

TESTED:

The Best Loads For Skeet And Sporting Clays

Could using a small shot size actually be costing you targets? Our tester was determined to find out.

BY TOM ROSTER

You're in a Doubles shoot-off on station 4 dealing with a 15+ mph wind from the right. You smash the high house crosser but drop the low house target. "Missed," you tell yourself. Here's a thought: Possibly not. While shooting error plays a huge role in most misses, the purpose of this article is to point out that ammo choice can play a bigger role than many skeet and sporting clays shooters realize.

I've spent the better part of my 40-year career scientifically testing ammunition for lethality in taking North American game birds, and in the same manner, I've also conducted a limited amount of scientific testing on what it takes to break clay targets. That interest was stimulated when, as an active competitive skeet shooter, I had the good fortune to shoot on some fairly virgin skeet fields. By keeping my eye on a "missed" target fallen to the ground, I could recover and examine it for any evidence of having been struck. I soon learned that lead 9s were not a 100 percent reliable pellet size for breaking clay targets at American skeet or any time the distance exceeded 22 yards.

SKEET TEST

To test why 9s sometimes fail for clay target breaking chores, even at skeet, I conducted the following test. With the help of an assistant, I endeavored to acquire a total of 100 left-to-right crossing targets that were 25 to 30 yards from my gun at the time they were struck. The clay targets were standard White Flyer brand. The loads used were Winchester AA 20 gauge 7/8-ounce loads of 9s fired through my skeet-choked Remington 3200. Each target fired upon that appeared to be missed was recovered and examined. If it exhibited no pellet holes or little chips, it was considered missed and a replace-

ment target was shot until the 100 struck-target sample was reached. Any targets exhibiting one or more holes or tiny chips clearly caused by a pellet were classified as struck.

I learned that out of the 100 struck targets with 9s, 5 percent did not produce a chip that was visible from back at the shooting station and thus would have been recorded as lost in a skeet shoot. I repeated the same test with 8s in the same Winchester AA load. Struck targets that did not exhibit a visible chip fell to zero. At the time of the test, 8½s were not available. I did not test 7½s, as the pellet count and subsequent pattern count would be too low in legal .410, 28- and even 20-gauge skeet loads through most open chokes.

The data were clear: There will be built-in misses caused by inadequate pellet



energy and insufficient shot hardness when lead 9s are fired at edge-on clay targets at distances greater than 22 yards. Due to the ballistics of balls, jacking up the velocity of 9s to 1,300+ fps velocity levels will not help. On windy days and especially for Doubles at the middle stations in American skeet shoot-offs, the wise skeet shooter should seriously consider using 8s in the 12 and 20 and 8½s in the 28. For the .410, because of its tiny shot charge, 8s are too coarse and patterns will suffer. Go with 8½s if you want a more effective 2½-inch .410 load.

SPORTING CLAYS

In terms of those factors which challenge target breaking, sporting clays is much different than skeet. While skeet presents targets at a static distance increment of about

17 to 22 yards, sporting clays presents a much wider range of distance increments. In simple language, in sporting there are close targets less than 25 yards, medium-distance targets of 26 to 35 yards, and increasingly these days, targets well beyond 35 yards. In fact,

most sporting clays courses anymore have



Size 7½ 12-gauge loads are ideal out to 50 yards or so.

TOM ROSTER'S LEAD SHOT TARGET BREAKING TEST RESULTS¹

Shot Size	Target Attitude	30 Yards	40 Yards	50 Yards
7½ ²	Edge-on	25	25	23
7½	Dome-on	25	25	24
8	Edge-on	25	22	20
8	Dome-on	25	25	23
8½	Edge-on	25	21	18
8½	Dome-on	25	23	19

¹Number of clay targets broken (scored "Hit" or "Dead" as defined by NSCA rules) out of a 25-round sample fired per shot size, target attitude, and distance.

²Shot size designations are American Standard: 7½ (.095"), 8 (.090"), and 8½ (.085")

Note: The 25-round samples were fired at White Flyer standard clay targets resting stationary (not spinning) in two flight attitudes – edge-on and dome-on – using today's equivalent Remington lead shot STS, one oz. 2¾" 12 gauge load (STS121) in three shot sizes: 7½, 8, and 8½. The loads were fired through a Beretta 686 with 30" barrel and MobilChoke IC, Mod. and Full screw-in choke system. Results above are those for whatever choke could produce or came closest to producing the minimum pattern density found associated with 100 percent clay target breaking at distance, which was ~285 pellets for edge-on and ~230 for dome-on targets in a 30-inch-diameter circle.

several stations that present targets at 45 yards and beyond. Additionally, in sporting clays there are overhead or going-away target angles that present dome or bottom-on, full target striking surfaces. There are also crossing target angles which present only edge-on striking surfaces.

