

RANGE & PASTURE STEWARD

VOL 15 • NO 3 • SUMMER 2018

Protecting, Conserving, Preserving The Land

It begins with grass!

Rose, berry and time

Keep your pastures producing

Even late, a better option grows more grass



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Ruminations

We're committed to you,
pasture and rangeland

Within these pages, we haven't talked about the 2017 merger of The Dow Chemical Company and DuPont.

So, let me catch you up.

While you'll continue to see the legacy company names this year, the combined entity is DowDuPont™ which is operating as three divisions – Agriculture, Materials Science and Specialty Products. In months to come, those divisions will spin off to become three, highly focused independent companies.

The Agriculture Division has announced a new name: Corteva Agriscience™ (kohr-'teh-vah), a combination of words loosely translated as “heart” and “nature.” Under that name, we expect to be a stand-alone ag company by June 1, 2019.

Corteva Agriscience brings together the talent and assets of Dow AgroSciences, DuPont Crop Protection and DuPont Pioneer to position it uniquely across agriculture.

That includes our business to bring you simple solutions to improve pasture and rangeland. You will continue to have access to the strongest portfolio of products available to manage weeds and brush.

And we have some cool new stuff coming.

It's just the next chapter in our ongoing commitment to you and your business.

*On the cover: Burtrum Cattle LLC,
Stillwater, Oklahoma*



Brothers Dunkin Allred, left, and Austin Allred are making progress on broadleaf weeds, blackberry and their grandfather's nemesis, Cherokee rose, in family pastures.

They're making progress on an inherited task

As the family story goes, when Austin and Dunkin Allred's grandfather learned of Dunkin's birth, he was in a pasture hand-treating Cherokee rose.

Fast forward 28 years and now the brothers, along with Jamie Horton, manage the pastures and cropland of Dunkin Farms near Marion Junction, Alabama. And, they're still fighting Cherokee rose.

They also battle blackberry and various broadleaf weeds in pastures. But, the technology has improved, and they're making progress. They're seeing it in more forage.

“Since we started spraying, we have more hay left. Even [in 2016], a drought year, we had a lot of hay left over. And we haven't changed anything else we do or reduced cow numbers any,” Austin says.

“We've actually increased cow numbers,” Dunkin says. “Without weed control, we might be able to run as many cows as we do, but they wouldn't be in good shape.”

Keeping up with weed and brush control reduces competition for forage and makes brushy pastures easier to manage.

“This allows us to go into the winter with more grass and healthier cattle,” Austin says.

The brothers now believe they can expand on the acres they have.

Label precautions apply to forage treated with GrazonNext HL and to manure from animals that have consumed treated forage within the last three days. Consult the label for full details.

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BROADLEAF CONTROL

The family started spraying pastures about 10 years ago after years of mowing (shredding, bush hogging). They first used 2,4-D, then Grazon® P+D herbicide and more recently GrazonNext® HL herbicide. The brothers add PastureGard® HL herbicide to the tank when they target brush. They look to Central Farmers Agronomy in Selma, Alabama, for herbicide and prescriptions.

Initially, the family had their fescue-dallisgrass pastures custom-sprayed. For the last five years, though, the brothers have used their own sprayer.

“We can spray 200 acres in the time it took to bush hog 20, and that’s if nothing breaks down on the Bush Hog,” Austin says. “Spraying is much more economical, and it is actually solving the problem.”

For broadleaf weeds alone, the brothers use GrazonNext HL at 1.5 pints per acre. With the herbicide’s soil residual activity and the resulting grass response, pastures typically stay clean into the fall.

In 2017, they sprayed hayfields for the first time to control weeds — especially pigweed — and improve the quantity and quality of hay harvested.

“We had a good first cutting of hay,” Dunkin says. “We used to consider that first cutting to be just cleanup.”

The brothers usually spray pastures in June, targeting perennial

broadleaf weeds such as blue vervain, horsenettle and ironweed, and woody plants like blackberry, dewberry and Cherokee rose.

SPRAYING FOR WOODY PLANTS

Where they have a significant population of blackberry, dewberry or Cherokee rose, the brothers have added PastureGard HL at the rate of 10 ounces per acre.

