

Protein Quality

For the first 11 years Antler Boost has been in business, we have worked hard to educate our customers on what makes protein higher in quality or in other words, higher in performance. As we learned many years ago, protein grows velvet antler and minerals simply fill-in whatever is grown. To put it into a timeline, antlers grow in the velvet stage for 5 months while they only spend a few weeks in the hardening (velvet shedding) stage where minerals fill in the inside portion of the velvet. Those last few weeks do not make a deer score any higher – only antler density is affected by the quantity of minerals built up (mostly during fall and winter) in a deer's skeletal makeup. Likewise, protein quality is what drives the quantity of milk produced by does and their body performance prior to and while they are feeding fawns.

Because of this understanding of the antler growth process and how critical protein is to the growth stages and lactation and health of does, we sought out to understand if there was a difference in protein quality from different plants and feed ingredients. Prior to forming Antler Boost, we had a good friend from college that moved to my hometown and began to create quite a buzz around town by consistently growing and harvesting bucks that were 20 inches larger and 60 pounds heavier than the county average that we had grown up observing. The key was his consistency. Not just a lucky old buck but consistent above average growth in all age classes. So of course we inquired what he was doing nutritionally and his answer was growing a large acreage of chicory. Another friend of ours was growing large acreages of white clover about 5 miles away and getting average results – nothing close to the bucks on chicory.

When we studied the American deer industry literature on chicory and white clover not much other than general nutrition information could be found. Our search led us to a ruminant nutritionist that encouraged us to study un-degraded protein aka by-pass protein. So our first Google search was "by-pass protein chicory" and the research on red deer (cousin to the whitetail) from Europe, New Zealand, and Australia poured out. We quickly learned that chicory contained higher levels of tannins that protected the protein from breakdown in the rumen and increased the % of un-degraded protein coming out of the rumen. We also learned that white clover has very low levels of un-degraded protein hence the lower effectiveness of the other property in growing larger bucks. It made perfect sense. Other plants we found that were high in un-degraded protein were perennial red clover, alfalfa, and soybeans.

What we had really figured out was that the only two types of protein were un-degraded (by-pass) and degraded (digestible) protein. High quality protein is un-degraded and low quality is degraded. The scientific terms made perfect sense. Digestible is a great thing for fat, fiber, minerals, and other nutrients but not for protein. That is a misconception that has really messed up a customer's ability to understand what they are buying with their hard earned money trying to increase nutrition on their property. Another misconception is that ruminants like deer can only handle 16% protein. The 16%

number is correct but ONLY for degraded (aka digestible) protein. If a plant or feed is 30% crude (aka total) protein and has 50% un-degraded and 50% degraded then that plant or feed has 15% un-degraded and 15% degraded protein – they must total the crude protein. The degraded protein is less than 16% so there is no wasted protein.

We at Antler Boost have strived to constantly look for new/better feed ingredients to maximize the level of un-degraded protein to get the highest performance out of our feed formulations. As I mentioned in the opening paragraph, we have worked to educate the public about protein quality and how that drives our feed formulations. This has been a productive effort but we really wanted to find an independent feed test that would test the feed instead of customers just taking our word about our feed being significantly higher in un-degraded protein. We found our answer at Dairyland Laboratories in Wisconsin. They are one of if not the biggest feed testing lab in the country. They use an established and accuracy validated method of Rumen Un-Degraded Protein (RUP) testing developed by Cornell University.

There are other tests for protein quality but do not have the validated accuracy of the Cornell RUP Test. Now, we don't have to ask people to only take our word – they can look at the independent lab test results by the experts that run hundreds of these tests every week. As our formulations showed on paper, Antler Boost finished #1 and #2 in the industry with our two antler growth formulations. This type of testing has never been released to the public by any other deer feed company. We felt confident in our formulations and had no problem running the test. Please look at the results for the feeds we have run so far at the bottom of this page. If your feed is not on the list and would like for us to send it out for you, we would be glad to do that. All you have to do is contact us and we will pay to have it tested (\$53 per sample FYI) – no cost to you.

Please take time to find out how much performance you are getting for your investment. If you want better results, give Antler Boost a chance to earn your trust. Thanks for your interest!

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<http://antlerboostfeed.com/pdf/Summary-Charts-Southeast.pdf>