

Todd Smith - GrizzlyStik 650 Challenge



I shoot lightweight bows between 47# - 50#. That's not a lot of power so it's crucial for me to hunt with the most efficient and effective arrows and broadheads I can. Since switching to 650 grain arrows with ultra-sharp single bevel broadheads I have had complete broadhead penetration on every deer I've shot. It hasn't always been that way...

Longbows are my weapon of choice. I've been shooting 50# longbows and recurve bows for over 40 years. I'm not a gifted hunter, I just live to be outdoors, in the wild country, and what better way to experience that than by carrying a dependable bow and a quiver full of arrows? When I walk the woods as a predator it changes the experience – feels more innate and natural.

Through the years I have been fortunate to harvest a handful of animals. I especially enjoyed my years in Alaska in pursuit of; moose, caribou, black bear, grizzly, Dall's sheep, and the many small game opportunities available.

The past couple decades I have been hunting, for the most part, turkey and whitetail deer with



traditional equipment. I usually hunt public ground. Around here hunting public ground with a longbow is challenging. Some seasons I feel lucky to get even one shot opportunity. I need to make every shot count.

I have a lot of time and energy invested in my hunting – it's what I live for. Years ago, when shooting my lighter 500 grain set-ups I lost deer on two separate occasions to shoulder blade hits. Those shots still haunt me.



Alaskan Moose - taken with a longbow and cedar arrows.

Those days, everyone knew that to hit a shoulder blade meant you weren't going to harvest that deer. It was a very rare and celebrated event if someone 'got lucky' and shot through the thin upper portion of the scapula and penetrated deep enough to recover the animal.

The thing to remember too was that most traditional shooters were shooting 9 – 10 grains of mass arrow weight to every pound of bow weight. Someone shooting a 50# longbow would normally be shooting 450 – 500 grain arrows. Those are actually heavy when compared to what many 'light-fast' bowhunters shoot today - even from 70# compounds. (Traditional bowhunters shooting 70# commonly shot 630 - 700 grain arrows.)

That's why once I found a set-up that I KNOW will get the job done, my 650 grain GrizzlyStiks with 200 grain Maasai broadheads, I never looked back. I KNOW I can get through a shoulder blade now. Even with a 50# bow.

Back in the late 1980's I read Dr. Ashby's Natal Study report. It was mostly a broadhead report, arrows and mass weight were not covered, but it confirmed that I was shooting the best kind of broadheads I could be. Knowing that I still sometimes got disappointing penetration, it meant that there was still something missing in the equation. Eventually I learned that what was missing was sufficient mass weight.



Happy hunter - first turkey and with a home-made Osage self bow.

A few years ago, after digesting all the published Ashby reports, especially his [Top 12 Penetration Enhancement Factors](#), I discovered the magical 650 grain arrow. [Ashby's testing](#) proved that 650 grains was what it took to consistently breach the heavy bone threshold of big ribbed Asiatic water buffalo.

Once that all settled in, I knew I had to shoot at least 650 grain arrows. It didn't matter that my bows were 50#, if that's what worked that's what I needed to be shooting.

I experimented with GrizzlyStik Alaskans and Stikas. Of course at that time we all thought that heavier was better. With that in mind I actually ended up hunting with an 830 grain set-up that first year. They did drop a lot, but the instinctive shooter quickly compensates for that and I was putting them right in there. I have to admit though, the trajectory was weighing on my mind...



Sometimes things go wrong... This doe was an accidental head shot, yet the 650 grain arrow and forged Nanook broadhead penetrated the far side of the skull.

The more and more I thought about that set-up - and then when Ashby published more on FOC, Extreme FOC, and Ultra Extreme FOC, the light went on. His more recent findings suggested that for any two arrows of a given weight the arrow with the higher FOC value will out-penetrate the arrow with the lesser FOC value.

I already knew that 650 grains of total arrow mass weight was the minimum for breaching the heavy bone threshold. (Meaning I could breach heavy bone if my arrow was 650 and up in mass weight.) I knew as well that 650 grains gave me a much flatter trajectory than 830 did. But now, Ashby was saying that my 650 grain arrows could out-penetrate my 830 grain arrows if the 650 grain arrows had a sufficiently higher percentage of FOC than my 830 grain arrows. Awesome! I could get the best of both worlds. I could shoot an arrow with a flatter trajectory that would penetrate as good or better than the 830 grain arrows.



First black bear with the longbow. Cedar arrows & cut on contact broadhead. Everything went right.

It is amazing to me what an Ultra-Extreme-FOC arrow of 650 grains can do! A bowhunter shooting 650 grain arrows with Ultra-Extreme-FOC can actually out penetrate an 830 grain arrow with normal FOC!

Penetration isn't the only benefit either... Momenrtum arrows retain their energy downrange better, they do NOT nose-dive, they are MUCH more stable in cross winds, they are easier to tune, and need less feather on the tail end. I am a believer.

The 2013 deer season was good to me. I got my first double. I shot two deer within about 30-seconds of each other. On the first deer I heard the hit, and watched the deer topple within about 15-yards. The second deer I thought I shot under, but that was because the arrow went through so fast I saw it under the belly line of the deer when it stuck in the ground. I thought I missed but it just zipped through so fast it gave the illusion of a miss. Both shots were instant pass throughs. I was shooting [GrizzlyStik Momentum](#) tapered carbon arrows with [200 grain Maasai](#) single bevel broadheads weighted up with [accessory weights](#) to 650 grains.



What a night! My first double. Momentum arrows, 650 grains with 200 grain Maasai broadheads.

Now I shoot 650 grain arrows for everything. They're the lightest fastest arrows possible that will breach the heavy bone threshold. They're tuned for maximized bone breaking and complete pass-through potential. I have all the confidence in the world that there is not a shot angle on a deer that will prevent me from reaching the vitals. No bone is too big. From now on I will be able to harvest my animals even if something goes wrong with my shot.



Indiana Whitetail October 2015 - taken with a GrizzlyStik Momentum Arrow and a 200 grain Maasai single bevel broadhead.

I hope my journey helps motivate as many bowhunters as possible to try 650 grain arrows. I know from hands on experience that you have everything to gain, and nothing to lose.

Shoot Straight - Todd Smith