The Grazier

'If onlies' are symptoms of wishful thinking

By Willy Kilmer
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In a previous column, I took exception to my friendly colleagues and their "yes, buts." Another interesting colloquy occurs while visiting with my row-crop-iron disease-afflicted acquaintances-the "if onlies" set in.

"If only" the engine hadn't gone out on the tractor. "If only" it had rained more. "If only" it had rained less. "If only" they had used more fertilizer. "If only" they had used less fertilizer. "If only" they had used a grass herbicide. "if only" they had used a broadleaf one. "If only" they had used both. "If only" they had used neither.

"If only" the government support price was higher. "If only" the government had stayed out of it. As grampa says, "If only the dog hadn't stopped, he'd have caught the rabbit," or as the Germans put it, "if it weren't for the word 'if my father would have been a millionaire."

It would be inaccurate to say or imply there are no "if onlies" in a grass-legume-rotational grazing system. They are, however, minimized. During the last few years we've been blessed with about as extreme weather as can be imagined. We have broken records breaking records. We have not had an avalanche nor an earthquake for which we're thankful. As the fellow said sitting on an ice block with his head in the oven, he guessed his temperature was about average.

Given this average weather, there have been times when even the most avid controlled grazing enthusiast could be heard to mutter under his breath, "if only" it would rain. "If only" it would stop raining. "If only" I had more clover. "If only" I had put in more cross fences. "What then," you ask, "is the difference?"

The difference is the difference between an inconvenience and a disaster. As Mark Twain observed of the difference between a word that was almost right and one that was right-the difference between a candle and a bolt of lightning. The difference between being able to do something or to sit by helplessly.

The resilience of grass, legumes, and cattle is astounding. Under extreme drought there still always seems to be some regrowth by the time a rotation is completed and the animals return to a paddock. When there is an excess of moisture, the rotation is continued and beneficial hoof action is increased. Animal performance may increase or decrease, but again we are looking at being inconvenienced as compared to being disastered.

I have spent a respectable amount of time in northcentral Missouri since the late '60s. At that time this was one of the finest grazing areas of the country. It gets hot and dry in July and August in northcentral Missouri. I can't say that it always has, but I would guess the Indians were conditioned to expect that inevitability. When this country was in grass, we thought "if only" it would rain. Somehow the cattle made it through the summer, it rained in the fall, the grass became green again and everyone got along. White man possessing "superior" intelligence to that of the Indian, plowed up this resource and put it to row-crops to haul to the livestock.

Now think about that for a minute. We had the cattle out grazing while we sat in the shade and watched. We put them in the shade and we went out in the sun to work to haul stuff to them-and called it progress?

I digress. The land was plowed. It was planted to grain. It got hot and dry in northcentral Missouri as it has done routinely. With cereals wilting and dying in the field it is no longer just hot and dry. Folks, we are experiencing DROUGHT. That starts with D and ends with T and it spells TROUBLE.

"If only" we had left that land in grass. "If only" we had installed some cross-fencing to improve the efficiency and utilization of the existing resource. "If only" we had top-seeded some legumes to provide the nitrogen needed. "If only" we had not listened so closely to and been so greatly persuaded by the "yes, but" boys we would all be in a considerably better situation today.

Think of plumbing, and it's clearer

By Chuck Huseman
Cedar Lake, Ind.

How does one go about comparing electric fence energizers? With fence chargers selling for from $30 to $600, this seems like a worthy question. Terms like wattage, amperage, and voltage are thrown around quite a bit in energizer brochures. A basic understanding of these terms and a look at features available on chargers will help in the selection of an appropriate charger.

Let's first define some of the terms above; A volt is a unit of potential difference between two points in an electric field. A watt is a unit of power, and equals one joule per second. An *ampere* is a unit of current. And a joule is a unit of work.

Now that we all understand that. . . Actually the terms above can be better defined for this purpose with the analogy of water running through pipes. See the electric wire as a pipe and the electricity as water running down the pipe. The water supply is the "wattage." The energizer is the "water pump." "Voltage" is the pressure of the water, and "amperage" is the volume of the water. Weeds and grass touching the electric wire can be thought of as "leaks" in the "pipe."

A new technology "high voltage" fence charger is a "pump" that has a much larger reservoir to draw from than the old fashioned chargers, even though they may have the same initial "pressure" (voltage). So, where an old charger may have a no-load output of 7,000 volts, equal to a "high voltage" model, it doesn't have the wattage or "volume" to keep up that amount of voltage through weeds and grass.