“The main reason for PastureGard (HL) was the berry vines,” Dunkin says. “And it really took a couple years of spraying to clean them up.”

Especially for dense blackberry or blackberry that’s been shredded, Dow AgroSciences experts typically recommend an initial spraying and a second-year follow-up application for full control.

On Cherokee rose, GrazonNext HL alone will suppress the brush, but adding PastureGard HL to the tank mix controls it, Austin says.

“You can tell when you put PastureGard (HL) with it. It really does help,” he says. “We get up to 85 percent of them.”

The brothers say their family has always been conservative in their stocking, typically allowing 5 to 6 acres per cow. Cows may be bigger now than in their grandfather’s day, but the young men are thinking they’re understocked, given their increases in forage. Expansion seems possible on what they have.

“We feel like we can run more cows on the same acres, now that we’ve incorporated a good spraying program,” Dunkin says. ■



The Allred brothers of Dunkin Farms near Marion Junction, Alabama, have used GrazonNext® HL and PastureGard® HL herbicides to control weeds, reduce brush and grow more forage.



Brush control brings lasting benefits

High-volume foliar (leaf-spray) applications give you the pasture maintenance tool you need to easily and economically target smaller, less dense encroaching brush before it becomes a larger and more expensive headache. And, summer is the time to get the job done.

Focus your efforts along fence lines and then on scattered saplings of species, such as honeylocust and hedge (Osage orange), and multistemmed plants like multiflora rose.

RECIPE FOR SUCCESS

Prepare a mix that is 1 percent PastureGard® HL herbicide in water. (Table 1 provides mixing ratios for common sprayer sizes.) Using a hand wand and equipment you likely already own, such as ATV-mounted units or larger tractor-powered sprayers, simply spray the leaves of target plants until thoroughly wet, but not dripping.

This mix provides broad-spectrum control of many woody plants, including hedge (bois d'arc), rose, locust, and sumac and broadleaf weeds. And, it won't harm desirable grasses. When certain species are present, such as Russian or autumn olive, or to broaden the broadleaf weed control spectrum, consider tank-mixing GrazonNext® HL and Remedy® Ultra herbicides (see Table 2).

BROADCAST OPTIONS

For widespread (more than 150 plants per acre) woody sprouts or saplings, broadcast applications are the most efficient way to go.

Ground rigs equipped with booms or boomless nozzles work well, as long as target brush is small enough for adequate coverage (shorter than 10 feet for boomless rigs or short enough for fixed booms to pass over).

Broadcast up to 2 quarts of PastureGard HL per acre for most woody plants and broadleaf weeds. For broader-spectrum control, along with residual weed control, apply 1 quart of GrazonNext HL plus 1 to 2 pints of Remedy Ultra per acre. Include a quality agricultural surfactant and a drift agent and apply 15 to 25 gallons of total spray volume per acre to help ensure adequate coverage and more consistent results.

Renovating mature brush stands requires aerial applications. These projects also require persistence, patience and often a multi-year commitment to kill the extensive root systems that will continue to send up new growth beyond the initial herbicide application. Work



For foliar brush applications, complete coverage is critical.

TABLE 1.

High-volume Foliar Mixing Guide (1% v/v Solution) Broad-spectrum Brush and Weed Control (Water Carrier)		
Total Volume of Spray Mixture	Amount of PastureGard® HL herbicide (1% v/v)	Amount of Surfactant (0.25% v/v)
100 gallons	1 gallon	1 quart
50 gallons	2 quarts	1 pint
25 gallons	2 pints	8 fluid ounces
14 gallons	18 fluid ounces	4.5 fluid ounces
10 gallons	12.8 fluid ounces	3.2 fluid ounces
5 gallons	6.4 fluid ounces	1.6 fluid ounces
3 gallons	4 fluid ounces	1 fluid ounce

Note: For individual plant treatments with high-volume foliar sprays, do not apply more than 0.5 pound active ingredient per acre of fluroxypyr per annual growing season (25 gallons of total spray mixture per acre of the 1 percent v/v solution).

TABLE 2.