I designed my target-breaking sporting clays test to measure the worst-case variables confronting load performance. Whenever worst-case factors can be met, then the tested item – in this case, the shotshell pellet size – can be counted on to overcome all the lesser-case variables. Clay targets are significantly easier to break when spinning than when not spinning. That's due to the fact that when a pellet strikes a clay target with enough impact force to cause it to crack or chip significantly, the centrifugal force created by the spin causes the target to tear

itself apart. The farther a clay target travels, the slower becomes its spin. So the nasty fact of the matter is that the farther a target gets if missed on the first shot, the less it is spinning by the time the second shot gets to it.

Given these facts, I designed my test to measure pellet-size target-breaking performance on non-spinning targets at three distance increments: 30, 40 and 50 yards. I did not test at less than 30 because of the abundance of data I already had from the skeet test detailed earlier. Due to time constraints, I elected to test only on standard-sized American clay targets (White Flyer brand only), which represent the majority of the clay targets fired at in most rounds of sporting clays. Due to cost constraints, I also confined my testing to ammunition in the gauge and shot charge weight most used on most sporting clays

▼ It became clear through testing that size 7½ is superior to 8 and 8½ for breaking long-range sporting clays targets.



courses: a 12-gauge 1-ounce load of 7½s, 8s, and 8½s. I tested Remington STS in its 1-ounce STS12NH1 load at 1,290 fps in 7½s and 8s (8½s not loaded) and Winchester AASC28 at 1,300 fps in 8½s as being both representative of popular velocity choices and the highest quality available shot. In previous shot hardness testing, I had acquired data documenting the shot hardness and quality in both target lines as being virtually the same.

To test target-breaking performance when the target primarily presents an edge-on surface, I rested clay targets horizontally (one at a time) on a one-inch-square platform affixed to the top of a half-inch dowel rod. To test dome-on surface target breaking performance, clay targets were positioned dome facing the shooter in a clay target rest manufactured by Do-All Outdoors called the Pigeon Perch. A Beretta 686 with 30-inch barrel was used as the test gun, using the Beretta MobilChoke screw-in choke system in IC, Modified and Full choke constrictions. In an effort to center the pattern as well as possible on each target, all shots were taken from a bench rest position. Clay targets were counted as broken if at least one visible chip could be seen coming off the clay target from the round fired.

To ensure at least 95 percent confidence levels in the results, ammunition sample sizes consisted of 25 rounds fired of each shot size through each choke at each distance at each clay target positioned in two target at-

titudes. This yielded a total of 1,350 total rounds fired. Pattern tests consisted of at least five patterns taken of each of the most successful shot sizes through the most successful choke at each distance for each of the two target attitudes, for a total of 60 patterns taken and counted. This test regimen took one full seven-day week of eight-

▼ The author shot and then examined targets to gather data.



hour days to complete, with three people working, for a total of 168 manhours of work.

The findings are summarized in the sidebar table. To me, the data and lessons are clear: If targets are no further than 30 yards, then regardless of choke and shot size tested, a 1-ounce charge of hard lead 7½s, 8s or 8½s can be counted on to produce 100 percent target breakage. But target breaking gets tougher at 40 yards, where 8s and 8½s started to drop targets, though 7½s continued to provide 100 percent target-breaking capability. At 50 yards, the performance of



▲ Size 8½ in 28-gauge and .410 is, statistically speaking anyway, going to cost the average sporting clays shooter a few targets.

yards, even when 7½s are being used.

To me, the results indicate clearly that the best all-around lead shot size for 12 gauge sporting clays events presenting targets out to 50 yards is size 7½. Regardless of shooting distances, because the 20 gauge is limited to ¾-ounce charges, patterns quickly become insufficient if 7½s are shot, so that lead 8s become the pellet of choice. It's a tossup in the 28 gauge between 8s and 8½s. Again, for 30-yard-or-less shots, choke choice is not important, regardless of gun, except in the .410, where tighter chokes tend to be necessary. For out to 40 yards, choke choice for the 20 and 28 gauge should be Mod (possibly Light Mod), followed by Improved Mod. The same can be said for the 12 gauge, with possibly IC being the better choice for the first shot. But for 40- to 50-yard clay targets, tight chokes such as Imp Mod and Full are absolutely required, regardless of gauge. **CTN**

8s and 8½s proved completely inadequate, and even 7½s no longer provided 100 percent target breaking capability, regardless of the target surface area being struck. Thus, in 28 gauge or .410 competitions where shot charge/pellet count limitations constrain them to 8s and 8½s, respectively, for adequate pattern densities, in any 28 or .410 sporting clays event where targets are thrown beyond 40 yards, the reality is that these two pellet sizes are automatically going to drop some targets per 25 struck. The same ammunition inadequacy is true when clay targets reach 50