

MINERAL MAGIC | **SPRING TURKEY HUNTING SUCCESS WITH GRUNT N GOBBLE**

WHITETAIL NEWS

ISSUE 35-3
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**SUMMER
NUTRITION
SECRETS**

**SUPPLEMENT
OR FOOD PLOT?**

**THE POWER OF
SORGHUM**

**MANAGING
THE EDGES**

BEST BUCK

**OFF-SEASON TASKS
TO GET IT DONE**



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INTRODUCING SORGHUM SELECT

I'm excited to share some great news from the research and development front. Whitetail Institute has partnered with a sorghum research and breeding team dedicated to developing innovative hybrid grain sorghum genetics. I'm proud to announce the launch of Whitetail Institute's first hybrid sorghum seed mix, Sorghum Select. We've combined two of my favorite hybrids into this mix, which provides outstanding deer attraction. Thanks to superior genetics, this mix offers drought and disease resistance, along with ultra-early maturity in one variety, followed by the later-maturing hybrid about 20 days later.

After working with several varieties the past several years, I believe we have combined two of the top hybrid selections for white-tailed deer. Other wildlife, such as turkeys and game birds, also use this mix. This sorghum blend is a must-plant for serious habitat managers or anyone interested in plots that attract diverse wildlife.

— William Cousins



Set Your Sights on Brillion Farm Equipment

Brillion Farm Equipment offers a full-line of equipment suited for food plot enthusiasts. The Food Plot Seeder is an all-in-one solution for food plots handling seedbed preparation, seed metering and placement, as well as seedbed finishing. Brillion's ground driven Till 'N Seed' shreds existing food plots and plants numerous food plot seed mixtures. All products are backed by Brillion's years as an industry leader in the Seeder and Pulverizer industry!



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SCIENTIFICALLY SPEAKING

■ by W. Carroll Johnson III, Ph.D. – Agronomist and Weed Scientist



THE SOFT EDGE: HABITAT ENHANCER, WEED SOURCE OR BOTH?

Using a careful strategy, you can maintain the plants growing in a soft edge but keep them out of a managed food plot.

I am not a wildlife biologist and do not claim to be one, lacking the formal academic training and in-depth practical experience necessary to function in that role. What little I know about wildlife biology is from my personal experiences as a hunter — nothing more. I am an agricultural professional — a crops guy. Yet while working with Whitetail Institute's wildlife biologist, Jody Holdbrooks, on Next Level Consulting projects, I gained appreciation of the science and practical implementation of habitat enhancement as a tool for wildlife management. One of the basic concepts in the Next Level Consulting land management plans is the cre-

ation of a network of diverse habitats, not just relying solely on food plots.

One of the diverse habitats included in comprehensive land management plans is the soft edge, which is a border or transitional area surrounding a food plot or a cropland field before returning to woodland. A soft edge creates habitat that provides food, cover and nesting sites for any array of wildlife. From a deer hunting perspective, the cover provided by the plants in a soft edge helps game feel secure when entering the managed food plot. A soft edge is usually at least 30 feet deep and an area of transitional vegetation — basically a marginally managed swath that is what

plant ecologists call an early phase of old field succession. Many of the plants growing in a soft edge are “weeds,” although that label is, by definition, subjective. Common plants growing in a soft edge include common bermudagrass, quackgrass, dogfennel, goldenrod, briars, bramble (dewberry or blackberry), trumpet creeper and field bindweed. I guess kudzu could be considered a soft edge species, if your food plots are in a region where kudzu is found.

It's indisputable that some of the plant species growing in a soft edge would be considered weeds if they were present in a managed food plot, which is what eventually happens. These plants spread from the



■ Periodically spraying the edges of the food plot with a band of systemic herbicides helps prevent invasive weeds from establishing inside the managed areas. Glyphosate combined with triclopyr is the treatment of choice.

food plot will ruin the soft edge. However, I take a nuanced view — one that tries to see the big picture. A theoretical example: Assume that a narrow strip of glyphosate plus triclopyr is sprayed about 18 inches wide around the periphery of a food plot. Considering that the soft edges are nearly at least 30 feet wide, only 5 percent of the soft edge is sacrificed to keep the problematic perennial weeds out of the food plot. Is that 5 percent reduction in soft edge area a significant loss? More important, does the gain in overall weed control by

keeping perennial weeds from entering the managed food plot offset the 5 percent reduction in the soft edge? Knowing what I know about the misery that perennial broadleaf weeds cause food plotters, the long-term weed management benefits by controlling weeds along the

food plot periphery more than offset the 5 percent loss in soft edge.

I had several plant ecology classes in graduate school. Being a crops guy and practitioner who tried to control weeds in crops, what I took from those classes was that plant communities are dynamic and constantly changing, whether the context is woodland, grassland or a managed food plot. The soft edge often contains plants that we want to keep out of a managed food plot. Yet inside the soft edge, those plants are providing wildlife management benefits by diversifying habitat. There is no reason why we cannot have the best of both worlds. It's completely doable to keep the plants growing inside the soft edge out of the food plots by periodically spraying non-selective systemic herbicides in a narrow band along the periphery. Using that careful strategy, the benefits of the soft edge are maintained. In my book, that is a win-win for the science of agronomy and the science of wildlife biology.

soft edge and end up in the food plot, becoming troublesome — especially perennial plant species. As I've said many times, perennial weeds are the bane of food plotters because of the difficulty of controlling those weeds and the limited herbicide tools available for food plot use. It's logical to assume that preventing these plants from entering the managed food plot is an important goal.

One way to prevent those weeds from entering a managed food plot is to monitor the edges of the food plot and keep the troublesome perennial weeds from entering along the periphery. Periodically spraying the edges of the food plot with a band of systemic herbicides helps prevent invasive weeds from establishing inside the managed areas. Glyphosate combined

with triclopyr is the treatment of choice. This herbicide combination provides the excellent control of perennial grasses via glyphosate with the outstanding control of perennial broadleaf weeds via triclopyr — including vines and bramble.

This is conceptually simple and cost effective, because the herbicides are not overly expensive. However, controlling weeds along the periphery appears to conflict with the habitat management goals of maintaining the soft edge for wildlife habitat. After all, plants that are troublesome weeds inside the food plot are also desirable when growing in the soft edge. That is where the goals of the science of agronomy collide with the goals of the science of wildlife biology. Some will say that controlling vegetation along the perimeter of a



ADVANCED FOOD PLOTTING

State-of-the-art tips and techniques for high-level land managers

■ by Joyce Allison Tredaway, Ph.D. – Agronomist and Weed Scientist

ARREST MAXX AND SLAY MAXX:

NEW NAMES, A NEW FORMULATION FOR ARREST MAXX, AND A HERBICIDE CHECKLIST

Learning the characteristics and properties of these herbicides will help you use them effectively.

Arrest Maxx and Slay Maxx are selective herbicides available in small quantities for certain food plots. Whitetail Institute has changed the product name Slay to Slay Maxx. Arrest Max is now Arrest Maxx, and it has a new formulation.

This article will review each herbicide's characteristics, properties, weed spectra and finer points, as well as the changes that have occurred.

SLAY MAXX

- This has the same formulation as Slay. There's simply been a name change.

- Slay is a liquid formulation with 2 pounds active ingredient imazethapyr per gallon.

- Slay Maxx controls broadleaf weeds in clover, alfalfa, soybean and peas.

- Brassica crops (turnip, rape/canola, radish and kale), sugarbeet, and all cereal grains (oats, triticale, wheat, rye and barley) are sensitive to Slay Maxx and will be killed by Slay Maxx.

- Slay Maxx enters treated broadleaf weeds through the foliage of treated weeds and via root uptake from the soil by seedling weeds as they emerge.

- Slay Maxx is a small-weed herbicide. The label contains specific information for weed size considerations. Generally, broadleaf weeds need to be less than 3 inches tall for Slay Maxx to control those weeds.

- Not all broadleaf weeds are susceptible to Slay Maxx. Some species are effectively controlled, but some are not.

- Slay Maxx is applied only once per year.

- Slay Maxx is slow acting, usually taking two to three weeks before whole plant symptoms are obvious.

ARREST MAXX

The new formulation has changed in these ways:

- 1) An adjuvant must be applied with Arrest Maxx. In the previous formulation, an adjuvant was always recom-

mended. However, with the new formulation, an adjuvant such as SureFire Crop oil adjuvant is required.

- 2) The new formulation has changed from a 0.97-pounds-per-gallon formulation to a 2-pound-per-gallon formulation. This means that the rate of use has also changed on a per-acre basis. However, if using Arrest Maxx by the container, it will not change. With the old formulation, the use rate was 12 to 16 fluid ounces per acre. With the new formulation, the use rate is 6 to 16 fluid ounces per acre.

It should be noted that for years in commercial agriculture, there have been two commonly used clethodim formulations; 0.97 pounds per gallon and 2.0 pounds per gallon.

- Arrest Maxx is for annual and perennial grass control.

- Broadleaf weeds and sedges are not controlled by Arrest Maxx.

- Broadleaf crops (alfalfa, beans, brassicas, chicory, clover, peas, radishes and



HERBICIDE
SLAY MAXX

- Selective broadleaf herbicide.
- Four ounces treats 1 acre, one pint treats 4 acres.
- Slay Maxx is field-tested and proven effective for controlling broadleaf weeds in clover or alfalfa fields. Slay Maxx can be easily applied with a four-wheeler or tractor sprayer. Using the right herbicide can eliminate the need for replanting as frequently and ensure that your food plots have maximum longevity.



HERBICIDE
ARREST MAXX

- Selective grass herbicide.
- One pint treats 1 acre.
- Arrest Maxx is a herbicide that will control most grasses without harming clover, alfalfa, chicory or any Whitetail Institute perennial product. Arrest Maxx is easily applied by hand, four-wheeler or tractor sprayer and has proven effective in extensive field tests.



turnips) are fully tolerant of Arrest Maxx at any stage of crop growth.

- Arrest Maxx enters treated weeds only through the foliage of emerged and actively growing grasses.
- Arrest Maxx does not have any soil residual herbicidal properties.
- Whole plant symptoms of Arrest Maxx can take two to three weeks before becoming obvious. That is typical and normal of that chemical family of herbicides.

QUESTION AND CASE STUDY

Here's a side note on a common question about Arrest Maxx. Should you mow and then spray? Or spray and then mow? We often answer this based on the field conditions, time of year and other factors. However, this year, a customer wrote to us to tell us what he did and the response he got.

Because of circumstances, he couldn't get in the field and spray his food plots with Arrest Max at the optimum time

when the grasses were small. His initial question was whether to mow and spray or spray and mow. The grasses were large and some had seedheads, but still green — not dried down. This was a judgment call with no clear answer. The recommendation was to spray Arrest Maxx plus Surefire at a high rate (16 fluid ounces per acre), wait a couple of weeks for the grasses to show symptoms, and then mow. He was advised that this was not an ideal situation, but maybe the herbicide would hurt the grasses enough to prevent regrowth after mowing and halt weed seed production.

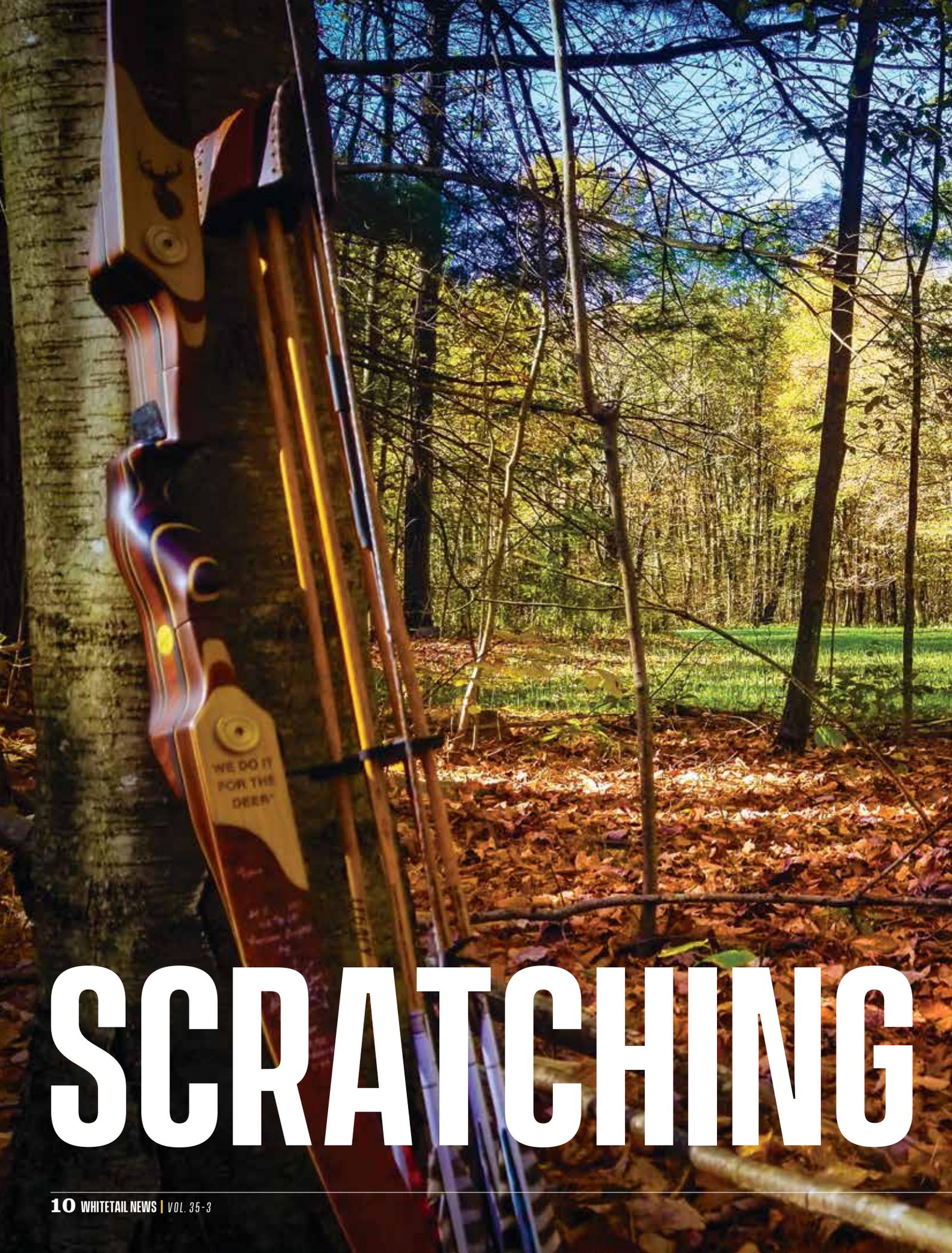
Several months later, the customer reported back that he compared spraying first then mowing to mowing first then spraying. Spraying first followed by mowing performed better and actually did a decent job releasing clover for the autumn surge in growth. In the area that was mowed first, the shredded fodder covered the lower portion of the grasses and shielded growing grass tissue from

the herbicide spray. The grasses ended up showing herbicide symptoms, but the final level of control was not quite as good as spraying first followed by mowing.

A few final points: It's important to remember that Arrest Maxx needs green living tissue to enter treated grasses. Grasses that have started to dry down will not be effectively controlled by Arrest Maxx. Additionally, we can never expect this level of control from Slay Maxx. Slay Maxx is a small-weed herbicide and must be applied when the weed is 3 to 4 inches tall or less. It is not forgiving.

We often don't have a clear answer to customer questions and ask for customer feedback on a treatment that we recommend. It's greatly appreciated when customers get back with us on things they have tried and treatments that work so we can share these experiences.





SCRATCHING

THE ITCH

Although the reasons for planting food plots are many, one thing is clear: It's another itch that must be scratched.

■ Text and Photos
by Kristopher M. Klemick



■ Decades-old equipment that might appear a little worse for wear is still more than adequate to get the job done. Here, the author's brother, Joel, turns some dirt while the family's cobbled-together disc awaits its turn.

waited what seemed like an eternity for the day to arrive. During the past few years, my dad, brother and family friend talked about setting up and hunting out of a traditional basecamp on our property for a week during archery season. And although our actual camp offered all the comforts of home (no cable TV, phone or Internet, thank you), the thought of canvas tents, campfires and a woodstove crackling through the night waxed poetic, offering the sense of hunting nostalgia I longed for.