Spot-treatment Mixing Guide — Broad-spectrum Brush and Weed Control (Water Carrier)			
Sprayer Size	Remedy® Ultra herbicide (0.5%)	GrazonNext® HL herbicide (0.25%)	Surfactant (0.5%)
1 gallon	4 teaspoons	2 teaspoons	4 teaspoons
3 gallons	2 fluid ounces	1 fluid ounce	2 fluid ounces
5 gallons	3.2 fluid ounces	1.6 fluid ounces	3.2 fluid ounces
10 gallons	6.4 fluid ounces	3.2 fluid ounces	6.4 fluid ounces
25 gallons	1 pint	8 fluid ounces	1 pint
50 gallons	1 quart	1 pint;	1 quart

Note: Spot treatments may be applied at an equivalent broadcast rate of up to 68 fluid ounces of GrazonNext® HL herbicide per acre per annual growing season. However, not more than 50 percent of an acre may be treated at that rate.

closely with your aerial applicator or Dow AgroSciences Range & Pasture Specialist. These experts can help inventory species present and develop a prescription program for reclaiming land lost to brush.

Get more from your pastures — all summer long

Keeping weeds out of the way of your pasture production during the summer months delivers the benefits you need to maximize your lowest-cost feed source — your grass.

No matter how you put it to work on your ranch, you can't go wrong growing more grass. Consider the options and bottom-line benefits that healthy, productive pastures present:

- Increase stocking rates and produce more beef per acre — at a lower cost
- Extend the grazing season and delay the expensive hay-feeding season
- Stockpile more standing or harvested forage
- Increase the rest period in rotational grazing programs and enhance the long-term health of your land

Unless severely drought-stressed, summer is a valuable time to target many of those most troublesome broadleaf weeds, along with other later-emerging ones, such as ragweed, pigweed and goldenrod.

Target rangeland threats such as houndstongue, ironweed, common tansy, hawkweeds and knapweeds when they are emerged and actively growing to ensure maximum herbicide uptake and root translocation. The same goes for tough pasture weeds, including Canada thistle, pigweed and cocklebur.

As a rule, make GrazonNext® HL herbicide your first choice for most situations. GrazonNext HL controls more than 100 broadleaf weeds at multiple growth stages. You get preemergence and postemergence control — soil residual activity to stop new flushes of weeds for weeks after application — giving you longer-lasting control than either 2,4-D or dicamba.

Some of the toughest weeds, such as common mullein, houndstongue and spiny amaranth (unless treated before flowering), or woody species, including blackberry and multiflora rose, require a more specialized option. For those situations, go with Chaparral™ herbicide.

If a nonresidual option better meets your needs, go with PastureGard® HL herbicide. In addition to providing the best control of sericea lespedeza available, PastureGard HL controls many other weeds and woody plants.

Leafy spurge poses a unique challenge. Success requires commitment and the one-two punch only Tordon® 22K and Graslan® L herbicides can provide.

- **Broadcast** (established stands): Apply 2.5 to 5 pints of Graslan L per acre.
 - Two to three annual treatments are necessary for control; be sure to treat at least two consecutive years.

- Monitor the treated area and reapply when the level of control falls below 80 percent.
- **Spot/patch** (new infestations): Apply 2 to 4 quarts of Tordon 22K per acre.
 - Use the higher rate in the rate range for older patches.
 - Treat 15 feet beyond infested area to capture the full extent of the infestation in the application.

Summer Recommendations for Rangeland and Pasture Weeds	
Product	Target Species/Application Rates
GrazonNext® HL herbicide <i>The simplest solution for season-long control of the most broadleaf weeds.</i>	1.5 pints per acre Biennial thistles (musk, bull, plumeless), chickory, common cocklebur, curlycup gumweed, horsenettle, ironweed (tall and western), spiny amaranth (treat before flowering), pigweed (redroot and smooth), western ragweed, spotted knapweed, yellow starthistle
	1.5 pints + 1 to 2 pints Remedy® Ultra herbicide per acre Rose (multiflora and prairie wild; delay treatment nine to 12 months after mowing)
	2.1 pints per acre Canada thistle, common mullein, goldenrod, hawkweed (yellow and orange), knapweed (diffuse, Russian)
PastureGard® HL herbicide <i>Broad-spectrum, nonresidual brush and broadleaf control in a single product.</i>	0.75 pint per acre Sericea lespedeza (Apply after maximum foliage development, when plants are 12 to 15 inches tall prior to bloom; increase the rate to 1.5 pints per acre for dense stands or later stages of growth.)
Chaparral™ herbicide <i>The broadest-spectrum weed and brush control available.</i>	2 ounces per acre Biennial thistles (musk, bull, plumeless, through early bolting stage), wild parsnip, spiny amaranth, pigweed (redroot, smooth)
	2.5 ounces per acre Biennial thistles (late bolting through early flower stage), Canada thistle (after all plants have emerged up to flower stage)
	3 ounces per acre Common mullein (bolting stage, shorter than 12 inches tall), ironweed (tall and western)
	3.3 ounces per acre Canada thistle (flower stage), common mullein, houndstongue (add 1 pound 2,4-D per acre post-bud stage), rose (multiflora and prairie wild) and blackberry (delay treatment nine to 12 months after mowing)

