

# 2004 Big Game AMMO

By **Wayne van Zwoll**

B&C Professional Member

Photographs by Author

Hunters have been showered with incremental improvements in ammunition since before the birth of the automobile. But like some new car models, the latest ammo is arguably no better than last year's. Genius has little opportunity to shine in the centerfire field. Smokeless ammunition is made pretty much the same way it was half a century ago. Some machines now spewing bullets were first ordered up to supply troops in the early 1940s. Still, refinements in hunting ammo since have given the current crop of cartridges more power and accuracy and deadlier effect. Here's a synopsis.

## Bullets and More Bullets...

When flintlock rifles kept frontiersmen in venison, choosing a bullet was easy. You just found a lead ball that fit your barrel. Later, conical bullets gave shooters alternatives in weight and speed. Breech-loading cartridges added more options, because the bullet didn't have

to be pre-engraved by hand. When smokeless powder came along in the 1890s, new bullet types appeared. The .30-30, circa 1895, launched 160-grain bullets at nearly 2,000 fps – very fast in those days. Cupronickel jackets evolved to protect lead cores from melting at even higher speeds in the .30-06, then the .270, which shot flatter and delivered more energy at long range than lever-action rounds.

When Roy Weatherby's magnum cartridges came along in the early 1940s, traditional softnose and hollowpoint bullets proved too fragile when driven at high speed into tough game. They fragmented instead of penetrating. In 1947, John Nosler thought he could do better and devised a bullet with a two-piece core. A dam of jacket material behind the nose core prevented the heel from coming apart. Later, chemical bonding of jacket to core achieved deep penetra-

tion without the mid-section dam. Another way to keep bullets intact is to eliminate the core. Barnes and Winchester sell bullets with hollow noses of one-piece construction. They expand with virtually no weight loss, driving deep but carving relatively narrow wound channels. "Controlled expansion" bullets for heavy game now include combinations of these basic designs. Several feature the sleek polymer noses that once distinguished bullets built only for flat flight and explosive rupture. Deer-size game doesn't require bullets fashioned to punch through elk and moose, and you'll often get the best accuracy



Hunters have many choices in ammo; this stack represents just a few .30-06 loads.

with bullets that expand violently and fragment in the vitals.

Here's a guide to popular big game bullets. Most are available in factory loads. You'll find deer bullets in the first group, comprising traditional soft-point, hollow-point, and polymer-tipped designs. The second group, for heavier game, includes bonded bullets and those with mechanical devices to increase penetration and weight retention. Call it the "controlled-expansion" list.

### DEER BULLETS

**Hornady InterLock** Offspring of the Spire Point, the InterLock features inner jacket belting to hold the core in place. Round-nose versions shoot as accurately as the pointed bullets.

**Hornady SST** Competition for Nosler's Ballistic Tip, this red-nosed polymer-tipped spitzer shoots as flat and will figure prominently in the Hornady line.

**Nosler Solid Base** Of traditional design, this softpoint has an extra-heavy base and modest boat-tail. It's now loaded exclusively by Federal.

**Remington Core-Lokt** This veteran may have collected more venison than any other softpoint. Its internal lip limits weight loss during upset.

**Remington AccuTip** A challenge to other polymer-tipped bullets, this spitzer is built to Remington specs per contract and is loaded by Remington from .243 to .300 Win. Mag.

**Sierra GameKing** Hailed for fine accuracy and flat flight, Sierra boat-tail bullets are explosive on upset. Expect lightning kills on deer. The 250-gr. .338s and 300-gr. .375s wear extra-thick jackets.

**Speer Hot-Cor** Core-jacket unions without voids help Speer Hot-Cors maintain their integrity. A complete line includes uncommon weights, even .366 spitzers for 9.3x62 rifles.

**Winchester Power-Point** Nose notches on its tapered jacket ensure violent but predictable upset, with more than adequate penetration in deer. Forty years old and still under-rated!

**Winchester Silvertip** Long the company's heavy-game bullet, Silvertip got a more fragile nose cap in the 1960s. Now it opens more quickly (sometimes even quicker than Power-Point).

### CONTROLLED-EXPANSION BULLETS

**Alaska Kodiak** Expect double-diameter upset, superior weight retention from this bonded bullet. Jackets are of drawn gilding metal.

**Barnes X** This coreless copper hollowpoint is long for its weight – but 95% weight retention lets you use lighter bullets. The newest Triple Shock version delivers best accuracy.