We scouted potential sites at our north-central Pennsylvania property, and although we're fortunate to have a few spring-fed creeks that carve down off the mountain that would check water off the list, we're hard-pressed to find a few hundred square feet of level, tent-worthy real estate across our 200-plus acres. None of the locations we had in mind were conducive to a good camping experience, so the basecamp idea simply remained one of those, "You know, that really would be cool to do someday" thoughts that never gained further traction.

I took up traditional archery a few years ago for several reasons, but mostly because the idea of harvesting a whitetail as up close and personal as you can be with nothing more than a stick and string tells the tale of tradition. For years a com-

pound archer, I finally desired more — something of greater challenge. No rangefinders, cross-hairs or pins to settle into. Just a beautiful hand-crafted piece of wood, a simple string, some self-fletched arrows, a pack full of patience, nerves of steel and an appreciation for the time-honored past. It's an unmistakably rewarding journey that few seem to undertake.

TIME TO ACT

By Spring 2025, that traditional basecamp itch was burning pretty good and finally needed some serious scratchin'. I convinced the guys there had been enough talking about doing it. It was high time we actually did it, and I planned to, come hell or high water, rocky and uneven ground, with or without them. It was time.

During the next few months, we took chainsaws and tools to a spot that had the most potential. We cut and hand-split enough firewood for a 10-day hunt, fashioned stones for inviting evening campfires and assessed which trees would support our hopeful meatpole. We scouted for sign and carefully planned all aspects of our traditional experience. When the hunt finally commenced in mid-October, with everyone on board, temperatures

were already dipping into the 20s overnight. Good food, hearty laughter and tales from the past seven decades of hunts on the mountain were shared

around the campfire. An inviting wood smoke from the canvas tent made the experience all the more enjoyable to end our evenings and begin each new day under the cover of darkness.

For 10 days, I never left that mountain. Sure, I was less than 2 miles from our actual camp, but from my secluded vantage point at 2,300 feet atop of Pennsylvania's northern tier mountains, the silence was deafening and the wildlife unadulterated. And the vibrant sunrises, blazing sunsets and bright stars that abundantly filled the night sky gave reason for pondering your existence on this heavenly earth. Every moment detached from the rest of the world was a cherished, successful adventure in the woods.

A DIFFERENT KIND OF ITCH

Fortunately, there's plenty of itch to go around. And you don't have to hang up your compound or crossbow (what my campmates jokingly refer to as ASDs, or arrow slinging devices) to get in on the fun, though we'd welcome the opportunity to introduce you to a recurve or longbow.

You also don't have to take up semi-permanent residency in the deepest woods to experience the same level of satisfaction as I did on that rock-strewn mountain.

For many of us, food plots are more than just seeds and soil. And why we invest so much time, energy and money into them is anyone's guess. Some see the effort as opportunistic. Others feel a deeper sense of connection to the land and animals. Although the reasons for food plotting are many, one thing is clear: It's another one of those itches that must be scratched.

We constantly plan for the next year's food plots. We focus on weed and soil health challenges. We stress about the details and, because we're human, even the things we cannot control. We consider the portfolio of plots not just on our own property but across the surrounding landscape. It's a carefully orchestrated chess match ensuring that each move trends in the direction for a successful growing season, a satisfying hunting season and another fulfilling year afield.

When you think about the work that goes into food plots and managing land, it's easy to forget that most people would look at what we do and simply ask why. After all, recreational farming doesn't pay the bills or put years on your life, and it certainly isn't for the faint of heart. However, I can say with certainty that if we didn't put in the work, we'd never find an alternative that provides the same level of satisfaction we yield from placing seeds in soil.

I consistently look at calendars, history, the forecast, soil test data and planning documents. The thought of any aspect of the food plot puzzle falling out of sync with the rest and jeopardizing our carefully crafted plans is a real challenge. It's painful to see plantable acreage left unused because of poor planning, weather, soil conditions or other matters.

SATISFACTION FROM THE SCRATCH

Yes, there's a reason we do what we do, and for many of us, the art of simply doing it is satisfaction enough. During my

10-day stint atop that unforgiving mountain, where camping is tough, the hunting is harder and food plots are nothing more than a figment of the imagination, I still had ample opportunity to harvest game, big and small. Turkeys were plentiful and spent their days searching the forest floor for acorns and beechnuts as the last vestiges of warm-season bugs — much like the fall foliage — vanished. Squirrels and chipmunks covered ground caching away their stockpiles for winter as predatory red-tailed hawks and owls flew overhead amid other birds. Mature whitetails sauntered past my stands, and more than enough bucks were close enough to induce the fever. And though I never decided to draw my Black Widow recurve on any of them, I took immeasurable satisfaction from the hunt. The mountain. The experience. Yes, the itch had been scratched — until this time next year.



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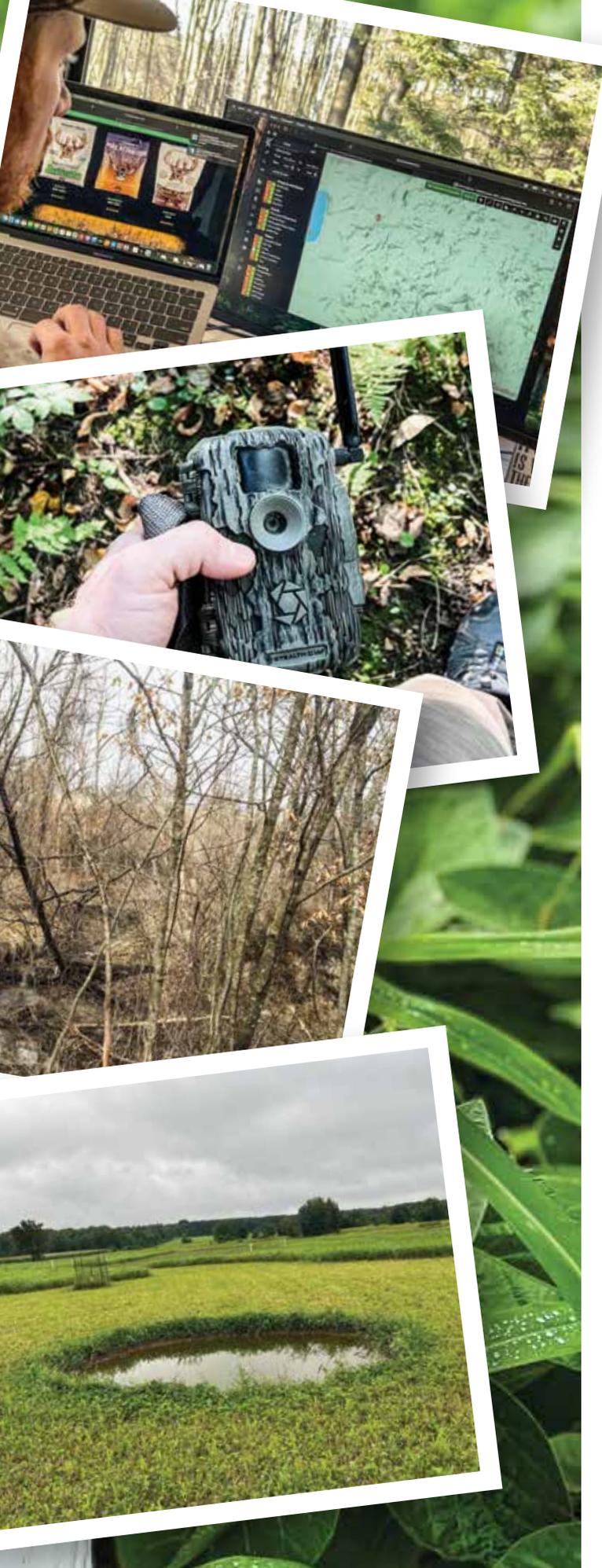


11 OFF-SEASON TASKS FOR DEER HUNTERS

Tackling these post and pre-season jobs can improve your property's deer hunting potential and your season's outcome.

■ Text and Photos by Darron McDougal





The end of deer season means various things to different hunters. In my teens, I dreaded it. Time seemed to move so slowly, and it always felt as though the fun was finished and that the next deer season was eons away.

As I've matured, so has my perspective on the closure of deer season. Other areas of life must give when you deer hunt as much as possible. Family time is sacrificed. To-do lists get longer. Fitness gets moved to the back burner. And more. No matter how detailed and organized you are, your interests are divided during deer season. My point is that there is more to life than deer hunting, and the off-season is a great time to rekindle other interests and tend to priorities you pushed aside.

That doesn't mean you should forget about deer hunting until opening day. The pursuit can continue, but instead of logging countless hours in a deer stand, the focus becomes preparation. And it's never too early to start. Here are some important off-season tasks on which to focus.

CHECK ON AND ENHANCE SANCTUARIES

Sanctuaries are crucial to deer property management. Many properties facilitate deer movement, but for deer to actually live on your land, they need cover that sees almost no human intrusion. That's a sanctuary.

There is one time when it's excusable to invade this safe zone: spring. You'll bump some deer out, but they'll have months to forgive and forget the intrusion. One reason to walk into a sanctuary once a year is to look for sheds, but more important, it's wise to gauge the cover. Is it thick enough? Does it need some hinge cutting to enhance horizontal cover and encourage vegetative regrowth by allowing more sunlight to hit the forest floor? If it looks like it could use some work, now's the time to complete it.

RAMP UP YOUR APP SCOUTING

Whether you hunt private or public land, one of the best uses of time is to scour a mapping app. I use HuntStand, which is available in Pro and Ultimate subscriptions. Using multiple overlays and base maps, not a week goes by during the off-season that I'm not using the app to look for things I've missed or overlooked previously, as well as mapping out new ground for out-of-state hunts.

Several times, I've identified spots during the off-season where I killed bucks in fall. No matter how long you've hunted a property, there's always more to learn, and HuntStand's Satellite and Terrain base maps can help you pinpoint new or better hunting spots. And the more you use the app and base hunting decisions on your e-scouting, the more effective you'll become at it.

PLAN FIRST. THEN PLANT

Planting Whitetail Institute food plots is never a bad move, but maximizing your results requires planning. Step back and compare your previous food plotting efforts with your results. Is there room for improvement? Do you lose deer to your neighbor's food sources during the late season and winter? Consider planting winter food sources, such as Beets and Greens or Desti-

nation, or planting more ground than you have previously.

Do deer frequently feed on your plots just out of bow range? Maybe you need to tweak your plot shapes to encourage deer movement closer to your stands. Whatever the case, don't just plant to plant. First, thoroughly think things through.

PLANT SOFT MAST

Fruit trees are like deer candy. Deer don't need apples, pears, persimmons and other soft mast to survive, but they sure love them. Food plotting is arguably more important for nutrition, but if you're looking to give deer more reasons to stay on your property, fruit trees will enhance the property's allure. Unless you buy older trees, it can take several years to see fruit production, so this is a sit-back-and-wait ordeal. But when the trees start producing, deer will almost certainly flock there. Be sure to fence in the trees, as deer tend to browse on newly planted trees, and come the rut, bucks can't help but rub them.

PLANT HARD MAST

If you've ever seen a dip in deer activity on your food plots during early to mid-fall, hard-mast trees are likely producing a forest feast. Deer prefer hard mast — especially chestnut oak and white oak acorns — over just about anything. Knowing this, it's wise to plant some white and chestnut oak trees in or near your food plots. Fence them in, and be patient, as the benefits will take several years to take shape.

CHECK STANDS FOR SAFETY

Hunting from elevated stands is inherently dangerous. If you leave hang-on stands out all year, the tree straps are liable to become weather-checked and unsafe, and rodents might chew them. Always check your stands in the off-season and replace worn or unsafe parts.

Even permanent stands can pose risks, especially with hand-built components. Wood deteriorates, meaning the ladder could fall apart while you're climbing. Stay on top of stand safety and don't assume that a stand is safe. Inspect it thoroughly.

ADD A WATER SOURCE

Deer hydrate from foraging on greens, especially when coated with rain or dew. But they must drink from water sources, too. This is especially true in regions where rainfall is minimal or in times of drought. Whether you dig a hole and use a pond liner or simply park a tub on top of the ground and fill it with water, almost any stand-alone water source can encourage more deer activity.

CREATE A MINERAL SITE

Antler growth, milk production and overall herd health are good goals for a property manager. Whitetail Institute's 30-06 line of minerals and supplements is highly attractive to deer, and each product also contains vital minerals and vitamins. Check your state and local regulations, as feeding minerals and supplements is restricted in some states and counties.

REVAMP YOUR TRAIL CAM STRATEGY

Most deer hunters use trail cameras, except where they're restricted. Trail

WANT TO TAKE YOUR PROPERTY TO THE NEXT LEVEL?



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cameras can help you monitor deer movements, but how you use them can help or hurt your hunting strategy. First, wireless trail cameras are far more advantageous than conventional cameras, as they reduce the time and intrusion required to swap memory cards.

Another thing is that some hunters limit them to bait piles or high-traffic deer trails. Those aren't bad places to hang them, but don't overlook terrain features, scrapes and other areas that bucks use.

Consume trail camera data with a grain of salt. If you base your hunting decisions solely on trail camera intel, you'll miss opportunities. A trail camera is extremely useful, but it isn't the end-all solution to killing big deer. Many other factors must be considered, such as wind direction, the phase of the hunting season, hunting pressure, access and more.

TRIM SHOOTING LANES

If you visit your stand for the first time on the opening night of archery season, you'll likely be met with a can-

opy that obstructs your previously clear shooting lanes. It's wise to do most of your trimming and clearing in spring, when using saws and making a commotion is acceptable. But a quick visit during summer can help you identify obstructions requiring a quick trim. This step could save your hunt next fall.

FINALLY, DIAL IN YOUR SHOOTING

You can manage your property to improve the deer hunting, but if you can't place your shot when the big moment unfolds next fall, you've failed. Most of us practice, and many of us go for repetition as if that alone will make us more proficient. Yes, repetition can be good, but it's even more important to practice intentionally. In other words, don't shoot 40 quick arrows in an evening. Slow down and shoot 12 arrows with an intense focus on proper shot execution, technique and rhythm. Add realistic challenges, such as a long-distance shot or shots through narrow openings in the brush.

Gun hunters also should practice intentionally. Don't be the guy or gal who heads to the range the week of the opener. Although a firearm requires far less practice to become proficient than a bow, make it a point to visit the firing range periodically throughout the year. Regardless of weapon, intentional practice will enhance your confidence for the moment when all of your hard work and management lead to a buck in your shooting lane.

AND, GO

Like me in my teens, perhaps the doldrums of deer season's closure have struck you. Don't buy into that mindset. Preparation drives success, and the sooner you get started, the readier you'll be come opening day, and the more time you'll have for family and other interests this coming summer.



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WHAT GOES IN, MUST COME OUT: THE VARIABLE OF MINERAL DIGESTIBILITY

If your eyes glaze over at the mention of mineral supplementation, you're not alone. These guidelines can help you cut through the fog and identify beneficial mineral supplements for deer.

■ by Matt Harper

“UNDERSTANDING WHICH MINERAL PRODUCTS ARE THE MOST BENEFICIAL IS THE NO. 1 CONCERN.”

At the risk of being run out of my home state by the local corn growers, I don't like to use ethanol blends in the small-engine equipment I have on the farm. This is especially true with older equipment and anything with a carburetor.

The issue is the build-up of moisture, which can damage or clog the fuel system. Ethanol has its place, and I burn it in my F-150 all the time, but I question its efficacy in certain applications. Speaking of which, I despise being forced to use DEF in my new diesel engines. I understand the environmental argument of cleaner exhaust emissions, but it also decreases the power and fuel efficiency of the motor. I'm not an expert, but it seems counterintuitive and expensive.

We can probably discuss thousands of similar examples on efficacy, but I want to delve into one that pertains to the efficiency and effectiveness of mineral supplementation for white-tailed deer.

As I've written previously, the use of mineral as a nutritional supplement for deer is a vehemently debated topic. Some ask, "Can it lead to the spread of disease by concentrating animals to a specific spot?" Others say, "There is no definitive research on mineral supplementation in wild, free-ranging white-tailed deer." Another is "Deer have survived for thousands of years without supplementation. Maybe the natural way is better?" And finally, "With all the minerals and attractants on the market, how would I know which one works and which are essentially a bag full of marketing." Those are good questions, and I'll share my thoughts on each. However, I'll spend the most time on the last one — especially how digestibility plays a role in product performance.