Label precautions apply to forage treated with Chaparral or GrazonNext HL and to manure from animals that have consumed treated forage within the last three days. Consult the label for full details.

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Even late, a better option grows more forage

As a rule of thumb, you grow more grass by spraying weeds early in the growing season. But, life happens and spraying doesn't always get done early. So, what's the cost-effective weed control option then?

Dealing with pasture weeds later in the summer could be a reaction (e.g., "Those weeds are worse than I thought"), or it may be by design, says Pat Burch, a Dow AgroSciences Range & Pasture field scientist based in Virginia.

For producers concerned about keeping clover in their pastures, summer mowing or spraying a light rate of 2,4-D have been two options. Mowing by itself should have little effect on clover. The herbicide 2,4-D usually injures the clover it hits, but the clover does recover.

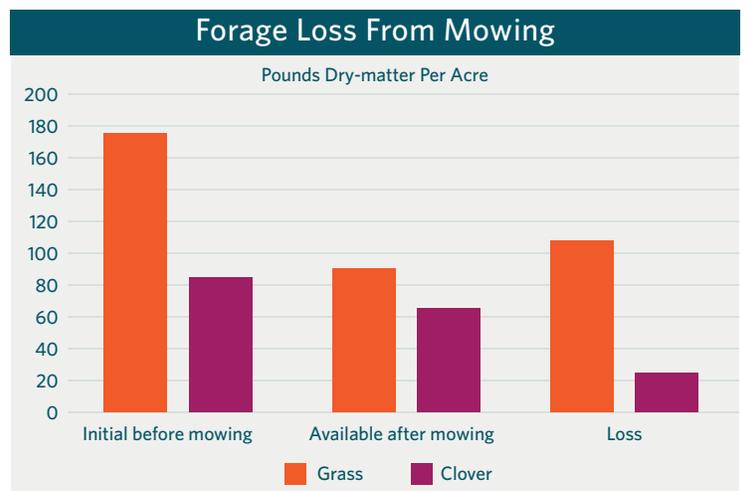
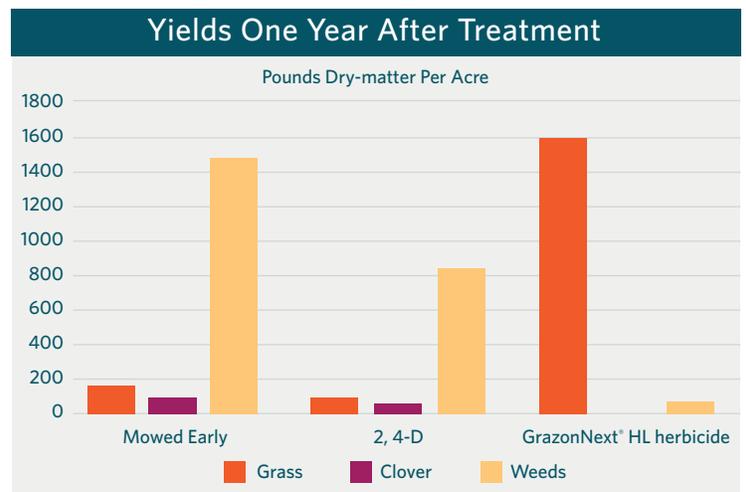
GrazonNext® HL herbicide at recommended rates will provide superb weed control, but will take clover out for at least a year.