A usable measurement of this ability to

keep pushing charge through "leaks" or weeds is the number of joules that a charger puts out. Remember that a joule is a measurement of work and it can be thought of as the "horsepower" of the charger. Comparing the maximum pulse joule output of energizers that you are considering will give a good indication of the best unit for your money. This information should be contained in the charger literature under "output." If the unit only lists "miles of fence" or simply the voltage output, it probably has such a small joule output that the manufacturer chose to leave it off of the literature, and you should choose to leave it in the store.

See the table for the joule output of some of the better known fence chargers.

Now, to address the problem that I left you with last month: Why is it not dangerous to be shocked by an electric fence when that fence could have up to 10,000 volts of charge passing through? The answer lies in the duration of the pulse. A modern solid state charger has a pulse duration of only a fraction of a millisecond. The shock is like a quick slap of electricity. While it's unpleasant, it isn't of sufficient duration to do any harm or to generate any heat. Many times a spark of static electricity will have well over 10,000 volts of charge, but the joule output isn't equal to that of a fence charger. This is another illustration that "voltage output" is not a good method of evaluating a charger.

One commonly used type of fencer, a "weedburner" model, is the exception to the above. This type of charger uses a long, low voltage shock to "burn" away weeds. Besides being very ineffective, these chargers are very dangerous. Their ability to generate heat also lends them real fire starting potential. I have yet to see a charger of this type that's been UL approved, and I feel they should be avoided.

Purchasing a fence charger needn't be any more complicated than any other important purchase in your operation. Just remember in areas such as these, where the technology and the products are changing so quickly, it pays to ask the right questions and to expect accurate answers.

Unit	Max Output	Approximate Cost
Pel 300	21 joules	$550
Speedright 2000	18	$380
Premier PM 925	9.2	$294
Gallagher Super 60	8.3	$450
Techfence 100	6.5	$350
Premier PM 450	4.5	$165
ShockTactics 50	4	$226
Most U.S. plug-in models	.15	$50 to $90
Most U.S. battery units	.02	$40 to $60

Data taken from table compiled by Stan Potratz, Premier Fence Systems, Washington, Iowa

Faiied forage works woe for stockmen

Despite a record of success stretching back centuries, forage grasses have never received the respect Glenn Burton thinks they deserve.

"One of man's greatest sins is taking things for granted," said Burton, a USDA agronomist at the Coastal Plain Experiment Station in Tifton, "And this is probably truest of agriculture."

Burton, Georgia's most honored scientist in this century, spoke at the national Forage and Grassland Conference held in April, 1986, at Athens, Ga.

"In the future, we must produce the kinds of forages that livestock producers need," Burton told the assembled scientists from all over the country. "The forages must be dependable, persistent, and resistant to diseases and insect pests. They must yield more dry matter for animal product."

Burton said new grasses, which are now being developed, must use all growth factors more efficiently, should protecterodable soil, and not become serious weeds. As an example, he cited Johnson grass, which was once touted as a forage for cattle but has since become a problem across the South.

And yet while forage improvements are needed, Burton said we must not overlook the many contributions that forages have made to agriculture in America.

"Forage grasses built the fertile soils of the Corn Belt," he said, "and fed and clothed early man. They could help provide us with low-fat diets and give us fuel for animal power."

He noted that forage grasses occupy more than half of the land area in the United States and have improved soil fertility as well as reducing leaching of plant nutrients. The grasses have helped control wind and water erosion and provide between 60 and 90 percent of the nutrients for livestock.

In breeding new grasses, agronomists must examine the complex needs of foraging animals as well as the climate where the grass might be grown. The combination of crimson clover and coastal bermudagrass was once popular, but Burton says it has almost completely disappeared because the crimson clover was not dependable.

"Better forages must be produced with the cooperation of plant scientists, plant pathologists, and breeders," Burton said.

And above all, Burton stressed that future forages should be thoroughly evaluated before they are released to livestock producers. New varieties should be tested on what he called the "ultimate user" basis before they are released. This insures that only the best varieties make it to the farm.

Forage crops provide, in fact, one-third of the value of all U.S. agriculture crops through livestock, Burton said. That fact alone makes forages a crucial ingredient in the future of farming.

"The forage that fails causes the livestock farmer to sell his cattle at a loss or pay too much for feed to keep them alive," Burton said.

Alfalfa basics are key to longevity and productivity

One of the keys to a profitable alfalfa crop is a good, thick stand. A little planning and effort to help ensure a good stand will pay dividends throughout the life of an alfalfa field, according to Charles Glover, agronomist with the Cooperative Extension Service at New Mexico State University.