ADDRESSING THE ARGUMENTS

Can using mineral sites lead to the spread of disease? Possibly, I guess, as a good deer mineral will bring deer to the lick site. But I would argue that deer are herd animals in general and spend most of their lives in concentrated groups with plenty of close interaction. Plus, if the nutritional plane of animal is better because of mineral supplementation, does that outweigh the possibility that deer might pick up a disease at a mineral site? It's debatable, and I'm not in favor of negatively affecting the health of a deer herd. However, there's undoubtedly something to be said for the betterment of the herd via improvement in their nutritional plane.

The topic of having no definitive research on the benefits of mineral supplementation in free-ranging deer is a simple matter of the research methodology used to prove this. It's all but inapplicable in a wild deer herd. Supplemental benefits are proven only when you have a control group and a test group eating exactly the same thing, with no other variables except that the test group is receiving mineral supplements. That scenario can't be controlled in free-ranging animals, at least to

the point where a purist would say the results are unquestionable. That said, there have been many examples of the benefits of mineral nutrition in captive deer, including those enclosed in a several-thousand-acre high fence. Additionally, there have been countless examples of people seeing a significant improvement in their deer herd when supplemental minerals were added to the management program. Finally, there are mountains of research showing the value of mineral supplementation in other ruminants, such as cattle, sheep and goats. I raise cattle and use supplemental minerals year-round, and not simply because I enjoy spending the money to do so. The benefits are worth the spend.

As far as the argument of deer surviving for thousands of years without a meddling human giving them minerals supplements, that is 100 percent true. However, humans have also changed the landscape via agricultural and forestry practices, so the soil is not the same as it was a thousand years ago. In addition, surviving is not the same as thriving, and it certainly doesn't equate to reaching full genetic potential. People can survive on a low-nutritive diet, but we can certainly be stronger, bigger and healthier with optimal nutrition.

WHAT WORKS?

Of all the arguments and questions surrounding mineral supplementation, understanding which products are more beneficial or effective than others is the most legitimate. With so many products making endless claims, how can you determine what is the real deal and what is marketing fu-fu? Let's start by dividing products into two categories: attractants and true mineral supplements. The simplest way to make the distinction is the general purpose of the product. If the first or main attribute of the product is to attract deer, it's an attractant. Conversely, if the main purpose of the product is to provide mineral supplementation, we move it to that category.

Then we need to dig deeper into the gray area where products claim to be both. A mineral supplement must contain some type of an attractant to get deer to eat it. Most of the beneficial minerals, such as calcium and phosphorus, are not attractants for deer, so for deer to eat it (which is obviously important to get any benefit), these products must also contain something to attract deer. On the flip side, a product that contains mostly attractant with a small percentage of beneficial minerals can be called a mineral, but its true nature is as an attractant. The most commonly used attractant in mineral supplements is salt, or sodium chloride. The sodium component does the attracting, and when plants are actively growing, deer seek sodium in any form they can find it. Growing vegetation is high in potassium but low in sodium, creating an uneven balance of potassium to sodium in the deer's body, causing deer to become "salt hungry," but more specifically sodium hungry. Interestingly, salt is also an in-

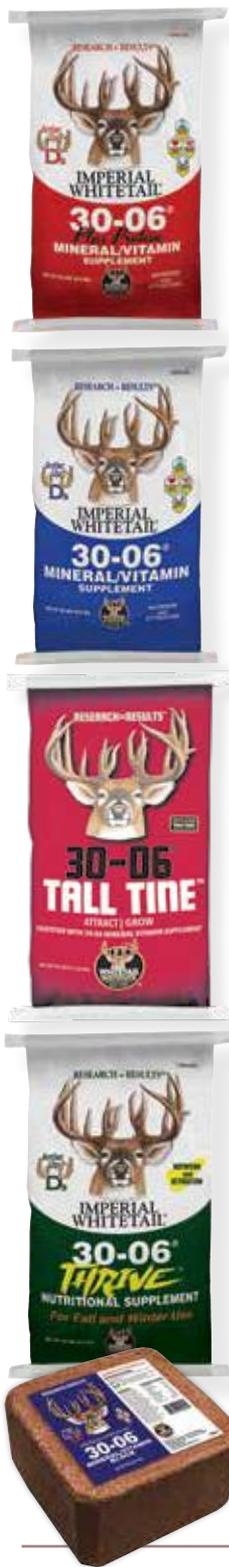
take limiter in that an animal will typically only eat so much. Because adequate intake is important in mineral supplements, balancing enough salt to get deer to consume it but not too much to limit intake becomes tricky. My rule of thumb is if a product is more than 50 percent salt, it's more of an attractant than a true mineral supplement.

Beyond the determination of a product being an attractant or a true mineral supplement, the efficacy boils down to intake and proper product formulation. The importance of intake is obvious because, as mentioned, if deer don't eat enough of it, they will not get the proper amounts of minerals they need. The more complex factor of product efficacy is proper formulation. There is a lot that can be said about importance of proper product formulation, but we'll focus on utilization and digestibility. Digestibility simply means that the what's in the product is actually being used by deer. Just because a product contains a particular mineral does not necessarily mean it's being digested and used, as it could also simply pass through the digestive system and be excreted onto the ground.

Minerals used in supplements come in the form of compounds. For example, a mineral can be bound to an ionic salt (don't confuse this with sodium chloride), such as sulfates or oxides. In other words, you don't put pure zinc in a formula but rather zinc sulfate or zinc oxide. Sulfates and oxides are inorganic compounds that are broken down in the rumen through microbial fermentation. Some minerals can be bound in the rumen by things such as fiber and are not used. Although a small amount of certain trace minerals can be absorbed in the rumen, most mineral absorption occurs in the small intestine. Understanding the ability of specific forms of a mineral to reach the small intestine for absorption plays into a quality mineral formulation. And by quality, we are talking about whether the animal is actually getting any nutritional benefit from the mineral in the product. Ultimately, it comes down to bioavailability, which is the portion of the absorbed nutrient that is actually available for usage by the animal. Generally, bioavailability depends on the compound form used in formulations. For example, copper sulfate has a much higher bioavailability than copper oxide, which is extremely low in bioavailability. Iron oxide has essentially no bioavailability, whereas iron sulfate is considered to have good bioavailability.

But don't think that all oxides are not bioavailable. Magnesium oxide is a good source of magnesium and can be used by deer. Zinc oxide and manganous oxide have higher bioavailability than other trace minerals in oxide form but typically still lower than if in sulfate form. So why not just use all sulfates? Sulfates can have negative effects in the rumen, such as impacts on fiber digestion if formulated at levels that are too high. Is your head swimming yet?

The other factor affecting efficacy of mineral digestion is a complex web of mineral interactions in which improper balances can bind minerals and dramatically decrease usage. Zinc is an important trace mineral for growth, immunity and reproduction. So we should feed a lot of that, right? Too much zinc can bind calcium, which is important for skeletal growth, including antler growth and lactation. Manganese plays important roles in bone formation and enzyme activity, which influences proper metabolism. Too much manganese can also bind phosphorus,



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iron and calcium, which also affect metabolism and bone growth. Calcium can bind iodine, iron can bind copper and so on.

WHAT'S THE ANSWER?

So how do you feed a mineral that doesn't simply bind up with another and result in a bag full of undigestible rock? The answer is proper ratios. Through the years, there has been extensive research to determine proper ratios of macro and trace minerals when used together in a mix to decrease the prevalence of negative mineral interaction. This has resulted in a guideline on

recommended ratios to decrease negative mineral interactions. This doesn't mean that all minerals are formulated with the exact same ratios, as nutritionists will alter ratios and levels based on their opinions on the need of specific minerals. Also, mineral requirements change based on species or even within a species depending on the phase of production. But these interactions between minerals are still considered when putting together a mineral supplement.

Finally, I want to discuss toxicity. Mineral toxicity is a real thing, meaning too much of a specific mineral can be toxic and damaging even to the point of mortality. The threshold between meeting a requirement and offering too much varies by mineral. The smallest threshold for trace minerals is selenium. Selenium is an important trace mineral and is often lacking in the soil and therefore a deer's diet. But selenium can also be toxic, and the threshold between meeting a requirement and toxicity is very small. In fact, selenium is regulated so that supplements will only provide a maximum amount in the final diet, and that is across all species.

I always feel like I run the risk creating the proverbial eye glaze when I write about the complexities of mineral nutrition. If you've not had training, education and experience in the science behind mineral supplementation, it can get a bit bewildering and in turn be a good reason to glaze over the topic. When that happens, most folks fall back to the common indicator of whether it's a good mineral, which is, "Are the deer eating it?" Trust me, I get

it. My brother is an actuary, and when he starts talking about the mathematical equations and theories he uses every day to develop life insurance policies, a thick fog starts to envelop my brain. But since he's my brother and he's really good at what he does, I fall back on him to give me recommendations on what makes a good insurance product and what does not. In the same way, if you ask, "Well, what is a good mineral product that I can use?" I would recommend following the path that I mentioned with my brother. Gain some basic knowledge, such as the plus-or-minus 50 percent salt rule. Check to see what sources are being used to provide copper and iron, and make sure they are not oxides. (Note: If you see iron sulfate and iron oxide on the tag, the iron oxide is probably being used as a colorant, as it's often used as the carrier for red coloring agents because it's undigestible.)

CONCLUSION

Mostly, go with a reputable company that has years of research and results. For example, Imperial 30-06 has stood the test of time with thousands of testimonials from across deer country showing the benefits of the product on a herd. And most of all, ask questions. Marketing is powerful but usually very thin, and a few questions pertaining to the validity of a product being a legitimate mineral supplement will cut through the marketing veil to reveal a product's true nature.



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FOOD PLOT REVIVAL

Healthy soil means happy food plots — and happy food plotters. Imperial Whitetail Revive, a new product introduction from Whitetail Institute, promotes a holistic approach to soil rejuvenation, plant health and crop rotation. ■ by Gordy Krahn

We're all farmers and/or hunters at heart, at least to some degree — a product of our hunter/gatherer genetic makeup. Whether it's planting and nurturing a flower bed or vegetable garden, hobby farming or growing food plots as part of a habitat management and hunting program, people enjoy getting their hands dirty and feeling the satisfaction of engaging with the land and its wildlife inhabitants. Landowners who manage their properties for wildlife via food plots and other habitat enrichments are the true stewards of our wildlife management legacy. In fact, it has sparked an entire industry.

The folks at Whitetail Institute of North America have been lending a helping hand for almost four decades, educating their customers on how to get the most from their food plots and arming them with top-shelf products to get the best results possible — to increase deer, turkey, quail and other wildlife populations on their properties and to expand hunting opportunities. Products such as Imperial Whitetail Clover, Winter Greens, Oats Plus, No-Plow and many more provide food-plotters with the tools they need to be successful. And the company has done this through continuing research, new product development and, most important, thinking outside the box.

One of its newer introductions — Imperial Whitetail Revive — is a prime example. It's a blend of buckwheat and Whitetail Institute WINA62 sorghum developed as a soil revitalization rotational crop, not primarily as a forage for deer. Planted in spring, it refreshes the soil, improves soil quality and maximizes nutrient uptake for the next planting. By incorporating Revive into a multi-year planting rotation with perennials and fall annuals, food plotters can ensure that they maintain their soil in top growing condition. As such, Imperial Whitetail Revive is a best-management-practice tool that will appeal to hunters and land managers who adopt a year-round, multi-year approach to maintaining healthy, productive soil.

We recently caught up with William Cousins, general manager at Whitetail Institute, to chat about the evolution of food plots and land management, and to get the lowdown on the agronomic benefits of Imperial Whitetail Revive. Cousins was on the ground floor when the company was

launched in 1988, so it's safe to assume he has some stubborn dirt trapped under his fingernails. Here's his take on the state of the food plot industry, land management and one of Whitetail Institute's latest product introductions.

WN: You've been with Whitetail Institute forever, it seems. Give us a little background on your tenure with the company.

Cousins: "I was very fortunate to be the first person hired by Ray Scott when he launched Whitetail Institute, and I have watched the company grow and evolve over 37 years. We began with a research-driven philosophy that brought Dr. Wiley Johnson, an accomplished plant breeder, on board, and we quickly focused on providing exceptional customer service, which included educating customers on all aspects of food plot success. I learned from the ground up, working on the agronomics part of the business. I still manage the R and D division of the company and take a hands-on approach in the development of new products."

WN: Whitetail Institute takes a holistic approach to wildlife and property management, right? In addition to an extensive line of food plot products, what services and support does the company provide its customers?

Cousins: "Whitetail Institute has grown well beyond food plots. We provide comprehensive habitat management plans. We are land stewards and understand the importance of sustainable practices. We aim to help our clients reach their goals and improve the land for future generations."

WN: The science and application of food plots has evolved over the years. What are some of the biggest changes you've seen during your tenure at Whitetail Institute?

Cousins: "Over the past few decades, our customers have become much better at food plotting. We continue educating them about the importance of soil testing and understanding the basics of nutrient management. In the early years, many customers didn't realize how vital managing soil pH and liming when needed. We continue to help them understand soil test results and offer planting strategies that include crop rotation advice, depending on the forages they are planting. We also provide consultation on all aspects of sustainable habitat management."

WN: What Whitetail Institute products stand out in your mind as game changers, and why?



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- pH level required: 6.0 to 7.5.
- Sunlight required: six hours per day.
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Seeding depth: ½ to 1 inch.

Cousins: “Our exclusive forage oats come to mind as one. Through extensive research, we were able to dial it in and determine which genetics of the oats deer really prefer — and that there’s a real preference based on sugars. We were able to identify and replicate it and study it further. It really was an ah-hah moment. You might think that oats are oats, but they’re not. In our trials early on, we eliminated so many of them because they weren’t cold tolerant. We use these exclusive oats in several of our products and market many of them all the way up to southern Canada. We had some of the top agronomists involved in that project, and it was a lot of fun. There is no better nurse crop than our Whitetail forage oats to establish perennial crops like Fusion, Imperial Clover or Alfa Rack.”

WN: What can you tell us about one of Whitetail Institute’s introductions, Imperial Whitetail Revive. Is this another game changer?

Cousins: “Yes, it really is. Unfortunately, sometimes our customers face challenging soil conditions, which can occur for sever-

IMPERIAL WHITETAIL REVIVE PLANTING INSTRUCTIONS

Putting Imperial Whitetail Revive in the ground is a simple process, but it needs to be followed strictly to achieve the best results. And don’t forget the soil test.

■ Select a site with well-drained sandy loam to medium-heavy soil for the best results, and do not plant Revive until soil temperatures have warmed to a constant 65 degrees or higher. Equipment needed includes a disk or tiller, broadcast seeder and a drag implement. For optimum results, perform a laboratory soil test in advance of planting to determine lime and fertilizer requirements. If using Whitetail Institute’s laboratory, check the Revive box on the submittal form. Always use a soil-test kit that requires you to send a sample of your soil to a qualified soil testing laboratory for analysis (not a do-it-yourself test).

Add the amount of lime recommended in your soil-test report. If no soil test is available, add a minimum of 500 pounds of lime per .25-acre. Disk or till the lime thoroughly into the top few inches of the seedbed. If possible, lime should be added several months in advance of planting.

Either of these methods can achieve proper seedbed preparation: A) Disk the ground thoroughly to kill grass and weeds, and allow the area to sit for one to two weeks. Re-disk the ground again to achieve a seedbed that is grass and weed free. The second disking will be much easier and take fewer passes over the pre-worked ground. Reduce the cutting angle of your disk on the last pass over the ground to help level and smooth out the seedbed. B) Apply a herbicide such as Roundup to kill existing grass and weeds. Wait two weeks and disk thoroughly to create a clean seedbed. You will need to disk the ground several times to create a loose seedbed. Reduce the cutting angle of your disk on the last pass over the ground to help level and smooth out the seedbed. Plant 12.25 pounds of seed per ¼-acre. Broadcast the seed and lightly drag to cover it no more than ½-inch. Do not disk or till the seed into the soil.

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al reasons. Prior crops might have depleted the nutrients, or the soil could be in poor condition, or it has inadequate tillage due to over-compaction. That's why we created Revive, a blend designed to address this issue. Revive combines buckwheat with our specially selected hybrid forage sorghum. It grows very quickly and has a deep, fibrous root system that loosens and improves the topsoil, boosting water and air movement. Its rapid establishment also helps suppress many unwanted weeds. Revive scavenges phosphorus from the soil along with other nutrients that were previously unavailable, and this process encourages beneficial soil microorganisms."