**Hornady InterBond** A bonded, polymer-tipped bullet, it has an inner-belted jacket to help control upset. The sleek ogive gives it a flat arc.

**Lapua Mega** This copper-jacketed bullet has a wide inner belt to hold the core in place. Mega is available in Lapua ammunition, its round nose profile consistent with European tradition.

**Norma Oryx** This bonded bullet typically expands to double diameter before peeling back to yield a retained weight higher than 90%.

**Norma TXP** A divided core is cold-soldered to the nose jacket. Like Oryx, it has a flat "protected point" meplat. Actually, TXP is a Swift A-Frame renamed for Norma.

**Nosler AccuBond** This bonded version of Nosler's Ballistic Tip offers flat flight but the terminal performance of a Partition (about 70% weight retention). There is no mid-section dam.

**Nosler Partition** Developed in 1947 by John Nosler, the Partition has a two-piece core. The heel penetrates like a solid bullet; loss of the nose is normal in hard going.

**Remington Core-Lokt Ultra** The Ultra Mag rounds spawned this bonded bullet, with a jacket 20% heavier than Core-Lokt's, and a belt half again thicker. It holds about 90% of its weight during upset.

**Speer Grand Slam** A flat meplat atop a long, sleek ogive distinguishes

**TOP TO BOTTOM:** Shoot from hunting positions during practice – there are no benches in the woods; Accuracy like this is still exceptional. If you can repeat, there's no need to try other loads; You don't need a little rifle to shoot tight groups. But stiff recoil can lead to flinching in big groups; Nosler has expanded its bullet line, adding the popular Ballistic Tip in 9.3mm; Black Hills, noted for tactical ammo, has an expanding line for hunters.





Most ammunition testing happens in tunnels, where universal receivers and barrels the diameter of sewer pipe launch bullets through still air. The receiver is clamped in a steel mount that weighs as much as a garden tractor, and a lanyard drops the striker. Variables we contend with in the field have been removed, so we can't expect ammunition to perform in our rifles as it does in tunnels. The surprising thing: though accuracy shouldn't measure up to test-gun standards, it sometimes does. And bullet velocities we get from hunting rifles often exceed chart numbers. What's in question at the range is predictability. A rifle that puts three shots into an inch may land a fourth well out of the group. Ammunition that cuts a nickel-size cluster from one rifle may print a 2-inch group from the next. And you can't know for sure that you didn't affect the group. Hearts pump, muscles twitch, joints wobble. The touch of your trigger finger, pressure of your hands and cheek, the tug of a sling and resistance from bipod or rest — all can vary. Accuracy is a measure of consistency.

The other day, shooting a Weatherby lightweight rifle in 7mm-08, I fired three shots into a hole less than .15 bigger than bullet diameter. Neither rifle nor ammunition could be expected to repeat that performance. I can't hold that close or see .15 error at 100 yards through a hunting scope. Perhaps my shakes countered the natural dispersion of the bullets. A happy accident. More often, faulty shot execution enlarges groups already loosened by inconsistencies in rifle and ammunition. That's why some hunters never smile. Their targets don't measure up to test targets or those published in magazine articles. Truly, though, you don't have to shoot sub-minute groups to kill big game, even at long range. And variables that affect your shot in the field make one-hole groups at the bench academic.

This year a host of new hunting loads popped up at Federal, Remington, and Winchester, including light-recoiling options that still give you flat flight to 200 yards and plenty of smash. Hornady is again first to market with a new round (the .204 Ruger); the InterBond bonded bullet is new in big game loads. Black Hills, hatched to supply tactical and target ammo, has an expanding line for sportsmen. Kenny Jarrett now offers high-performance ammunition for his super-accurate "beanfield rifles." John Lazzeroni and Dakota Arms and Weatherby still sell top-quality high-octane ammunition for their rifles.

Hunting cartridges are thoroughly tested in-house before they're cataloged.

But I wanted to see what they'd do in ordinary rifles, shot as any hunter would shoot when comparing loads. I couldn't shoot every new recipe, but in four days managed to get data — chronograph readings and 3- and 5-shot group sizes — on more than 70 loads. The results are listed on the opposite page.


### The Hardware

These tests incorporated 13 rifles in 12 chamberings. Most were representative of what you'd find in gun shops and deer camps. Excepting a 6.5-20x Zeiss, the scopes were ordinary too.

