.

Get in sync with reality

"Understand the given ranch resource — particularly the normal forage production curve, the quality curve of forage within a year and the reliability of forage production within a year and between years. In other words, know when you grow grass in your country," says Davis, noting that a higher likelihood of substantial year-to-year differences in forage production means a higher percentage of the ranch's stocking rate should be made up of animals that can be removed quickly in response to a low-forage situation — without economic loss.

"Nobody wants an old cow with a small calf in the middle of a drought, but a weaned calf or yearling can get on a truck and go to where it is still raining," says Davis. "If I know drought is likely, it behooves me to have part of the ranch stocked with young, growing animals that can be marketed quickly if necessary."

The real world also demands that a producer know which parts of an operation make money and which parts do not. Davis says individual enterprise analysis can surprise some pretty good managers. A surprise common to many is that making hay is so often an unprofitable enterprise. On the other hand, retaining weaned calves to graze and sell as yearlings often is one of the most profitable enterprises.

According to Davis, producers also need to remember that the ability to make a particular practice "cash flow" does not necessarily make it a good idea. The amount of money coming in is not nearly as important as the difference between the amount coming in and the amount going out.

"Profitability comes about not so much from high production as from a wide margin between income and expense," emphasizes Davis.

Build biological capital

Davis defines biological capital as biodiversity plus the long-term effects of biodiversity — soils high in organic matter, with diverse populations of life forms.

In Davis's opinion, there are no "good" or "bad" life forms; they are only different. Biodiversity — the presence of many different life forms — definitely is a good thing. Complex populations of plants, animals and microbes fit into

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networks of mutually beneficial relationships. The life and death of each organism contributes to the health of the local environment through impacts to four ecological cycles: water cycle, nutrient cycle, energy flow and biological succession. The health of the environment is improved unless man's management of the land interferes and throws one or more of those cycles out of whack.

"Manage for more biodiversity — complex plant communities that include forbs, as well as grasses. I've learned that the ecological stability and productivity of a grazing resource is directly proportional to plant species diversity," says Davis.

Besides, many so-called weeds are high in nutrient value and palatable at some stage of their growth. Having a wide variety of plants utilized by grazing animals will increase forage intake and animal production, while also increasing total forage production. Thus, carrying capacity is increased.

"I don't believe there are any junk organisms or invasive species — only organisms adapted to a certain set of environmental conditions which are a result of how the land has been managed," Davis states. "If you don't like what is present, change the conditions by changing your management."

Have a grazing plan

Not just rationing forage and not just another term for rotational grazing, Davis emphasizes that planned grazing should focus on accomplishing certain results beyond keeping forage in front of livestock. Planned grazing is the synchronization of the amount, timing and quality of available forage with the needs of livestock, while using animal impact to improve the health of the whole soil-plant-animal complex.

"Set stocking rates well below carrying capacity. Stocking conservatively is your drought insurance. Overstocking the ranch is a guaranteed stability killer, and profitability will suffer," says Davis.

He reminds producers that overgrazing is a function of the frequency of defoliation. It occurs on a plant-by-plant basis where favored plants are bitten repeatedly while others are avoided. Overgrazing occurs when livestock remain in a pasture too long, or are returned to it too soon, and it can happen even when grazing land is understocked.

"If stocking rate is too low, livestock overgraze favored plants, causing a shift toward alternative species. That's why many ranches are understocked but overgrazed," Davis adds.

He urges producers to develop some type of pasture rotation system allowing control of amount of forage harvested per pasture, and allowing adequate time for pasture forage recovery. Davis also recommends that managers consider using high stock density.

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>
> *— Walt Davis*

Substitute management for money

Davis says improved management can replace costly practices implemented to fix problems that likely are symptoms of less-than-optimal management. For example, grazing management that promotes dense, diverse stands of forage will inhibit the growth of undesirable plants, reducing or eliminating expenditures for weed control. Also, fertilization of well-managed grazing land should be unnecessary because livestock manure and urine replace the nutrients used by plants.

Grazing management also promotes animal health, not only through better nutrition, but by controlling conditions that promote internal and external parasite populations, thus reducing or eliminating costs associated with dewormers and fly-control measures.

Davis urges producers to consider all expenditures, and whether the results are worth the cost. In his opinion, an expenditure is justified when it increases production enough to offset risk, ultimately reduces cost of production and increases the stability of the operation. To be valid, a practice must be sound financially, ecologically and sociologically. It should promote the well-being of all parts of the production system. An action directed at one facet of the operation will always affect other parts of the operation.

"Expenditures for practices that must be repeated regularly may signal an opportunity to change your management," warns Davis. "Ask yourself if you are just repeatedly treating a symptom when you could actually do something to cure the 'disease.'"

Management is the key, insists Davis, and the most effective manager is one that can predict the total and long-term effects of available practices and wisely chooses those that promote the overall well-being of the operation.

Editor's note: Troy Smith is a freelance writer and cattleman from Sargent, Neb. This story is based on a presentation by Walt Davis at the 2018 Kansas Graziers Association Winter Conference Feb. 24, in Salina, Kan. Davis conducted a graziers' workshop based on the title of his book, *How to Not Go Broke Ranching: Things I Learned the Hard Way in Fifty-plus Years of Ranching.*