WN: What makes this a must-have addition for serious food plot enthusiasts?

Cousins: "If you have a plot or new ground that you suspect is poor or somewhat acidic, consider planting Revive in spring to let it work its magic. Once Revive reaches 75 to 80 percent bloom stage (four to eight weeks), it should be disked into the soil to incorporate the biomass. In the fall, add the necessary lime and fertilizer based

on soil test results."

WN: How does it work with and complement other Whitetail Institute products?

Cousins: "You should follow a Revive planting with an annual such as Pure Attraction, Destination or Winter Greens. You will see an improvement in the soil's productivity. Always follow your soil test recommendations, and feel free to call our expert team for advice, which is always free. Revive should be included in any long-term management plan and rotated into spring plots every few years to boost soil health."

WN: How do food plots fit into the overall land management picture? Where do you think the industry is headed?

Cousins: "Food plots are probably always going to play an important part in habitat management. Where I see the growth — and we're involved in it and have been for quite some time — is people taking a holistic approach to land management. They are beginning to understand that food plots are great, certainly, for attracting and supporting multiple species of wildlife on their lands. But they are only one part of

sustainable habitat management. People are realizing that they need to get on a program to manage their timber, water sources and sanctuaries along with their food plots. I think food plotters are becoming better educated on how to manage their soil and incorporate crop rotation. When we first started writing about soil testing and using lime over 30 years ago, people knew what it was but a lot of them weren't doing it. So, we really focused on educating our customers on how to be better food plotters and it starts with soil testing — it starts with managing the soil. And managing a healthy [deer] herd and other wildlife on your land spills out of the food plots into the surrounding grounds, so it is a holistic approach to managing the habitat. And all of this is tied together in the end. I think that deep down we all agree that we want to leave it better than we found it for the next generation. To quote our Native American ancestors, "We do not inherit the earth from our ancestors; we borrow it from our children."



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A man with a beard and a grey and white baseball cap is standing in a field of tall sorghum plants. He is wearing a dark grey t-shirt with a white deer head logo and the word "OUTDOOR" visible. The plants have green leaves and yellowish-brown seed heads. The background shows more of the field under a clear blue sky.

SORGHUM VERSUS CORN



Sorghum deserves more attention from food plotters than it currently receives. Here's why this overlooked planting has earned a place in the author's deer nutrition strategy.

■ Text and Photos by Bill Winke

Most deer hunters and land managers think corn is king when it comes to late-fall and winter food plots. With its high carbohydrate content, corn has a definite attraction and a role to play when things get cold and deer need energy. But there are options, and in this article, I want to discuss the value of sorghum as one of those options. I will dive into the many tradeoffs between planting corn versus sorghum for fall and winter food plots. Although I still plant corn in a portion of my food plot acres, I have gone increasingly toward sorghum. It deserves more attention than it's currently getting as a great whitetail deer food source.

WHY PLANT GRAINS IN THE FIRST PLACE?

You don't have to plant grains for deer hunting success, and in Southern climates, these crops aren't as important as they are in areas where it gets cold. I've had some very good hunts over brassica plots well into winter. In fact, one of the most attractive plots on my Iowa farm this past winter was planted in Whitetail Institute Winter-Greens. The deer on my farm fed there daily well into February — but they also ate other stuff, including the nearby sorghum. So, just because grains are the long-held standard for whitetail winter food plots doesn't mean they are the only thing that makes sense. If you can't grow them, don't sweat it.

But on the flip side, if you can offer greens and grains in your food plot mix, you provide the best combination of nutrition and energy deer need to flourish throughout the year.

As mentioned, it isn't always easy to grow grain crops everywhere. If deer wipe out your grain plots during early or mid-fall, those crops are a poor choice. Deer could have been eating anything at that time and would have done just as well nutritionally — or maybe even better. You should consider planting something else for the bulk of your acres and fencing (electric is easiest) your limited grain plots until they are needed. Grains serve their greatest role in late fall and winter. That's when you really see deer moving toward these high-carb plots with urgency.

Next, I will look at the many tradeoffs between corn and sorghum and wrap up with my thoughts on who benefits most from adding sorghum to their food plot mix.

PRODUCTIVITY

If you just look at yield, it's hard to make a case for sorghum. A good sorghum yield is roughly 100 bushels per acre in better soils. In the same setting, corn produces about 50 to 75 percent more per acre. Both cost roughly the same to plant. Corn might be a bit more expensive because of slightly higher nitrogen needs, but there is not a big difference in cost.



■ Sorghum is definitely worth planting for most deer managers. Often, the best strategy is to plant it in combination with summer forage blends from Whitetail Institute.

If your plots will stand the summer onslaught from deer and raccoons,

corn will produce much more food per acre than sorghum, but there is more to the decision. The comparison is not quite that simple. Crop damage is a huge consideration when it comes to the final choice. What's available to deer in late fall and winter when they need it most is critical. More about that in the next section.

SUMMER DEPREDAATION

Deer density affects a lot of planting decisions. For example, soybeans and corn are very sensitive to summer pressure from deer. Many deer managers face limited acres and lots of deer — a scenario that will wipe out corn and bean crops if those areas

aren't fenced.

Interestingly, deer don't care for sorghum during summer. They won't touch the growing plant, so you will have grain even in areas with high deer numbers. The same can be said of raccoons, which, in my experience, don't show any preference for sorghum even after the heads go to seed.

The real issue with sorghum and high deer numbers revolves around timing. After deer learn that sorghum tastes good during seed formation (often called the dough stage), they will hammer sorghum plots at that time. I had a neighbor who planted sorghum for deer and then later told me it grew great until the "blackbirds" wiped out his whole plot in just a few days. It wasn't blackbirds. It was deer. His

property was in a high deer density area. I have seen this often in similar settings. Deer don't automatically love sorghum, but they gain a taste for it and learn to love the doughy seed that sorghum produces right before it dries down. But that doesn't happen overnight unless they're really hungry.

Depending on when you plant, the dough stage occurs in late September through early October, well before the desired winter time frame. You can't stall off this time, because sorghum stops producing at first frost. So, you have to plant early enough to beat the frost, which often means the dough stage falls before or during the start of the season.

You're stuck with that tradeoff if you have a high deer density. They will learn

to eat the seed heads early. If deer let the sorghum get past the dough stage, they will still feed on it through the early fall, but not as hard.

Fortunately, it takes a while for deer to catch on that sorghum is most palatable during this dough stage. You will likely get two years before they figure this out — maybe more. After they figure it out, the biggest advantage of sorghum in areas with high deer density is reduced.

NUTRITIONAL ANALYSIS

There are plenty of experts who can give you a better idea of the nutritional tradeoffs between corn and sorghum, but they are more or less interchangeable. Both are fairly calorie dense and high in carbohydrates, which deer need for energy, especially when things get cold. Sorghum has a bit more protein content than corn, and corn has more starch and carbohydrates than sorghum. Those are the main tradeoffs between them, but the critical point is that both offer about the same benefit to deer. There is no clear winner.

DOUBLE CROPPING OR LAYERING YOUR PLOTS

Grain sorghum (don't plant forage sorghum unless you're trying to build a screen) grows to be slightly above waist high in good soils with adequate fertilizer and rainfall. This is short enough that if you space the rows wide, you can plant other crops in the same plots with your sorghum. You can't do this with corn (I have tried) because the corn grows fast enough and tall enough to shade out other plantings.

Maybe you really want to plant soybeans instead of sorghum or corn. Beans are a viable option when you look to add grain to your food plot mix. But deer love to eat soybeans during summer, so even in areas with moderate deer densities, soybeans often don't make it until fall. Fortunately, you can mix soybeans into your sorghum plots effectively and get the best of both worlds — soybeans in summer and, hopefully, a few in fall, plus sorghum in fall and winter.

Whitetail Institute Power Plant and Summer Slam are great options for lay-

ering your sorghum plots. The peas in those mixes will vine up the sorghum and gain all the sunlight they need to flourish, providing a great high-tonnage source of summer forage to go with the advantages of the sorghum later in fall.

That's how I planted my sorghum plots this past year, and I was very satisfied with the results. First, I drilled my beans using 7-½-inch rows. I did this as early as the weather and soil temperature allowed. Then I came back in about 10 days and sprayed the bean plot with Roundup and 2,4-D to wipe out any emergent weeds. You can't use 2,4-D if you aren't planting Enlist beans and definitely not if you're following up soon with Summer Slam or Power Plant. I followed that herbicide application immediately by no-till planting my sorghum into the plot with a corn planter on 30-inch rows.

The idea was to give the beans a bit of a head start and then use chemicals to clean up the plot before planting the sorghum in sufficiently wide rows that the beans would still grow up through the sorghum. In hindsight, I think 36-inch row spacing on the sorghum would have been even better, but my planter is only set for 30-inch rows.

As mentioned, this would work well with Summer Slam or Power Plant. You could just plant both crops in one pass by separating the seed bin in the drill to space the sorghum widely. Or you could till and broadcast the seeds together. The real challenge is always going to be weed control no matter how you double-crop, because anything designed to keep the sorghum clean will likely kill the second layer of broadleaf plants. I'm still searching for the perfect weed control regimen for these two-layer plots.

WEED CONTROL

I'm no herbicide expert, but in my trials, I've not found anything yet I can trust to keep the sorghum clean without also wiping out my second layer crop. With Enlist beans, you can spray the plot with 2,4-D even after the sorghum comes up to clean out any broadleaf weeds, but that doesn't help with grass.

Grass is your No. 1 problem because sorghum is in the grass family, and any-

thing designed to control grass will also affect the sorghum. My best success has come with cleaning the plot up the best I can right before or after planting sorghum so the sorghum has the best head start possible versus the grasses, which are bound to come soon after.

I've actually had pretty good success with this method. Sorghum is good at competing when it gets growing. But weeds will be the biggest challenge long-term when planting sorghum. That's why I rotate my plots so I can aggressively kill off the weeds one year and then more or less let them go the next. Although that's not ideal, this method keeps the seed bank from getting completely choked with dormant grass seeds that can't wait to spring to life when given a crack of opportunity.

Here's an example of my rotation. I would plant half of each plot to beans and sorghum in the layered crop approach I mentioned and the other half to straight corn or straight soybeans. The beans and corn offer the opportunity for perfect weed control if you manage the herbicide timing. If I plant straight beans, I then broadcast Winter-Greens into the beans at mid-summer to add a second layer there, too. Then the next year, I just switch sides, putting the soybeans or corn where the sorghum was the year before. I would hate to try to plant sorghum two years in a row in the same dirt because of the bank of grass weed seed that would surely build up there, making it a jungle by mid-summer the next year, with stunted sorghum as the price you pay.

GROWING CONDITIONS

In general, sorghum is a bit more forgiving of soil quality and moisture than corn. That's why you see it planted extensively in parts of the Great Plains that are not suitable for corn. I grow sorghum in all types of soils, but during really dry years, it outperforms corn on the ridge tops.

ATTRACTION

Who cares if sorghum is more drought resistant, easier to get past the deer in summer or offers more options for double cropping than corn if the deer don't

want to eat it? As mentioned, deer will learn to love sorghum in the dough stage, but what about after that? What about late fall, when you really need something to fuel your late-season hunts and deer need something to get them through a tough winter?

I started planting sorghum in my food plots in 1997. In fact, I planted more than 300 acres of it one year in the late-1990s on a large farm I partly owned at the time. Deer really keyed on sorghum at two times: the dough stage and again after the rut. There was never one sorghum seed left on the stalks by the end of winter.

Since then, I have planted sorghum in several other settings with lower deer densities. In all cases, deer have eaten all the sorghum by the end of winter. If you knock down a patch of corn, deer flock to it right away. You won't see that sold-out pursuit of sorghum, but you will see a steady browsing throughout the season with a definite increase in winter.

I will give a practical example from my farm. I have about 5 to 6 acres of sorghum

planted with soybeans as the base layer. The sorghum hid the soybeans in most areas so that there are still beans between the rows. About 10 to 15 percent of my sorghum has been eaten as of mid-November. At the same time, almost all my soybeans in straight bean plots are gone, and probably less than 10 percent of my corn plots have been eaten.

I have a moderate to low deer density and tons of food spread out across the farm, so deer aren't very hungry yet. I will knock down my corn plots in late December so deer will eat them more aggressively. By mid-February, all my sorghum will be gone, but I will still have corn next spring when I disk it under. That is partly because of the higher productivity of the corn per acre and also because deer here are starting to really like sorghum.

FINAL RECOMMENDATION

Sorghum is definitely worth planting for most deer managers. Even in moderate- to high-density settings, you should be able to get sorghum past the deer for

a year or two before they learn to hammer it in early fall. The best way for most people to plant sorghum is in combination with the summer forage blends from Whitetail Institute — specifically Summer Slam and Power Plant. Those blends are perfectly tailored to grow up through widely spaced rows of sorghum. This produces a great one-two punch for your grain-focused food plots.

You can drill your two-layer plot, or you can till and broadcast it as long as you keep your sorghum rate fairly low (around 4 pounds per acre when broadcasting). My normal rate when planting with a drill or corn planter is roughly 6 to 7 pounds per acre. A soil test is the best way to find out what combination of fertilizer your soil needs to grow sorghum effectively.

I hope this gives you a starting point and the motivation to experiment with this overlooked food plot planting. It has definitely earned a place in my food plot strategy.



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NEXT LEVEL CONSULTING PROFILE:



After a property swap and some expert guidance, a racing family has created a wildlife paradise. ■ by Alan Clemons

After a few years of driving four-ish hours from his home in Ohio to Pennsylvania to hunt, Michael McCann Jr. was visiting with a guy who was driving about the same amount of time from his home in Pennsylvania to hunt Ohio.

To some hunters, swapping properties would be akin to swapping trucks, but not in this case. As Homer Simpson would say, “Doh!”

“We used to have hunting property that butted up against the Allegheny National Forest in Pennsylvania,” said McCann, who lives near New Concord, Ohio. “I met a guy, and we were talking about builders in the area for a cabin we wanted to build there. He said instead of us driving four hours to get to our hunting lands, why not just swap? So, we did.”



■ The McCanns said soil sampling and Whitetail Institute's Plot Perfection app have boosted their success with growing food plots.

It wasn't that easy, of course, but in a way, it was. It made sense. They did the deal, and McCann and his father ended up with about 2,500 acres in south-central Ohio. The land also abuts more than 3,000 acres of public land, and is mostly hardwood forests that had areas cut out for food plots.

At first, the McCann's just let things be and hunted, learning and scouting and figuring out the property. They had ideas about cleaning and planting some of the plots, and made a few half-hearted efforts here and there. But mostly, with 2,500 acres along with family and work life, diving in wholeheartedly was a task they didn't want to tackle.

"I think we realized just how much work it was going to take to do 70 to 80 acres of plots," McCann said. "The property had 17 plots, and they're spread out all over the place, with some 3 acres and others up to 8 acres. There was a lot of autumn olive in there that had spread, which as you know can be a problem. Some places it would be a challenge to get machinery in there, cleaning up, not to mention trying to get any seed out before the rain with everything else we have going on. We just had doubts at first about the time and work needed to make big improvements."

McCann started doing some research and got in touch with Jody Holdbrooks with Next Level Consulting. After meeting, talking, surveying the land and find-

ing out how the McCann's hunted and their expectations, Holdbrooks began building a plan.

"We were avid hunters but not into food plots in Pennsylvania," McCann said. "Then Jody came out and started helping us learn about the steps to take. He wrote a whole plan for us but also was honest about what to expect. He said the first couple of years would take some work to get things into shape and would be tough before we would see changes. But we discussed soil testing, plots, hinge cutting, machinery, putting openings here or leaving things alone there.

"He has been an absolute blessing to our family's ranch. After that first spring, I fell in love. Seeing the results, letting Mother Nature run her course, and then if things go well with the weather, you're ready to start hunting."

PLOT PLANNING

Holdbrooks has been working with the McCann's for about three years, offering advice and refining the plan as needed. Nothing major; just some tweaks here and there that McCann said they agreed on that might be better or fun to try.

As with anything, trial-and-error also showed the McCann's how some simple changes can have better results. One was buying some bigger equipment to do cleanup, road or site prep and planting on the 17 numbered plots.

