



- NUTRIENTS SUCH AS
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selenium, manganese and vitamins A and D play active
roles in antler growth and overall deer health.

DO MINERALS REALLY WORK?

The great mineral debate has raged for decades,
but has anyone truly answered it? Here, an expert sheds
light on common questions — and the truth.



■ by *Matt Harper*

Hunting has its share of controversy. Even within our ranks, we bicker about topics ranging from broadheads and calibers to hunting methods and management practices. Those arguments used to occur in books and magazines or at coffee shops and hunting camps, but the platforms available today provide endless soap boxes for pontification.

I believe everyone is entitled to an opinion, and good debate and verbal jousting are healthy and entertaining. But with the array of opinions on social media, discussions soon become a cacophony of rhetoric resembling a chicken house at egg gathering time. When you're trying to find answers, that noise is distracting and sometimes misleading. Throw in a healthy dose of marketing from companies trying to peddle their wares and facts become as elusive as that double drop-tine, 200-inch swamp buck your buddy swears exists.

For example, hunters have for years debated the efficacy of free-choice mineral supplementation as a management practice for white-tailed deer. At opposite ends of the spectrum, you'll hear, "It doesn't help at all," and, "Use it, and you will have so many giant bucks running around you'll put your life in your hands getting to your tree stand." Somewhere in the middle, you'll find folks who aren't sure it works, some who are pretty sure it works and everything between.

The truth can be tricky to identify, but with mineral nutrition, hunters can lean on several scientific facts to help decide. Those are based on nutritional research conducted during the past several decades on several species, including small ruminants and even whitetails.

WHY THE CONTROVERSY?

Let's try to understand some of the reasons behind the controversy. First, the all-natural crowd believes any management practices undertaken by humans are wrong — even unnatural. They figure deer and their environment should be left alone. That includes food plots, creating water holes, timber and habitat management, and even herd management. I try to be open-minded and see the allure of that ideology: Let nature be nature without human interference. But as with most ideologies, it doesn't necessarily work in reality. Humans have changed the ecosystem, and not just by building cities and suburbs. We have cleared forests to produce food to sustain our species and have won the battle against competitive predators. Going all natural isn't possible in today's world because the world has changed. And this is not the start of an environmental rant.

Deer have been affected by this change but not necessarily negatively. Rather, in many ways, they have thrived in our new world and proven to be adaptable. In fact, they have increased in such numbers that we need to manage populations through hunting to maintain healthy herds. When we practice management techniques such

as food plots, habitat improvement and mineral supplementation, we do it to improve the overall health and quality of the deer that have adapted to live with us on farms, ranches, properties and backyards.

Another reason behind the mineral supplementation debate lies in scientific or, more specifically, research, laws. The question of whether minerals really improve the health and quality of deer must be answered through research to eventually be considered as fact. Until that's accomplished, a scientific purist will say the positive effects witnessed in mineral supplementation are simply anecdotal and not proven based on solid, fact-yielding research methodology. For example, if we set up an experiment to show the benefit of supplementing calcium in a deer herd, we would need to use this methodology. First, there must be control and test groups. The control group is the baseline and would not receive supplemented calcium, but the test group would receive supplemental calcium. The ideal methodology would include several test groups with varying levels of supplemental calcium to better pinpoint the exact level of supplemental calcium that produces the best results. Good research also requires

the removal of variables that might affect experimental results. For example, all the deer in the study — control and test animals — would have to eat the same diet with identical nutrient profiles other than calcium. That's not that difficult to accomplish in a controlled environment, where deer are in a small pen. In fact, such research has been conducted in deer enclosures and showed positive results using supplemental mineral. The question, however, pertains to wild, free-range deer. It would be almost impossible to guarantee the absence of nutritional variables when studying wild deer. Additionally, there are other variables to consider, such as stress, age, gender and genetics, which would also be rife with variables.

So how can you conduct irrefutable nutritional research on wild deer? It would be almost impossible to remove the variables. Some would say that because you cannot prove its value scientifically, supplemental mineral cannot be recommended. That's aside from the fact that mineral supplementation has proven beneficial in other ruminants, such as cattle, goats and sheep, and backed up by mountains of legitimate research. Also, we know that almost all soils are deficient in at least some form of



- GAME CAMERA PHOTO

These monster deer are congregating at a 30-06 Plus Protein mineral site.

PHOTO BY MATT HARPER

THE TRICK IS TO FORMULATE A PRODUCT THAT PROVIDES NEEDED NUTRIENTS BUT IS STILL ATTRACTIVE TO ENSURE PROPER CONSUMPTION LEVELS.

macro or micro minerals and therefore lacking in the diet of deer.