Selection of an adapted variety is essential for good production, advises Glover. Yields may vary 20 to 30 percent as a result of varietal differences.

Information is also available on variety resistance to some insects and diseases. This information can be helpful when there are problem insects and diseases in an area. It is good to select an adapted variety with as much pest resistance as possible, and particularly to those prevalent in an area, Glover says.

Phytophthora is a disease common on heavy soils and in fields where water tends to stand. Again, it pays to search out varieties developed for these conditions.

"Establishment costs are high, and any added cost for quality seed is money well spent," Glover says. "When alfalfa stands are expected to last several years, any additional cost for quality seed more than pays for itself during the life of the stand."

When buying seed, always look closely at the analysis tag. The information on this tag can be helpful in determining how good the seed is. Some important information listed on the analysis tag: the kind and variety; percent of pure seed; percent by weight of weed seeds and name and number of noxious weed seed; germination percentage; percent hard seed; and date of test.

It is not generally advantageous to plant alfalfa with a nurse crop such as oats. The oats compete with alfalfa seedlings and can reduce yields the first season. However, it may be desirable to use a nurse crop in an area where wind damage is prevalent.

Timing important with fescue and fungus treatment programs

A pint's worth of chemical growth regulator on an acre of grass pasture helped the North Missouri Center near Spickard turn a nice profit on its beef steers last year.

In fact, the Center turned an extra $28.91 on each steer grazing its Embark-

treated tall fescue pasture.

"We're pretty happy, but we could have done better," said Jack Cooley, superintendent of the research center.

"For one thing, we would have made even more profit if we would have taken the steers off the pasture a month earlier-before fall regrowth started and the ***Embark's*** effectiveness wore off."

Dale Watson, University of Missouri-Columbia extension livestock specialist at Milan, agreed with, Cooley and pointed out that good pasture management is the key to getting good profits from tall fescue. That's especially true, he said, if that fescue is infested with a toxic endophyte fungus.

Watson, Cooley, and extension farm management specialist George McCollum set up an experiment last year to test the advantages of Embark on tall fescue pasture infested with the endophyte. The fungus affects a big share of Missouri's five million acres of fescue, by increasing the stress on cattle grazing fescue and keep ing them from gaining weight as they should.

The UMC specialists started in April with two groups of steers, six head in each group. The steers averaged 540 pounds.

One group was fed tall fescue treated with ***Embark*** while the other group grazed untreated pasture. The steers were also given all the salt, minerals, and water they wanted.

After 168 days, the steers on treated pasture had gained 1.65 pounds a day, while those on the untreated fescue gained only 1.28 pounds.

By the time the animals were sold on October 9, those on the treated pasture had gained 62 pounds more than the other group.

"The cost of putting on that extra gain was only 14 cents a pound, so we netted more than 46 cents profit per pound," Watson said.

But here's the rub:

If the steers had been removed from the pasture September 11 instead of October 9, those on the treated pasture would have gained 75 pounds more per steer than those on the untreated pasture.

The fall regrowth of the fescue had started, and the Embark's effectiveness had begun to wear off.

Likewise, the pasture was actually getting better for those that had been forced to eat the toxic fungus all summer.

"Those steers grazing the treated pasture all summer began showing the same stress in the fall as the other steers on non-treated fescue had shown earlier in the summer," Watson said.

He explained that part of the reason the endophyte causes a "summer slump" in beef gains is because the endophyte contributes to heat stress in the animals.

"If you want to see if your cattle are eating infested fescue, all you have to do is watch them around the loafing areas," Cooley said,

"If the ground is wet, it's a good sign the pastures are infested.

"If they have access to plenty of water, they'll spill some out of the trough and lie in the mud. If there isn't any water there, they'll urinate and lay in it just to get cool.

"In our experiment, the cattle eating the toxic fungus during the summer behaved that way. But once the tall fescue's fall regrowth started, the behavior patterns were reversed. The cattle on the treated fescue started to show heat stress, beause they weren't used to that toxin in their bodies."

McCollum said beef producers can maximize profits by getting cattle off fescue when fall regrowth starts and into feedlots or onto non-toxic pastures.

"We've proven that ***Embark*** is an effective management tool if you're dealing with endophyte fescue," Watson said.

"But you've got to remember how the chemical works. It should be sprayed when the pasture is about four inches tall.

"Then you have to graze the pasture or the grass won't start growing.

"Probably the most efficient system would be to 'flash graze' the pasture right after treatment, then use rotational grazing throughout the summer."