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“He suggested the Imperial Whitetail Clover, and we tried casting but had bad droughts, and nothing really happened,” McCann said. “Jody suggested drilling and that’s been a huge, successful change. We had great germination and growth with just one rain of about an inch, and other rains were maybe a quarter-inch. Those plus the morning dew were enough to get it going and thriving.”

“We invested in equipment like a skid steer, dozer, and other things to change the landscape. That really made a big difference, having that equipment. Along with the existing plots that we worked on, we made a few little half-acre hidey-hole spots. It’s a lot of fun to make those. It helps provide a bigger variety of food.”

McCann said soil sampling and the Plot Perfection app are huge for success. Instead of having a dedicated field of clover, he said, they have some with half clover and the other half an annual rotated every four to six months. Others are dedicated clover, which benefits deer, turkeys, pollinators and other wildlife.

Another thing they’re seeing and experimenting with is how shade affects part of the food plots. McCann said some plots get a portion that is shaded in the morning, which helps keep dew on the plants, and the rest gets hammered by the sun. Others in different locations get more or less sun. Learning how everything fits together is part of the process.

“To have a giant variety of food is something we strive for,” he said. “Even with the 17 food plots and forests with mast trees, Jody (initially) said some areas weren’t producing much food to keep deer interested. Once we got started, we’ve put in some different things. Last year we planted Imperial Power Plant and left it standing, but we mowed some strips in it and planted the Beets & Greens. The deer seemed to like that pretty well. It’s fun to try different things to see what works, what the deer like and either enhance or change it.”

McCann and his father stay busy with their successful McCann Racing business and the Porche Deluxe Carrerra Cup North America series. The company’s services in-

clude race prep, repairs, restoration, event hospitality and track-side support, vehicle engineering and fabrication, driver and professional race tutoring and training, and a high-tech prep shop. Hunting, family camaraderie and now, land management, is part of their fun downtime.

“We bowhunt, and then during gun season, we have about a dozen longtime family friends we’ve known for 35 to 40 years,” McCann said. “Dad had his group, and now I’ve started bringing some of my friends and extended family. We’re enjoying being creative with the land and seeing what will happen.”

“The previous landowner left a couple of Redneck blinds here, and now I’m spoiled with a heater and comfy chair in there. Those are nice on those days when you wake up and see the weather is a bit nasty, but I’m also happy in a ladder stand, too. It’s just a blessing to be able to enjoy what we have.”



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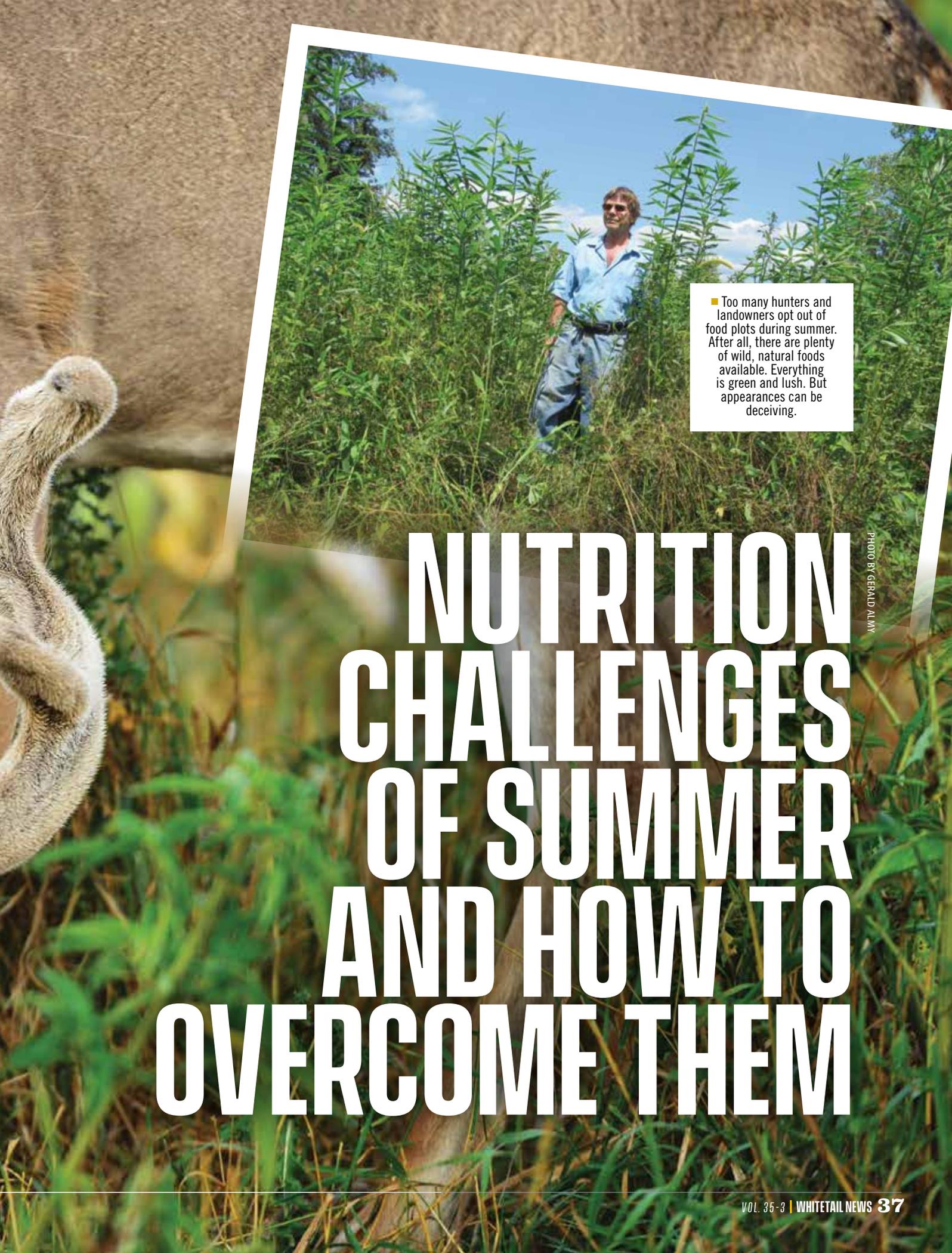
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Hot, dry summers are not an easy time for whitetails. A common-sense summer food plot approach can boost the herd and keep deer on your property.

■ by Gerald Almy





■ Too many hunters and landowners opt out of food plots during summer. After all, there are plenty of wild, natural foods available. Everything is green and lush. But appearances can be deceiving.

PHOTO BY GERALD ALMY

NUTRITION CHALLENGES OF SUMMER AND HOW TO OVERCOME THEM

Three mature bucks fed casually through the lush, green Imperial Whitetail Clover plot. One was wide and heavy. The “Big 8” I called him (original, eh?). Another was just as impressive, with heavy antlers and 11 points but a narrow spread that was inside his ears. The final was a classic 10, with good main beams and long tines. Amazingly, all had stayed mostly on my small tract of land throughout summer and into early fall.

I was gratified but not surprised that I would still see those 4-year-old-plus bucks at my northwestern Virginia property. They stayed mostly on my land because, after years of experimenting, I had learned how to cope with the challenges of summer deer nutrition, which often see mature bucks move to other properties when their food needs are not met.

Keeping those animals close called for forage other than the brassica and oat fields most hunters, including me, plant to attract deer during fall and winter.

None of those bucks came close enough for a shot that day. But it wouldn't have mattered. I was on a reconnaissance outing several weeks before the season and didn't have my bow or crossbow. It was still immensely gratifying to know I had met the challenge of providing deer nutrition through summer and made those bucks content enough to stay on my land.

Too many hunters and landowners opt out of food plots during summer. After all, they say, there are plenty of wild, natural foods available. Everything is green and lush (including our lawns, which seem to need constant mowing).

But as you'll see in this article, appearances can be deceiving. Though it might seem like a time of plenty, summer is really not an easy period for deer.

THE PROBLEM

After winter recedes in March and April, the first flush of green in spring produces an abundance of nutritional, high-protein natural foods, such as forbs, emerging saplings, mushrooms, honeysuckle and buds. Protein, digestibility, nutrient levels and moisture content are high. I watch deer from my office during that time feeding in what looks like a fallow field, but it actually has many beneficial native forbs that help

OTHER STEPS TO HELP WHITETAILS DURING SUMMER

■ Provide a water source. This can mean as little as using sticks and rocks to dam up a small stream or hiring a contractor to dig small ponds. Watering tanks designed for whitetail managers or cattle troughs and children's pools can also work. If deer don't have water, they'll move to another property where they can find it.

Grow fruit trees that ripen in summer. Some hunters grow fall-producing fruit trees for hunting. That's great, but I also plant some apples that mature in mid- to late summer, as well as peaches and mulberries, which offer nutrition, high moisture content and vitamins — as well as a sweet treat for deer.

Create thick bedding cover near your summer plots. Bucks don't want to travel long distances to their food source at this time. Whitetail Institute's Conceal planted in blocks can provide bedding cover near your summer plots if planted early. Hinge-cutting and creating a jumble of cover by felling low-value trees and planting some fast-growing conifers also works in woods near your plots.

Provide a sanctuary. Designate a portion of your property as a safe area for deer where no one goes, except to track a wounded deer.

Create one or several mineral licks. Even the best summer forages don't provide all the minerals and vitamins deer need. I like 30-06 and place one lick for every 25 acres on the property.

Providing these extras will make deer feel comfortable using your summer plots and help keep them on your property as hunting seasons approach.

deer rebuild their bodies after the ravages of winter.

As spring merges into summer, with its soaring temperatures and lack of rain, the rich green colors and nutritional value of those foods begin to fade. Leaves turn yellow and brown. Stems become tough and woody. Digestibility, protein levels and palatability plummet. With acorns still weeks away, it can be a difficult time for deer, with bucks needing quality nutrition to grow their bodies and antlers and does needing it to raise fawns. Yes, there's still lots of green stuff out there, but it's of little nutritional value.

Drought that sets in across much of the country compounds the decline, killing off edible weeds and nurturing useless ones, such as thistle and horse nettle. Grasses with no nutritional value take over every inch of bare ground.

But there is an antidote to this deterioration of natural native foods and the nutritional vacuum it leaves. It's summer food plots — something too many property managers don't fool with. But these are not the standard radishes, brassicas, wheat and oats most hunters sow in fall plots. These are summer food plots. Planted in late spring, usually April and May, they thrive in hot, dry weather and provide strong taste appeal, digestibility and protein lev-

els. And with a little help, they withstand the competition from fast-growing summer weeds.

The most important step for filling in the summer nutritional gap is choosing the right plants — those that will thrive in low rainfall or even drought while outcompeting weeds and grasses. Two groups of plants meet these needs.

TOP CHOICES: PERENNIALS AND WARM-SEASON ANNUALS

The first group is perennials, including clover, alfalfa and chicory. The second is warm-season annuals. Valuable choices in the latter group include forage soybeans, cowpeas, sunn hemp and sunflowers.

The seeds in these groups can be planted alone or in mixtures, such as Fusion and Power Plant. Every summer, I grow both types of plants to offer deer quality summer food as native forbs, saplings and shrubs decline in nutritional value and palatability.

Perennials: Clovers are the most important plants in this group for deer hunters, and Imperial Whitetail Clover is the best choice. It was created specifically for deer and might be the only forage you need in this group. It's the No. 1 food plot seed used by deer managers across the country, consisting mostly of proprietary clo-



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“THE MOST IMPORTANT STEP FOR FILLING IN THE SUMMER NUTRITIONAL GAP IS CHOOSING THE RIGHT PLANTS.”

vers the Whitetail Institute has developed through decades of research and selective crossbreeding.

This seed blend thrives in spring and fall. But it also grows well in summer because of its drought resistance — the reason it's included in this article. Every evening during July and August, I watch deer feed in the Imperial Clover that grows in a plot in front of my house.

On the other hand, what about those fallow fields that saw deer activity in spring? During summer, they are devoid of deer because of the decline of native foods.

If you live in an area with severe lack of rainfall, Fusion or Chic Magnet are good alternative perennials. These include the Whitetail Institute's highly palatable chicory, to which the company has exclusive rights. It has more tasty leaves than other chicories. I use these on the drier upland parts of my property.

Another summer perennial deer managers can turn to for drier, looser soil is alfalfa, which is included in Alfa Rack-Plus. This mixture features forage-type alfalfas that are created for browsing animals rather than producing hay, as well as some Imperial Whitetail clover.

All of these perennials can be established in spring or fall and withstand drought conditions because of the Whitetail Institute's selective breeding efforts and coating the seeds with Rainbond, which holds moisture and helps the seedlings as they begin to grow.

Warm-season annuals: This is the second type of forage that meets the challenge of low rainfall and hot summer weather. My choice, PowerPlant, is a mixture of cowpeas, forage soybeans, sunn hemp and sunflowers. This blend provides high protein levels and thrives in drought conditions, and it also offers cover so thick and tall that mature bucks sometimes feed and bed in it.

Though deer consume them, two of the ingredients in PowerPlant also serve other purposes. These are sunn hemp and sunflowers. Besides offering quick forage to attract deer, they also provide shade to

keep moisture in the soil longer during dry periods.

The quicker growth of sunn hemp and sunflowers also offers the beans and peas, which grow lower, protection from deer browsing while they are young and vulnerable. The higher-growing sunn hemp and sunflower plants also provide structure the beans and peas can wrap around and use to grow taller and produce more forage.

An acre of PowerPlant can produce 5 to 7 tons of summer forage. The sheer density and fast growth of the plant blend shades and outcompetes most weeds and grasses so the plot is free of these nuisance plants and clean when the site is replanted in fall with cereal grains or brassicas, such as Whitetail Oats, Winter Greens or Ravish Radish. Chemicals released by the sunn hemp also suppress weeds and harmful nematodes in the soil.

The legumes in PowerPlant thrive in summer and improve the plot soil by aerating it. Peas and forage soybeans dig deep into the soil and thrive with only minimal rainfall. Soybeans are cultivated by farmers across the country, but PowerPlant uses forage types, which are meant to be fed on and continue regrowing leaves throughout summer.

A THIRD NEW CHOICE

Although those are the main groups I turn to in summer, Whitetail Institute has recently released a new offering for that difficult time: Summer Slam.

This blend consists of a mixture of peas, Alyce clover and vetch. It attracts deer and provides nutrition during hot summer weather, and it also benefits the soil. The plants aerate the soil and leave nitrogen behind, which can give a boost to a fall planting such as Winter Greens or Tall Tine Tubers at the same site after Summer Slam is disked in.

I have not had a chance to try Summer Slam, but it's on my list for planting this summer. I suspect it will become a regular offering in my fields to complement the Power Plant, Imperial Whitetail Clover, Fusion and Alfa-Rack-Plus.

COMBATting WEEDS AND GRASSES IN PERENNIAL PLOTS

Before closing, let's look at one of the greatest challenges deer managers face in summer when they plant perennials. Although warm-season annual forages grow so quickly they choke out most weed competition, perennials need help to stay weed- and grass-free. If those unwanted plants are allowed to overtake plots, the fields will quickly lose their appeal as summer feeding sites for deer.

I use a four-pronged strategy. It starts with planting a brassica mixture at the site the previous fall. Those forages knock out most weed competition because of their fast growth, which chokes out competing vegetation. Also, they contain glucosinolates, which reduce weeds. Good choices include Ravish Radish, Winter Greens and Tall Tine Tubers. Planting these the autumn before makes for an almost weed-free site for your summer plots. The next step is to till or disk the soil to chop up and kill any vegetation. Wait one to two weeks and till again.

If weeds or grasses still persist after the perennial is planted and growing, use strategic mowing. Cut the field when weeds start to grow taller than the clover or start to form seed heads. If mowing doesn't control the problem, or for added control, spray the plot with selective herbicides. Grasses are often the biggest problem. For this, I turn to Arrest Maxx. It is simple to mix and apply and wipes out grass. If harmful broadleaf weeds challenge your perennials, turn to Slay Maxx. Follow directions carefully for both products and weed and grass problems can be almost eliminated.

Oh, and those bucks I watched in the Imperial Whitetail Clover Plot? They were still using my land when hunting season opened, and I was fortunate to take the tall, narrow 11-pointer. I credit that buck to my efforts to keep a variety of food plot forages available throughout the nutrition-challenged months of summer.