Let's get back to the obstacle of experimental variability. There is a way to get around those variables or at least greatly diminish their effects on the data: the size of the study group. The more animals involved in the study, the less variability will cause a false result. Think about it in terms of a political poll. If you only poll 10 people, you risk randomly selecting people with the same political views. However, if you poll 1,000 people, there is far less chance skewing the data based on who you pick. If the study group is 1 million people, the odds of getting accurate data are even that much greater. In research, there's a term called P values, which are statistical data points that reflect the odds of accuracy. If the P value is 0.01, that means that there is a 99 percent chance the results of the experiment are accurate and duplicatable. The higher the test subject pool, the more likely to obtain a lower P value and, in turn, better conclusive results. So, to test the merits of mineral supplementation in deer, a huge study group would dilute variability and produce more accurate outcomes. How can that be done? More on that later.

The final cause of the mineral supplementation controversy pertains to the nature of the supplement. There are dozens if not hundreds of "deer minerals" on the market, most — if not all — of which claim two things: They attract deer and grow big antlers. However, the makeup of those products varies widely in nutrient profile. What attracts deer will not necessarily grow big antler or improve any other physical attribute. For example, salt will often attract deer but alone will not necessarily improve the deer herd. Deer crave sodium (that is, sodium chloride), and although they need it for certain functions, such as osmotic balance, salt does not directly affect antler growth. Nutrients such as calcium, magnesium, phosphorus, zinc, copper, selenium, manganese and vitamin A and D play more active roles in antler growth, immunity, lactation, skeletal growth and metabolism (body-weight gain). The trick is to formulate a product that provides needed nutrients but is still attractive to ensure proper consumption levels. Few examples of this exist. Con-

versely, there are many examples that are predominantly attractants only. Attractants are typically easier and cheaper to manufacture, and if deer dig a hole where that product was put out, a consumer thinks it must be working. The average person would have no way of knowing whether it provided any nutritional benefits. Therefore, many people think of a deer mineral as an attractant, making them skeptical about the positive nutritional effect of minerals on a deer herd.

DOES DEER MINERAL REALLY WORK?

I still haven't addressed the question of whether deer minerals work. To do so, I'll re-examine the causes of the argument.

I think it's important to reiterate that today's natural is not the same as it was 200 years ago. If you believe hunters and managers should let nature take its course, that's fine, but understand that the landscape has changed. I won't argue whether that's good or bad but will say deer habitat is different than what it was and, in my opinion, we need to manage the herd based on those changes. But more important, we must consider that mineral supplementation is designed to improve the deer herd, not simply maintain status quo. The goal might be to produce bigger bucks, but that's only done when you achieve a better overall deer herd, and improved nutrition plays a big role in that. Whether you care about big bucks or not, it's difficult to argue with improving the general quality of the deer herd.

Regarding undeniable scientific proof, I want to pick up where we left off. As discussed, to get around those pesky variables, you would need a huge data set with years of in-field use. Only two products can really accomplish that: Whitetail Institute Imperial 30-06 and 30-06 Plus Protein. They have been around almost 30 years and have been used by thousands of hunters and managers. Imperial 30-06 and 30-06 Plus Protein have been used across multiple regions with widely different habitats, deer genetics and other variables. Through the years, they have consistently produced positive results, such as bigger



- REAL-WORLD PROOF

Harper uses Whitetail Institute mineral products on his Iowa farm as part of his overall food source strategy. Here he displays one of his many trophy whitetails.

body weights, increased fawn survivability and, yes, improved antler growth. That enormous sample size along with repeated results all but removes the argument of variability. Some might argue that there could be other products that can do the same thing, but no other product has the sample size and repeatability to provide more concrete assurance in the expected results.

Finally, there's the issue of attractants masquerading as nutritional deer minerals. Just because a marketing group gets liberal in its product claims doesn't mean all product descriptions are misleading. If you're not a nutritionist, it can be difficult to cut through the jargon, especially if you're looking at a vaguely constructed tag. If a product is comprised mostly of salt or sweetener, it's likely more of an attractant. If it contains higher levels of the nutrients we mentioned — calcium, phosphorus, magnesium and vitamin D — it at least contains the nutritional aspects of a true deer mineral. But even that can be misleading, as there are many other factors involved in the formulation of a good product.

Ultimately, you should base your decision on a company's reputation and product results. We've discussed the unequalled results of Whitetail Institute's mineral products. When you combine that with its reputation of science-based research and an industry-leading product development staff, your confidence in those products should be solid.