In a two-year study, Burch looked at all three options in a weedy corner of southwestern Virginia pasture. Weeds included chicory, cocklebur, dandelion, fleabane, horsenettle, plantain and wingstem. In July 2016, he established replicated plots to demonstrate:

- Mowing
- Spraying 2,4-D amine at the rate of 1.5 pints/A (of a 4-pound product)
- Spraying GrazonNext HL at the rate of 1.2 pints/A.

In July 2017, he took samples from each plot for yield data one year after treatment. The original mowed plots he also mowed again. Cattle were excluded from grazing for one month prior to sampling to allow the site to recover.

Burch offered some observations a year after treatment: Mowing in the second year opened the weed canopy,



but it removed 50 percent of the grass and 25 percent of the clover in the process.

In the mowed plots, weeds continued to outcompete grass and clover. A year later, weeds made up 85 percent of the total biomass, grass 10 percent and clover 5 percent.

Total forage (grass and clover) per acre tallied 266 pounds.

The 2,4-D plots had fewer weeds than the mowed plots, but half the grass and 72 percent of the clover. Weeds made up 85 percent of the total biomass, grass 9 percent and clover 6 percent. Total forage per acre: 152 pounds.

Plots grew almost nine times more grass when sprayed with GrazonNext® HL herbicide than the mowed plots. Weeds made up less than 5 percent of the total biomass, grass 95 percent and clover less than 1 percent. A small amount of clover was starting to come back. Total forage per acre amounted to 1,594 pounds.

Plots sprayed with GrazonNext HL yielded nearly six times more total forage (grass and clover) than the mowed plots and 10 times more forage than the 2,4-D plots.

SO, WHAT DOES THIS MEAN?

Is your goal to support cows? If you're faced with a weedy pasture, you'll grow more forage using better weed control, even if you have to sacrifice the clover for a year.

Think in terms of days of grazing. For simple math, consider a 1,000-pound cow consuming 2.5 percent of her body weight per day. At 50 percent grazing efficiency, the mowed acre a year after treatment with no other inputs would support a cow for five days. Sprayed with GrazonNext HL, that acre hypothetically would support her for 31 days. ■

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The Environmental Stewardship Award recognizes cattle producers who go the extra mile to benefit the environment and represent the cattle business.

Nominate a steward for 2019

Now is the time to think about nominating a cattle producer for the Environmental Stewardship Award of the National Cattlemen's Foundation.

Although nominations for the 29th annual award aren't due until March 8, 2019, the foundation encourages photos as part of a nomination, and the growing season is usually the best time to make those.

The Environmental Stewardship Award recognizes producers whose management benefits both the environment *and* the bottom line. The program is funded by Corteva Agriscience™, Agriculture Division of DowDuPont™; the USDA Natural Resources Conservation Service; McDonald's; and the U.S. Fish & Wildlife Service.

Any organization, group or individual may nominate a U.S. cow-calf producer, stocker operator or cattle feeder. From the field of nominees, seven regional winners are selected by an expert panel representing the National Cattlemen's Beef Association (NCBA), conservation and sportsmen's groups, federal and state agencies, and land-grant universities.

Judges consider the management of soil, water, wildlife, vegetation and air, as well as nominees' leadership and the sustainability of the business.

NCBA announces the regional winners at its summer business meeting each year. From the seven regional winners, judges choose a national winner to be named at the Cattle Industry Convention the following February.

The 28th class of regional winners will be announced Aug. 1, 2018. Look for an introduction to those winners in the Fall issue of *Range & Pasture Steward*.

"Good stewardship in the cattle industry isn't unusual, but it's often unnoticed," says Damon Palmer, business leader, Pasture and Land Management, for Dow AgroSciences. "Through this program we can help tell the stories of cattle producers, and it encourages other producers."

By nature of their selection and experience, all the winners have credibility with policymakers and agencies. NCBA has tapped that credibility to influence government policies affecting agriculture and the environment. NCBA also trains the winners to tell their story to media.

For more details on the Environmental Stewardship Award, including examples of nominations, go to EnvironmentalStewardship.org or call Jill DeLucero at the National Cattlemen's Foundation at 303-850-3321. ■

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R12-360-010 (06/18) BR(N) 010-58692 DARP8RANG056

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