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Non-toxic shot

Steel the king of the duck blind

Darren Marcy/Outdoor editor

Waterfowlers have been forced to use non-toxic shot for decades now, but since most duck and goose hunters switched to steel shot over lead, many things have changed.

What hasn't changed much, however, is the number of hunters still using steel despite an onslaught of alternatives. New Mexico's duck and goose season runs through Jan. 19 giving hunters plenty of time to reconsider their non-toxic shot choice.

Few hunters liked steel when forced to give up lead. A lack of density meant hunters had to switch to much larger shot sizes when going from lead to steel in order to hit ducks and geese as hard at a distance.

The reason is because steel loses energy at a much faster rate than lead does, so to create an impact similar to steel, larger sizes of shot had to be used.

Types of shot introduced in recent years have muddied the waters. Today, in addition to steel, there are bismuth and a variety of shot types containing different percentages of different metals, as well as newer coated steel and most recently

One of the multi-metal shotshells getting a lot of press is Remington's Hevi-Shot a product that is made of tungsten, nickel and iron and is more dense than lead. Others include Federals tungsten and iron, a tungsten matrix and tungsten polymer.

Tungsten is the key in many of these new shot materials because it is one of the hardest metals, but it is difficult to form into shot. So manufacturers have been mixing it with different products to create a material that can be formed into shot pellets.

Surely hunters immediately shot up their supply of steel in favor of newer products, right? Wrong, and don't call me Shirley.

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Steel is still one of the most popular types of non-toxic shot sold. At outdoor sporting goods retailers in the area, steel is still king. Blake Stewart at Zia Sporting Goods said steel is still the top seller at his store.

He carries a variety of non-toxic shotshells, but said most hunters still buy steel.

The biggest reason most hunters still shoot steel is price.

Nobody will argue that steel is cheap. But often steel shotshells will cost one-half to two-thirds as much as any of the others. A box of Hevi-Shot will run from just less than \$20 to about \$28 depending on whether you buy 2-3/4-, 3-, or 3-1/2-inch shotshells and the type of load you shoot.

And that's the price for get this 10 shotshells.

Bismuth often checks in at near the price of Hevi-Shot.

The advantages of non-steel waterfowl loads is they are safe for shotgun barrels and chokes, especially older guns not capable of handling steel loads without suffering damage.

Ballistics tell another chapter of this story. Lead is still considered the ballistics king. A load of No. 2 lead fired at 1,300 feet per second from the barrel, will have a velocity of 794 fps at 40 yards down range.

No. 2 steel starting out at the same 1,300 fps at the barrel, however, is flying at 678 fps at 40 yards and carrying about half the energy at impact. No. 2 Bismuth shot maintains down-range velocity of 749 fps, while a Tungsten-Iron combination in 2 shot is flying at 771 fps at impact.

Ballistically, steel is extremely inferior to just about everything else flying, but hunters continue to use it overwhelmingly primarily, it seems, because of price.

To compare loads ballistically, a hunter would have to shoot 1 1/4 ounces of No. 5 Hevi-Shot, 1 1/8 ounce of No. 3 Tungsten-iron, 1 5/8 ounces of No. 2 bismuth and a 1 1/4 ounce load of steel BB shot.

The big problem with these equivalents is that to achieve such efficiency, the size of the shot has to be increased moving from Hevi-Shot to steel, and fewer pellets of a larger size will fit inside a shotgun shell. Fewer pellets in the shell, means fewer pellets to fill a pattern and bring down the bird.

With equivalent ballistic loads BB steel (90 pellets) offers less than half of the pellets in a No. 5 Hevi-Shot load (199) with other alternatives falling in between those two extremes.

That's why 3-inch and now, 3-1/2-inch shotshells for waterfowlers shooting steel are becoming common. Not to mention the switch to 10-gauge guns for some waterfowlers trying to cram more pellets into a shotshell.

With Hevi-Shot, or one of the other "near-lead" shot types, the old 2-3/4-inch shotshells can be used, allowing a lot of old guns to be returned to the duck and goose blind from the closet where they've retired.

Of course, nearly every shotshell manufacturer now has new steel loads with

plated steel pellets, and muzzle velocities of 1,400 fps or faster. These efforts have helped narrow the gap slightly between steel and the gone but longed for ballistics delivered by lead shot.

In the end, most consumers decision break down to cold hard cash. For some people, paying \$2 or more every time the trigger is yanked is unthinkable.

Despite superior ballistic performance, a generally better pattern, evidence that some of the newer shot types offer a likelihood of increasing your kills to shots ratio, and other benefits, cost is still king.

So until the sticker shock of alternative non-toxic shotshells drops into the realm of reality, steel will likely continue to be the choice of waterfowlers everywhere.

Darren Marcy: darrenm@daily-times.com



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