SUMMER SLAM

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RESEARCH=RESULTS



by Joyce Allison Tredaway, Ph.D.
– Agronomist and Weed Scientist

HELP US HELP YOU:

TAKING PHOTOS FOR GRASS IDENTIFICATION

Good images will let the Whitetail Institute pros identify pesky grasses and recommend treatment plans.

Red sorrel (sheep sorrel, field sorrel)

Need help identifying a grass weed? These tips will help you send in the best photos for Whitetail Institute to properly identify the grasses you send in for identification.

1. Set your phone or camera to the highest resolution setting. When you submit the photo electronically, send the largest size, which will give the image the highest resolution.

2. Use a solid background and include a reference for size in the photo of the entire plant. A ruler or a coin can provide a good size index.

3. Take a photo of the collar region of the plant (where the leaf blade meets the stem). This will reveal the ligule, which is the most important feature in identifying grasses.

4. Take a photo of the leaf margins (edges of the leaf). They can include distinguishing characteristics to aid in identification, such as pubescence.

5. If seedheads are present, take an up-close photo of them. This can be a critical identification tool. However, if seedheads are present, it's too late to treat with a herbicide.

6. If rhizomes are present, take an up-close photo of them. This can also be a critical identification tool.



This shows the rhizomes (underground stems) of johnsongrass plants.

INDICATOR SPECIES AND SOIL HEALTH

■ Weeds are often seen as a nuisance, but did you know they also serve as natural indicators of the soil's conditions? A soil test is the most important step you can take for a successful food plot, but if certain weeds start appearing, that can give a clue of what your soil health is. Weeds can signal low pH, high pH, wet areas, poor soil structure (compaction, poor soil drainage), salinity, and dry soil. Identifying these weeds can aid in improving field conditions so they are no longer present without having to apply herbicides. This will save money and improve your food plot conditions to guarantee a better crop. What are these indicator species, and how do they relate to soil health?



Red sorrel (sheep sorrel, field sorrel)



Low pH: Raising soil pH with dolomitic or calcitic limestone will eliminate these species.



Queen Anne's lace (wild carrot)



High pH: Lowering soil pH by adding elemental sulfur (S) or gypsum will aid in eliminating these species.



Rushes



Pennsylvania smartweed

Wet soil: For wet soils, organic matter can be added to improve soil structure and drainage, turning it to expose more surface area to air. Or, you can install drainage systems, such as French drains.



Virginia pepperweed

Dry soil: Increase organic matter by cover crops and reduce tillage.



Dogfennel

Poor soil with low humus: Minimize tillage, use conservation tillage — no-till, reduced till, cover crops.



Horse nettle

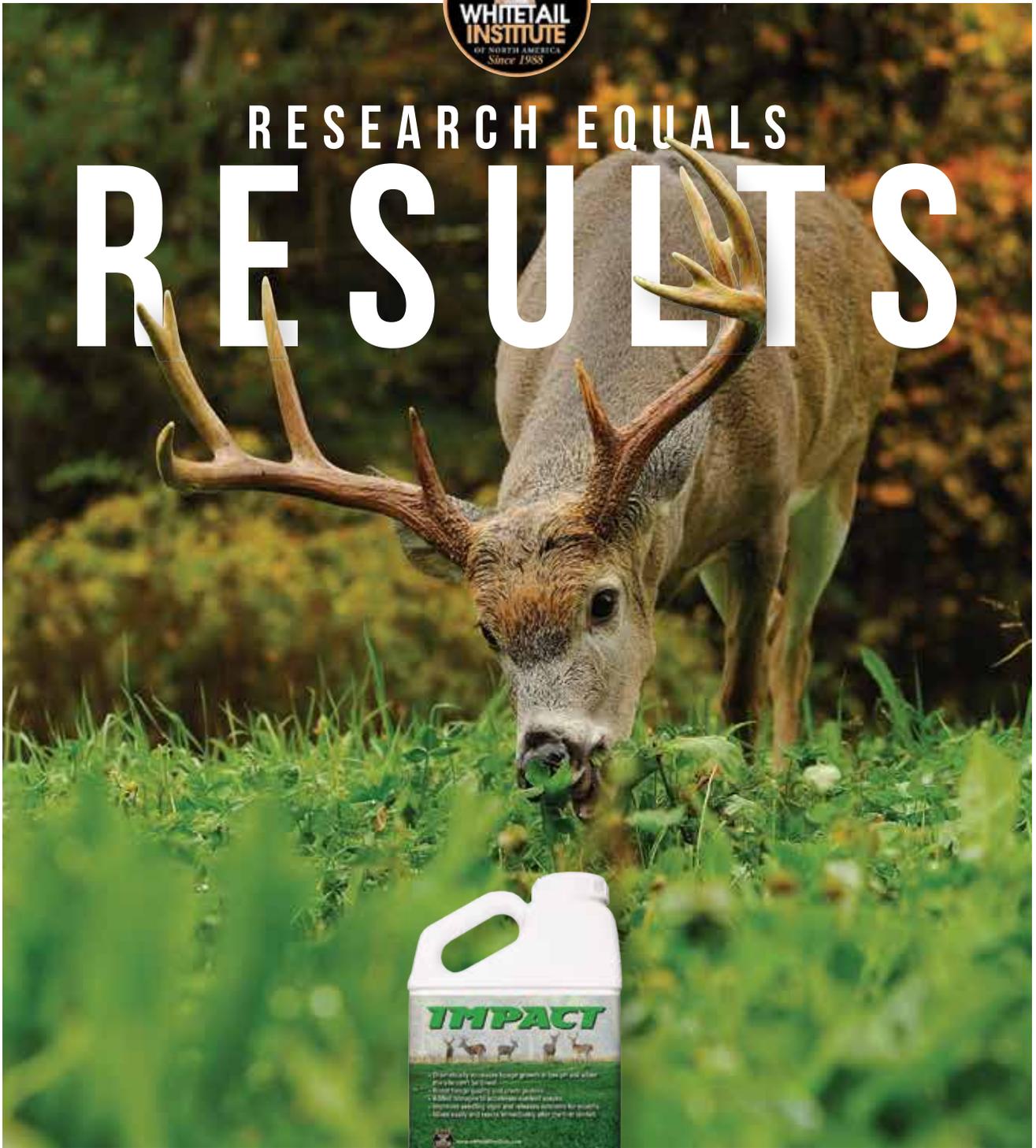


Soil with a hardpan or hard crust: Using conservation tillage systems (no-till, reduced till).





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NUTRITION



Providing deer with quality nutrition all year can be challenging, but it's the best way to maximize the potential of your herd.

■ Text and Photos by Matt Harper

If you've followed my pontifications from recent years, you've probably noticed that aging takes up more page space. That's because I'm aging, and although that has few advantages, I've settled on the mantra that it beats the alternative.

I'm told that I'm supposed to embrace change and know that age is only a number. It might sound like I'm bitter, but that really isn't the case. I just have to accept that I can't hop over a fence like I used to. I've tried, and the results are almost catastrophic. Of course, it's more

than hopping fences. Consider trying to lose weight. Years ago, I could back off the carbs, exercise a bit more and drop 2 inches off my waistline. That proverbial train has left the station, so I now try other ways. Actually, I can fast periodically — up to 12 or 24 hours. When I eat, however, I more than make up for the caloric hiatus. And I'm told that eating multiple small meals is very healthy and better for metabolism, which I'm sure is true. The truth is that a consistent, well-balanced, nutritious diet is the healthiest path for humans and most

other critters. I don't think that's a revolutionary concept, so it's strange that so few land managers practice 365-day deer nutritional management on their properties.

It seems obvious that for deer to be at their healthiest, they need access to quality nutrition every day. Can they go for extended periods without food or with low-quality food? Sure, and they do, because there's a period in almost every part of the country when natural food sources are scarce. The extreme example is deer in Northern

climates trying to survive the brutality of a tough winter when food sources are scarce. The worst outcome is a big winter kill, as the deer population naturally adjusts to the availability of nutrients. But even if it doesn't result in mortality, the lack of adequate quality food at various times negatively affects body condition, reproduction, growth and the overall health of the herd.

THE NEED FOR YEAR-ROUND NUTRITION

If you're one of the folks I'm about to describe, don't take this as an insult. But most people think of deer nutrition only when hunting season approaches. Hunting season starts in a couple of days, so they might grab some mineral, buy some corn and crank up the feeder. I'm not suggesting that someone might think that a few licks of mineral or couple of mouthfuls of corn during hunting season can turn a 120 into a 150. Obviously, hunters who only put something out during the season are just trying to attract deer within range. And if that's legal where you hunt, it's fine.

But maybe you want to start thinking about nutritional management a couple of months ahead of the season, so you put out some mineral and work up a fall food plot. Will that help the deer herd? Absolutely. Better nutrition beats poor nutrition no matter when its available, but don't think that simply applying those practices during a brief window of the yearly cycle will greatly improve things. Other folks get out early in the year during green-up, putting out mineral and planting spring and summer plots to improve deer by targeting management practices when nutritional

demands are high. Bucks are growing antlers, and does are lactating and raising fawns, and the nutritional requirements of deer are at their peak. Providing the needed supplemental, minerals and food plots that produce high-quality, protein-rich food sources will unquestionably improve the deer at your property. But as hunting season closes and your attentions turns to something else, the deer are still out there. They're still hungry and require good nutrition — maybe more so than at any other time.

Life is busy, and it seems there are limitless demands on our time and attention. It's not that we don't think about deer at our property during the off-season. Usually, for a time, deer and deer management take a back seat to other endeavors. That's OK. However, it doesn't negate the fact that deer are trying to make a living in an environment that's possibly the harshest they will see all year.

During winter, several factors create challenges. First, vegetation is dead or dormant and will remain so until spring. What was previously a cornucopia of food at a Midwest farm becomes barren, with harvested crop fields and hay fields that aren't growing. Every animal in the woods competes for fallen mast. Food competition is not typically discussed, but it's real and should be a consideration. If everyone were starving and someone left a basket of pork chops in the street, you would have to fight off your neighbors, and every dog, cat, raccoon, coyote and other animal that wanted to eat. Countless critters in the woods eat the same thing as deer

during winter, and competition can be fierce. So you have a double-edged sword consisting of a finite amount of food and non-target species going after the same supply.

Most of us think winter is difficult for deer because of the cold temperatures. True, severe cold is taxing because deer need to burn calories to maintain internal temperature homeostasis. However, they can withstand some pretty darn cold temperatures. After all, whitetails do just fine even in Canada. However, other characteristics of winter can be hard on deer, such as snow and ice. Snow — especially deep snow — makes simple travel difficult, requiring more calories to navigate through deep drifts. It even makes evading predators more difficult. Snow and especially ice also makes it difficult for deer to find and consume ground-sourced food, such as hard mast. Combine those tough living conditions with the probable lack of food and the results are a period that's difficult or even life-threatening.

Deer have a natural preservation trait they share with species that hibernate: Their metabolisms slow down during the colder months. That means their daily feed intake decreases even if an abundant food supply is available. That helps with the food shortage problem, but it doesn't mean there aren't serious nutritional constraints that can cause severe damage to the herd. That's especially true for specific classes within the herd, such as the young and the old. It takes strength to make it through tough times, and when you're low in that category because of age, the need for adequate nutritious food becomes even more important. Consider winter

■ Knowing how much food to plant seems simple on paper, but there are many variables.

kill deer by age class. Many victims will be first-year fawns and deer past their prime. There's another class that ranks high on the winter endangerment list. Mature breeding bucks have spent the days before winter, seeking, chasing, fighting and breeding with little concern for eating. Their focus was not on their stomachs. Most of the fat they had built up during spring and summer has burned away, and that fat storage is critical to offset winter shortages. If you harvest a buck in early October, you will likely find a thick coat of fat under the skin. When you kill a mature breeding buck in late December, you won't find much fat. This is a real problem, as bucks must find any food they can to build that fat layer back with winter knocking on the door. If a mature buck is severely run down, does not have access to much food in winter and is faced with an early or extended harsh winter, you might find him in a melted snow drift come spring. Even if the buck makes it through winter, he will likely be extremely run down and in poor body condition. When spring arrives, he must first use the nutrition he consumes to build back his physical condition before nutrients will be used for antler production, which leads to a high likelihood of stunted antler growth.

NUTRITION 365: WHAT TO DO

If you've decided to practice nutritional management at your property all year, where should you start? Let's begin with the premise that you're planting food plots — perennials and annuals — that will supply quality food spring through fall, and that you're putting supplemental mineral out (where legal) during that time. That's a great start, but you also need to focus and plan for winter.

First, what you plant for perennials can help with winter nutrition. No perennial will stay green and growing in sub-freezing conditions, and will go dormant to protect itself for growth when the soil warms up. Still, some perennials are cold tolerant and will stay green and productive longer into fall and be one of the first plants to green up in late winter and early spring. One of the best exam-

ples is Imperial Whitetail Clover. This product is designed for cold tolerance, and on my farm, it's consistently one of the last perennials to stay green and the first to green up in spring.

Annuals are one the best arrows in your quiver for supplying winter food. They don't grow in winter but have produced food that deer can use even when the snow stacks up. A good example is a brassica blend that's planted in late summer and produces vegetation deer will pull out of a snow bank. If you use a tuber variety, such as turnips or radishes, deer will dig those out and eat them. It's important to remember, however, that when those winter plots stop growing, whatever is there is all you will have, so you need to plan on the tonnage needed for the property. That will never be an exact science because there are too many variables, but here's an example calculation. Let's say there are 40 deer on your property and you would like to supply food for them for four months during the worst of winter. On average, a deer might consume about 1.5 to 2.0 percent of its body weight in winter (that would be 3 percent in spring, summer and fall). If we say the average weight of a deer is 180 pounds and the animal consumes 1.75 percent of its body weight, each deer would eat 3.15 pounds per day, with a herd of 40 consuming 126 pounds per day. Figure 120 days, and you end up with 15,120 total pounds needed. If your brassica plot yields 2 tons per acre (4,000 pounds), you would need to plant 3.78 acres. If you planted soybeans and yielded 50 bushels per acre, you would need to plant 5 acres (15,120 pounds, or 50 bushels times 60 pounds per bushel). It looks simple on paper, but again, there are many variables, including actual yield, the number of deer from neighboring properties, the amount of available natural food and pressure from non-target wildlife. But at least that gets you close to the number of acres you should plant.

Finally, there is another option: supplemental feeding, where it's legal. In some areas, you might have trouble growing specific food plots or are lim-

ited in the acres you can plant, but you still want to provide supplemental nutrition in winter. Supplemental feeding will help, but there are many things to consider. First, the formula or product makeup of the supplement needs to contain the right nutrients for winter nutrition. In general, energy is the most crucial piece of the puzzle and can come from many sources, such as corn, distillers' grains, whole cotton seed, sunflowers, soybeans and even rumen bypass fat. But the supplement should also contain some protein — not as much as needed in spring and summer, but it should still be part of the product. The product should also contain minerals and vitamins — again, not as much as in spring and summer, but still present. It's been said that corn can be harmful to deer, but that's a half-truth. Deer do pretty well in the Midwest, where there's ample corn available, at least before harvest. The key to corn — and a fully formulated supplement — is it needs to be fed properly. Deer are ruminants, and the rumen contains millions of live microorganisms that feed on and digest what the deer consumes. If a deer has been eating a roughage diet (high cellulose from vegetation) and then suddenly has access to a highly digestible starch, it can alter the rumen microorganisms too quickly and cause problems. So the key is to offer the supplement slowly, building it up through time, and then continue to have it available until the end of winter, when you then slowly take it away. That allows the microorganisms to adjust slowly. In short, you can't start and stop quickly, but rather should stay consistent with gradual changes.

CONCLUSION

Managing deer nutrition 365 days a year can be challenging, and it involves some financial investment and a great deal more of sweat equity. But it can also be very rewarding and is the best way to maximize the potential of the deer herd at your property.





GRUNT N GOBBLE:

A TWO-SEASON POWERHOUSE



Grunt N Gobble provides attraction in spring and fall for turkeys and deer.

■ by Drew Gilkerson

The Whitetail Institute of North America has done it again. Its newest food plot mix, Grunt N Gobble, lives up to its name with an irresistible combination of attraction, resilience and performance that carries from fall through spring.

This fall blend features Whitetail Institute's proprietary triticale, Dixie crimson clover, Alex berseem clover, hairy vetch, and crusade white clover. Together, they form a powerhouse mix designed to attract deer and turkeys while also creating excellent bedding and nesting cover for rabbits, quail and other wildlife.

PLANTING AGAINST THE ODDS

Like many land managers, I've battled unpredictable weather the past two years, with drought conditions hitting in late summer and early fall. It's never ideal to plant when rain is scarce, and anyone who plants food plots knows the anxiety of watching the weather app, hoping for the perfect planting window.

This year, I was ready. Despite the heat and dry August conditions, I completed my soil test, applied the recommended lime and fertilizer, and had my seedbed

prepped and waiting.

When rain finally appeared in the forecast, I sprayed the plot with Impact soil amendment, and then broadcast Grunt N Gobble seed just ahead of the rain.

The rain arrived as predicted, soaking the soil, jump-starting germination within days, and giving my seedlings a solid start. But after that brief relief, the skies closed again for weeks.

SOIL HEALTH MAKES THE DIFFERENCE

I've been in this situation before, watching a perfectly timed planting teeter between success and failure because of drought. The difference this time was preparation. By optimizing my soil health and adding Impact, my seedling survival rate improved dramatically. Even with minimal rainfall, the plot held strong and green through deer season.



ANNUAL
GRUNT N GOBBLE
IMPERIAL WHITETAIL®



- Annual.
- Available in 10 pounds (plants up to .25 acre).
- Establishes quickly and is extremely winter hardy.
- Contains Imperial Whitetail Clover and WT1031-1 Triticale.

Throughout fall, deer activity was steady. I passed on several does and younger bucks, keeping my focus on one mature buck that never quite stepped into range. Still, watching deer and other wildlife feed on the lush mix was reward enough, especially given the dry conditions.

SPRING SUCCESS AND THE POWER OF HAIRY VETCH

When spring arrived, I realized just

how successful the planting had been. As temperatures rose and daylight increased, the plot exploded with growth, becoming the best I've ever planted.

A big part of that success came from hairy vetch, one of the legumes in the mix. It fixes nitrogen in the soil, suppresses weeds and prevents erosion, all of which help neighboring plants thrive. The result was a rich, thriving stand that not only fed deer but also became a mag-

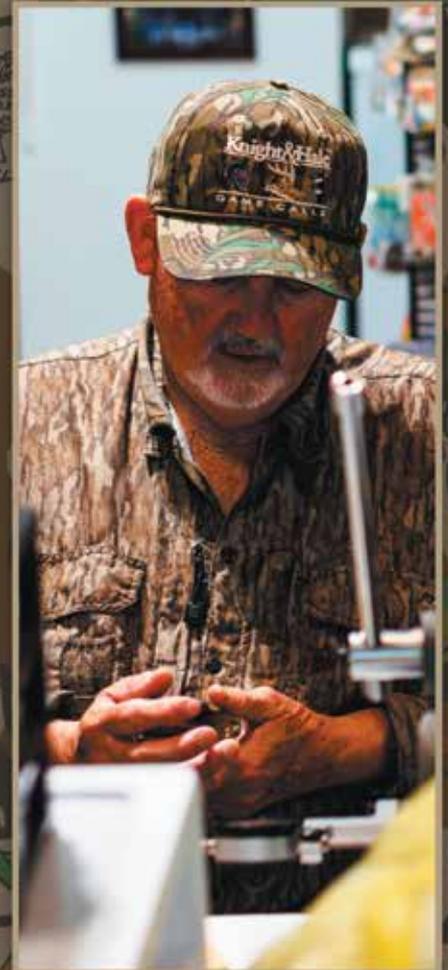
net for turkeys.

Several hunts passed, and I saw a lot of turkeys coming in and out of my Grunt N Gobble plot, but I couldn't pull any gobblers away from the hens. Finally during a morning sit, a big longbeard made the mistake of answering my last diaphragm call a little too close. After I made a series of cutting calls, he gobbled one last time in Grunt N Gobble.

FINAL THOUGHTS

Grunt N Gobble isn't just another food plot mix. It's a year-round habitat enhancer that can perform even under less-than-ideal weather conditions. With careful soil preparation and good timing, this blend proves that resilience and attraction can go hand in hand.

Whether you're chasing whitetails, calling in longbeards or simply improving your land for wildlife, Grunt N Gobble deserves a spot in your planting lineup.





IMPERIAL WHITETAIL®

POWERPLANT: FOR SPRING AND SUMMER PROTEIN — AND MORE

This versatile product produces huge amounts of high-protein foliage and also allows for many other food plot strategies.



Of all Whitetail Institute food plot products, perhaps none is as narrowly focused in purpose yet broadly versatile in application as Imperial Whitetail PowerPlant.

Specifically designed to provide deer with massive tonnage of high-protein forage during spring and summer, PowerPlant is also regularly used to clean the soil between fall brassica plantings, provide deer with secure bedding areas and a feeling of safety while feeding during the early season, and even direct deer movement.

POWERPLANT'S MAIN PURPOSE: SPRING AND SUMMER PROTEIN

A buck's velvet (growing) antlers are comprised of about 80 percent protein. Unfortunately, the protein content of most

natural sources is much less. PowerPlant is primarily designed to help fill natural protein vacuums by producing huge amounts of high-protein foliage in a highly palatable form that deer consume when they need it most: during the antler growing window of spring and summer. During this time, does can also greatly benefit from plentiful protein-rich food, as they're in the third trimester of pregnancy and later producing milk for their newborn fawns.

PowerPlant provides maximum protein tonnage because of its two-part design. The first is the choice of protein-rich legumes. These include true forage-type soybeans, which are designed to emphasize foliage production for browsing (instead of beans for harvest), and peas. Unlike ag-type soybeans, the beans in PowerPlant grow

as supple vines and don't get stemmy and tough like ag soybeans. Second, PowerPlant includes additional components that provide structure for the beans and peas to climb as they grow, maximizing production instead of growing along the ground. These lattice plants are sunflowers and sunn hemp. (Sunn hemp actually serves both functions. It's favored by deer as a forage, and it grows on a stem that allows the other legumes to climb.) PowerPlant is also highly graze tolerant. When it establishes, the beans, peas and sunn hemp in PowerPlant continue to grow as deer feed on them.

ADDITIONAL POWERPLANT STRATEGIES

PowerPlant serves other purposes in spring and summer, and even during fall. In that regard, your potential uses of PowerPlant

are only limited by your imagination. Here are a few examples.

Rotational crop for fall brassica and perennial crops: Crop rotation is usually not as big a deal to food plotters as it is with commercial farmers who plant the same crop year after year. Brassicas, though, are an exception. The main issue with brassicas is the buildup of disease organisms (fungus) that can occur when a brassica is planted in the same site again and again without a break. This can be true of any forage that's grown for years at the same site, but it can be especially true of brassicas. Each situation is different, but Whitetail Institute generally recommends not planting brassicas at the same site for more than two consecutive years without a break. That break can be provided by planting a spring/summer crop that's different from the existing crop to clean the soil of toxins, and PowerPlant is an exceptional choice for accomplishing that between fall brassica plantings.

Using PowerPlant's minimum plot-size recommendations to your advantage: As anyone who has planted straight beans or peas can tell you, they're highly susceptible to early overgrazing. Although PowerPlant is very graze-tolerant when established, you still have to plant enough of it to protect it from excessive early overgrazing. PowerPlant's instructions caution, "25 pounds of seed plants 3/4 to 1 acre. Use the higher seeding rate for areas with high deer densities." In some ways, this is a limitation. However, it also opens up some fantastic options you might not have considered.

For example, consider mowing thin (about 10 to 15 inches wide) lanes radiating out from your stand location through the standing PowerPlant in late summer, and plant those lanes in a Whitetail Institute annual such as Pure Attraction, Winter-Greens or Destination. The key: Be sure to leave enough PowerPlant growing so deer will continue to use PowerPlant for bedding and concealment, but put in enough fall annual to keep deer using it as a food source after frosts hit. If you do that, you'll likely find that deer will continue to bed in the PowerPlant and feel safe stepping out into the narrow lanes during the day.

Using PowerPlant to alter deer movement: PowerPlant will continue to grow until frosts

arrive. After that, it's function as a food source wanes, but it continues to provide concealment for deer as it slowly mats down. In the more southern regions of the country, that might not happen until November, and in rare cases even December, making PowerPlant an excellent hunting plot in such areas well into deer season.

Planting at least 3/4 to 1 acre of PowerPlant gives you multiple options for configuring the plot to make it a superb harvest plot before and after frosts arrive. If you're a bowhunter who hunts standing PowerPlant, you can use its density and the willingness of deer to take the easier road when they feel it's safe by carefully walking down or clipping lanes through your PowerPlant to bring deer within bow range.

Many of us have also been faced with a wide-open area that we're pretty sure deer won't feel safe using during the day. Examples are two heads of woods separated by an open field, and an otherwise good food plot location that has little cover around it. The Whitetail Institute makes Revive for such situations. Although somewhat attractive to deer, Revive is not intended or designed to be nearly as attractive as other Whitetail Institute products, which are designed as deer forage. If you need to provide the highest possible food attraction to such an area, though, PowerPlant might be a better option. Revive, although somewhat attractive to deer, is designed as a cover product for situations where you don't necessarily want deer to be, such as travel lanes for hunters and cover around stands.

AVAILABILITY AND FINAL THOUGHTS

No competing product Whitetail Institute has tested surpasses PowerPlant in production of highly attractive high-protein food for deer during spring and summer. One reason our products lead the industry is that we never rest in looking for ways to improve them. PowerPlant is one of many examples.

Long-time Whitetail Institute customers might remember when PowerPlant in its original form included grain sorghum. Our continuing research and testing prompted us to remove the grain sorghum and add sunn hemp several years ago in its place for several reasons. First, the removal of grain



ANNUAL
POWERPLANT®
IMPERIAL WHITETAIL®
UP TO 38 PERCENT PROTEIN

- Available in 25 pounds (plants .75 to 1 acre).
- Spring and summer annual.
- Produces several tons of highly attractive, highly nutritious forage even during summer. Contains forage beans, peas, sunflowers and sunn hemp.

sorghum allows customers to tackle one of the most difficult problems with planting any crop in spring: unwanted grass competition. Using sunn hemp instead of sorghum made it possible to spray stands of PowerPlant with Arrest Maxx to control grass after planting. Second, unlike sorghum, sunn hemp brings the benefits of acting as a highly attractive and regenerating forage component and a structural component.

Finally, remember that PowerPlant stocks run out every year. This is because of the naturally fragile nature of beans and peas. They don't store easily after the first year, so we make just enough to cover expected demand, and when it's gone for the year, it's gone. Don't delay ordering if you want to take advantage of the best high-protein spring/summer planting there is, and the additional benefits it provides.

Also, be sure to wait to plant PowerPlant until there's no chance soil temperatures will fall below 65 degrees.





FIRST DEER



FIRST BLOOD!

JOHN DUCAR | ALABAMA

■ John Ducar of Alabama recently got his first deer.





MY TROPHY WHITETAILS



FAMILY SUCCESS!

DAVID COMISKEY | WISCONSIN

■ After five years of Imperial Clover, we put in Alfa Rack. Here are some photos of bucks from the past couple of years. And turkeys love the clover in the spring. Also pictured are my daughter, Sami, and her husband, Alex Hollbrook.

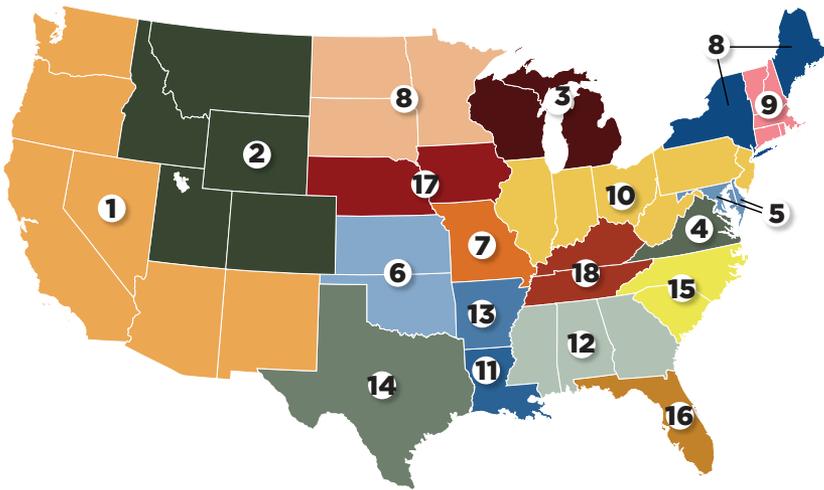


IMPERIAL WHITETAIL

PLEASE SCAN HERE AND TAKE A QUICK SURVEY

• <https://whitetailinstitute.com/field-tester-survey/>

FOOD PLOT PLANTING DATES...



PLANTING DATES FOR IMPERIAL CLOVER, ALFA-RACK PLUS, EXTREME, NO-PLOW, FUSION, CHIC MAGNET AND EDGE

- | | | |
|---|--|--|
| 1 Call for planting dates | 8 Apr 1 - June 15
July 15 - Sept 5 | 16 North: Sept 25 - Nov 25
South: Oct 5 - Nov 30 |
| 2 Apr 1 - July 1 | 9 Apr 1 - May 15
Aug 1 - Sept 15 | 17 Mar 1 - May 15
Aug 1 - Sept 15 |
| 3 Apr 15 - June 15
Aug 1 - Sept 1 | 10 Mar 20 - May 15
Aug 1 - Sept 15 | 18 Feb 1 - Apr 15
Aug 20 - Sept 30 |
| 4 Coastal: Feb 1 - Mar 15
Sept 1 - Oct 15
Southern Piedmont:
Feb 15 - Apr 1
Aug 15 - Oct 1
Mountain Valleys:
Mar 1 - Apr 15
Aug 1 - Sept 15 | 11 Sept 15 - Nov 15 | |
| 5 Feb 1 - Apr 1
Aug 1 - Sept 30 | 12 Feb 5 - Mar 1
North: Sept 5 - Nov 15
South: Sept 25 - Nov 15 | |
| 6 Feb 1 - Apr 15
Sept 1 - Nov 1 | 13 Feb 15 - Apr 1
Sept 1 - Oct 30 | |
| 7 North: Mar 15 - May 1
Aug 1 - Sept 15
South: Mar 1 - Apr 15
Aug 15 - Oct 15 | 14 North: Sept 15 - Nov 15
South: Sept 25 - Nov 15 | |
| | 15 Feb 1 - Mar 1
Coastal: Sept 25 - Oct 15
Piedmont: Sept 1 - Oct 5
Mountain Valleys:
Aug 25 - Oct 15 | |

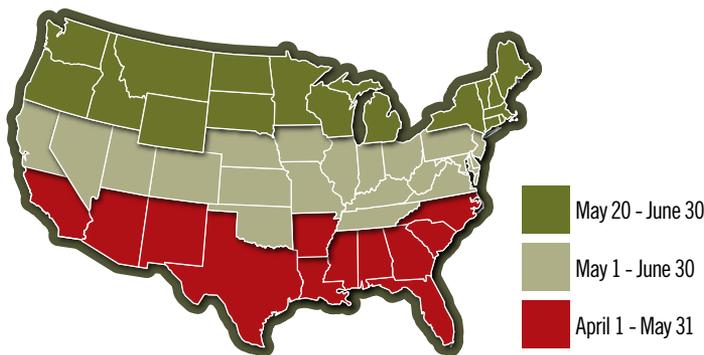


PLANTING DATES FOR WHITETAIL OATS PLUS

Use the map above as a guideline for when to plant Imperial Whitetail Oats Plus in your area. For best results, wait to plant until excessively hot, droughty summer weather has passed. Imperial Whitetail Oats Plus is highly cold-tolerant and designed to provide abundant forage from fall into spring in the southern U.S. and from fall into winter in colder climates.

PLANTING DATES FOR GRUNT N GOBBLE, VISION, PURE ATTRACTION, SECRET SPOT, WINTER PEAS, BOWSTAND, AND DESTINATION

- | | | |
|---|---|--|
| 1 Call for planting dates | 8 July 15 - Sept 5 | Mountain Valleys:
Aug 25 - Oct 15 |
| 2 Call for planting dates | 9 Aug 1 - Sept 15 | 16 North: Sept 25 - Nov 25
South: Oct 5 - Nov 30 |
| 3 Aug 1 - Sept 15 | 10 Aug 1 - Sept 15 | 17 Aug 1 - Sept 15 |
| 4 Coastal: Sept 1 - Oct 15
Piedmont: Aug 15 - Oct 1
Mountain Valleys:
Aug 1 - Sept 15 | 11 Sept 15 - Nov 15 | 18 Aug 20 - Sept 30 |
| 5 Aug 1 - Sept 30 | 12 North: Sept 5 - Nov 15
South: Sept 25 - Nov 15 | |
| 6 Aug 15 - Nov 1 | 13 Sept 1 - Oct 30 | |
| 7 North: Aug 1 - Sept 30
South: Aug 15 - Oct 15 | 14 North: Sept 15 - Nov 15
South: Sept 25 - Nov 15 | |
| | 15 Coastal: Sept 15 - Oct 15
Piedmont: Sept 1 - Oct 5 | |



PLANTING DATES FOR POWERPLANT, REVIVE, CONCEAL, SUNN HEMP, TURKEY SELECT, SORGHUM SELECT AND SUMMER SLAM

Do not plant PowerPlant, Sunn Hemp or Conceal until soil temperatures reach a constant 65 degrees F. Wait as long as necessary for soil temperatures to reach a constant 65 degrees F before planting.

PLANTING DATES FOR WINTER-GREENS, TALL TINE TUBERS, BEETS & GREENS AND RAVISH RADISH

- | | | |
|---|--|---|
| 1 Call for planting dates | 10 July 15 - Sept 15 | 16 North: Sept 15 - Nov 15
Central: Sept 25 - Nov 15
South: Oct 5 - Nov 30 |
| 2 Call for planting dates | 11 Sept 15 - Nov 15 | 17 July 15 - Sept 1 |
| 3 July 1 - Sept 1 | 12 North: Sept 5 - Nov 1
Central: Sept 15 - Nov 15
South: Sept 25 - Nov 15 | 18 Aug 1 - Sept 30 |
| 4 Coastal: Aug 15 - Sept 30
Southern Piedmont:
Aug 1 - Sept 15
Mountain Valleys:
Aug 1 - Sept 15 | 13 North: Aug 15 - Oct 1
South: Sept 5 - Oct 15 | |
| 5 July 15 - Sept 15 | 14 North: Sept 5 - Oct 30
Central: Sept 15 - Nov 15 | |
| 6 Aug 1 - Oct 1 | 15 Coastal: Sept 1 - Oct 1
Piedmont:
Aug 15 - Sept 20
Mountain Valleys:
Aug 5 - Sept 15 | |
| 7 North: July 15 - Sept 15
South: Aug 1 - Oct 1 | | |
| 8 July 5 - Aug 20 | | |
| 9 July 1 - Aug 30 | | |



DISCOUNT COUPONS

ORDER TODAY!

SHIPPING INCLUDED IN PRICES

YOU SAVE \$29.98

IMPERIAL WHITETAIL CLOVER

36 LBS.-4.5-ACRE PLANTING

\$249.98 + tax
Suggested Retail \$279.96
— (36 lb.) quantities of Imperial Whitetail Clover
TOTAL (Add 7% Sales Tax)
\$ _____



YOU SAVE \$42.98

IMPERIAL WHITETAIL EXTREME

33.6 LBS.-1.5-ACRE PLANTING

\$198.96 + tax
Suggested Retail \$241.94
— (33.6 lb.) quantities of Imperial Whitetail EXTREME
TOTAL (Add 7% Sales Tax)
\$ _____

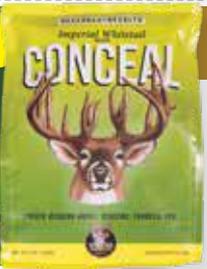


YOU SAVE \$29.03

IMPERIAL WHITETAIL CONCEAL

28 LBS.-1-ACRE PLANTING

\$139.96 + tax
Suggested Retail \$159.99
— (28 lb.) quantities of Imperial Whitetail Conceal
TOTAL (Add 7% Sales Tax)
\$ _____



YOU SAVE \$43.00

IMPERIAL WHITETAIL FUSION

27.75 LBS.-4.5-ACRE PLANTING

\$246.96 + tax
Suggested Retail \$289.96
— (27.75 lb.) quantities of Imperial Whitetail Fusion
TOTAL (Add 7% Sales Tax)
\$ _____



YOU SAVE \$5.02

IMPERIAL WHITETAIL POWERPLANT

50 LBS.-1.5-2-ACRE PLANTING

\$134.98 + tax
Suggested Retail \$140.00
— (50 lb.) quantities of Imperial Whitetail PowerPlant
TOTAL (Add 7% Sales Tax)
\$ _____



YOU SAVE \$30.00

IMPERIAL WHITETAIL PURE ATTRACTION

39 LBS.-.75-ACRE PLANTING

\$89.97 + tax
Suggested Retail \$119.97
— (39 lb.) quantities of Imperial Whitetail Pure Attraction
TOTAL (Add 7% Sales Tax)
\$ _____



YOU SAVE \$29.98

IMPERIAL WHITETAIL WINTER-GREENS

24 LBS.-4-ACRE PLANTING

\$189.98 + tax
Suggested Retail \$219.96
— (24 lb.) quantities of Imperial Whitetail Winter-Greens
TOTAL (Add 7% Sales Tax)
\$ _____



YOU SAVE \$39.95

IMPERIAL WHITETAIL "CHIC" MAGNET

9 LBS.-3-ACRE PLANTING

\$99.99 + tax
Suggested Retail \$139.94
— (9 lb.) quantities of Imperial Whitetail "Chic" Magnet
TOTAL (Add 7% Sales Tax)
\$ _____



YOU SAVE \$34.98

IMPERIAL WHITETAIL TALL TINE TUBERS

24 LBS.-4-ACRE PLANTING

\$164.98 + tax
Suggested Retail \$199.96
— (24 lb.) quantities of Imperial Whitetail Tall Tine Tubers
TOTAL (Add 7% Sales Tax)
\$ _____



YOU SAVE \$10.98

IMPERIAL WHITETAIL OATS PLUS

45 LBS.-1/2-ACRE PLANTING

\$69.00 + tax
Suggested Retail \$79.98
— (45 lb.) quantities of Imperial Whitetail OATS Plus
TOTAL (Add 7% Sales Tax)
\$ _____



YOU SAVE \$42.98

IMPERIAL WHITETAIL ALFA-RACK PLUS

33 LBS.-2.5-ACRE PLANTING

\$246.98 + tax
Suggested Retail \$289.96
— (33 lb.) quantities of Imperial Whitetail Alfa-Rack Plus
TOTAL (Add 7% Sales Tax)
\$ _____

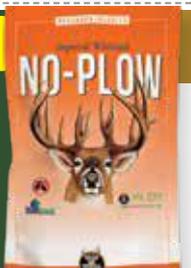


YOU SAVE \$30.00

IMPERIAL WHITETAIL NO-PLOW

40 LBS.-2.25-ACRE PLANTING

\$119.98 + tax
Suggested Retail \$149.98
— (40 lb.) quantities of Imperial Whitetail No-Plow
TOTAL (Add 7% Sales Tax)
\$ _____



YOU SAVE \$40.00

IMPERIAL WHITETAIL SUMMER SLAM



31.5 LBS. - .75 ACRE PLANTING

\$99.96 + tax
Suggested Retail \$ 139.96

— (31.5 lb.) quantities of Imperial Whitetail Summer Slam

TOTAL (Add 7% Sales Tax)

\$ _____

YOU SAVE UP TO \$16.05

IMPERIAL WHITETAIL KRAZE



\$42.96 (4) pak
Suggested Retail \$52.99

\$59.94 (6) pak
Suggested Retail \$75.99

+ tax

— (4) 5lb bags @ \$42.96

— (6) 5lb bags @ \$59.94

TOTAL (Add 7% Sales Tax)

\$ _____

YOU SAVE \$15.00

IMPERIAL WHITETAIL RAVISH RADISH



10 LBS. -1-ACRE PLANTING

\$79.96 + tax
Suggested Retail \$94.96

— (10 lb.) quantities of Imperial Whitetail Ravish Radish

TOTAL (Add 7% Sales Tax)

\$ _____

YOU SAVE UP TO \$6.03

IMPERIAL WHITETAIL APPLE OBSESSION



\$49.96 (4) pak
Suggested Retail \$52.99

\$69.96 (6) pak
Suggested Retail \$75.99

+ tax

— (4) 5lb bags @ \$49.96

— (6) 5lb bags @ \$69.96

TOTAL (Add 7% Sales Tax)

\$ _____

YOU SAVE \$7.06

IMPERIAL WHITETAIL DESTINATION



36 LBS. -1-ACRE PLANTING

\$129.96 + tax
Suggested Retail \$137.02

— (36 lb.) quantities of Imperial Whitetail Destination

TOTAL (Add 7% Sales Tax)

\$ _____

YOU SAVE UP TO \$20.02

IMPERIAL WHITETAIL IMPACT SOIL AMENDMENT



• 8.5LBS - .5 ACRES
• 25.5LBS - 1.5 ACRES

\$59.98 (8.5lbs)
Suggested Retail \$80.00

\$149.94 (25.5lbs)
Suggested Retail \$169.95

— (8.5lbs) of Impact \$59.98

— (25.5lbs) of Impact \$149.94

TOTAL (Add 7% Sales Tax)

\$ _____

YOU SAVE \$31.00

IMPERIAL WHITETAIL GRUNT N GOBBLE



40 LBS. -1-ACRE PLANTING

\$114.96 + tax
Suggested Retail \$145.96

— (40 lb.) quantities of Imperial Whitetail Grunt N Gobble

TOTAL (Add 7% Sales Tax)

\$ _____

YOU SAVE UP TO \$13.00

ARREST MAX HERBICIDE



• 1 PINT-1 ACRE
• 1/2 GALLON-4 ACRES

\$56.99 (1 pint)
Suggested Retail \$69.99

\$159.96 (1/2 gallon)
Suggested Retail \$169.00

— pint(s) of Arrest Max Herbicide

— 1/2 gallon(s) of Arrest Max Herbicide

TOTAL (Add 7% Sales Tax)

\$ _____

YOU SAVE UP TO \$11.97

IMPERIAL WHITETAIL 30-06 BLOCK



\$34.98 (one block)
Suggested Retail \$39.95

\$57.98 (two blocks) + tax
Suggested Retail \$69.95

— (2) -Pak blocks @ \$57.98

— (1) -Pak blocks @ \$34.98

TOTAL (Add 7% Sales Tax)

\$ _____

YOU SAVE UP TO \$39.02

SLAY HERBICIDE



• 4 OZ. -1 ACRE
• 1 PINT-4 ACRES

\$57.98 (4 oz.-1 acre)
Suggested Retail \$72.99

\$129.98 (1 pint-4 acres)
Suggested Retail \$169.00

— 4 oz. of Slay Herbicide

— pint(s) of Slay Herbicide

TOTAL (Add 7% Sales Tax)

\$ _____

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(No PO Boxes, Cannot Ship to Canada)

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Date: _____ Sec.Code: _____

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BACK-40 NOTEBOOK

■ **Brian Lovett** ~ Whitetail News Senior Editor



THE ANTI-HOARDING ACCORD (AND OTHER BASELESS PROMISES)

It's good to sort through old gear and discard the unnecessary. Actually accomplishing that, however, gets tricky.

The ritual repeats every year right after gun-deer season. Staring at a mound of apparel and other gear in the basement, I shake my head and vow that I must do better.

"I can't possibly use all that stuff," I'll say to my wife, who rolls her eyes but nods politely anyway. "I need to take a day, sort through all of it and then get rid of a bunch."

It's a solid plan. But as you've guessed, it's also a lie. And the worst lie is the one you repeat to yourself.

First, some background. I don't really fit the profile of classic hoarding behavior. I like a clean, tidy house and cabin, and when junk begins to accumulate in corners or on countertops, that generally trips a nervous response, prompting me to discard or at least rearrange stuff.

But then there's hunting gear. Accumulated through 30-plus years in the hunting industry, much of it represents something I really needed at a point in time. Of course, a lot of it is just cool stuff I picked up and wanted to keep.

However, you can't keep everything, especially when it begins to dominate basement closets, shelves, corners and workrooms. At some point, old stuff must go so newer — hopefully necessary — clothing and equipment can have its day. And with that in mind, I annually find myself back in the basement, staring at mounds of junk.

That's when the bargaining begins.

"Man, I haven't worn these in 10 years," I'll mutter. "They need to go. But what if my other bibs get wet? I should probably hang onto them just in case."

Then there's all the camo shirts. Nope, I haven't worn that turkey hunting in years. But it might come in handy if I need to sport that particular pattern on a hunt. And what if it gets hot during the late season? That light apparel could be just the ticket.

Hats? I've actually tossed or given away most of the hats I've taken in the past three decades. Yet a ridiculous pile remains. Will I ever don a flat-brimmed cap advertising a company that no longer even exists? Of course not ... unless I use it for dog training during summer. Might be best to hang onto it.

So it goes down the line. And when my "cleanup" day concludes, I'll have a discard pile with two torn, stained T-shirts and a window decal I got for free 25 years ago. Meanwhile, I'll have rearranged and restacked the hoard so it appears to be neater. The process will have taken several hours, but it obviously doesn't bring much of a sense of practical accomplishment.

Several years ago, an X-factor shook up that ritual. My wife and I bought a cabin in a rural area, and much of our plans there revolved around hunting turkeys and deer. After a few trips of toting loads of gear on a two-hour commute, it struck me that I should

simply leave some necessary apparel and equipment at the cabin. That made complete sense and also alleviated the mass stockpiling of junk in my basement.

That was seven seasons ago. You've likely guessed what the current situation might look like. Yep, mounds of crap continue to consume my basement, and a fresh hoard has sprung up in the cabin garage and boiler room. I now have two garage sales in waiting instead of one.

Writing this is helpful, though, as confession helps point out the continuing error of my behavior. If I'm not wearing a piece of clothing or using an item of gear, it only makes sense to sell, donate or discard those. Someone else might put them to use, and I obviously don't need them. The cathartic process of anti-hoarding will make me feel better and greatly improve the logistical situation in my basement and cabin garage.

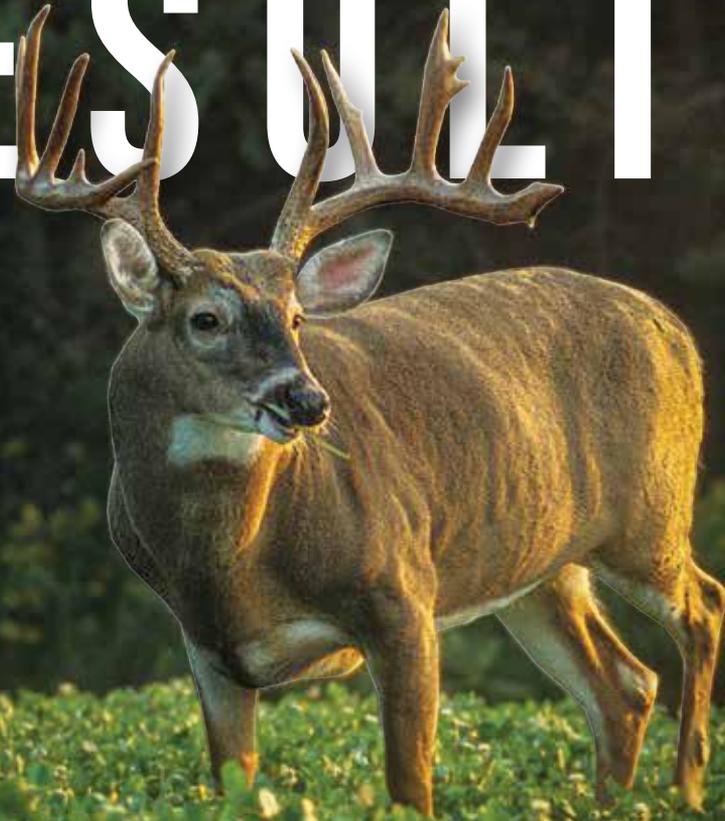
This year, I really want to do it. No, I need to do it. And self-discipline is a virtue, so I will do it.

Right after I convince myself that I truly don't need that duffel bag from 1994.





RESEARCH EQUALS RESULTS



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