- .243 Winchester M70, 22-inch barrel, 6x Leupold scope
- .257 Roberts Dakota 76, 22-inch barrel, 4x Nikon scope
- .25-06 Weatherby Mark V, 24-inch barrel, 2.5-10x Bausch & Lomb scope
- .270 Winchester M70, 24-inch barrel, 2.5x Lyman scope
- .270 WSM Winchester M70 (Hill Country custom), 24-inch barrel, 4-12x Burris scope
- 7mm-08 Savage 111, 22-inch barrel, 3x Weaver scope
- 7mm Rem. Mag. Mauser Mark X (Charles Daly), 24-inch barrel, Nikon 3-9x scope
- .30-06 Winchester M70 (Freudenberg custom), 25-inch barrel, 6x Burris scope
- .30-06 Remington 721, 24-inch barrel, 4x Lyman scope
- .300 Win. Mag. Ruger 77, 24-inch barrel, 2-7x Redfield scope
- .300 WSM Winchester M70, 24-inch barrel, 2.5-10x Bushnell scope
- .300 Wby. Mag. Sako 75, 26-inch barrel, 6.5-20x Zeiss scope
- .338 Win. Mag. Mauser Mark X, new 24-inch barrel, 6x Redfield scope

You might think that ordinary rifles like these aren't up to the job of testing ammunition. But 11 of the 13 fired groups that measured an inch or under — and the remaining two shot inside an inch and a half with at least one load. On the other hand, 11 rifles also shot a group as big as 2.5 inches. The variability has to do in part with ammo, but also with range factors that don't affect universal receivers secured in test tunnels. If you're assessing various loads (or evaluating a rifle), don't draw hasty conclusions. One reason I decided to rate them from one to five is to show accuracy, instead of listing group sizes, is that the measurements count only for that group from that rifle. Even general comparisons are perilous unless you shoot several groups with a load, or several loads in a rifle.

# Better Hearing!



Bob Walker  
Illinois, 2002

# Better Hunter!

**Walker's Game Ear has been the #1 Selling Sound Amplification with Hearing Protection device for over 13 years!**

**THE PRO'S CHOICE**  
Worn and endorsed by more professional hunters than all other amplifying with hearing protection devices combined!



- Wayne Carlton
- Paul Butski
- Ray Eye
- Harold Knight

Weights less than 1.4 oz.  
Rests comfortably behind either ear with or without eye glasses

<b>Game Ear</b>	<b>\$172.95</b>
<b>Game Ear II w/AFT</b>	<b>\$227.95</b>
<b>Game Ear III W-C w/AFT</b>	<b>\$324.95</b>
<small>(with wireless voice communication)</small>	
<b>Digital Game Ear w/DSP</b>	<b>\$489.95</b>
<small>(with digital signal processing)</small>	

Add \$10.95 S&H • PA residents add 6% sales tax

**WALKER'S GAME EAR II & III features Adjustable Frequency Tuning (AFT) which allows hunters to tune in specific sound frequencies and "custom set" their Game Ear II and Game Ear III to match their individual hearing needs, while protecting them from muzzle blasts.**

Field Tested and Recommended by NAHC

Walker's Game Ear, Inc.  
P.O. Box 1069, Media, PA 19063  
(800) 424-1069 • (610)-565-8952  
www.walkersgameear.com



Data obtained with different scopes, some of low magnification, might seem suspect. But given the other variables, I don't find low-power glass a liability — not if the target is sized for it. The Redfield variable set at 7x helped me shoot the smallest group (.5 inch) with Jarrett ammunition and Sierra HPBTs. The 4x Lyman on a 50-year-old Remington .30-06 produced a .7-inch group with Federal 165-grain Sierra GameKings. The 2.5x Lyman on my .270 Model 70 delivered a .7-inch five-shot group with Remington 130-grain AccuTips. It's unlikely in these cases that higher magnification would have trimmed group sizes.

Incidentally, there's no need to shoot five shots. Barrel heat can open groups. It's a good idea to fire several three-shot groups from a cold, clean barrel. You want every first shot in the same place and consistently close to succeeding shots. Once you've settled on a load, get off the bench and shoot from hunting positions. You may find a point-of-impact shift. I refine my zero from prone and sitting with a tight sling, because sling tension pulls my shots to 7 o'clock.

**What It All Means**

Some common assumptions concerning ammunition don't hold up under prolonged testing. First, as regards velocity, it's chic to berate ammunition makers for claiming bullet speeds unobtainable outside the lab. In these trials, I found many chart velocities conservative. Of 74 loads tested, 44 came within 10 fps of matching factory claims — or beat them! My two chronographs, set in tandem to verify the readings, registered higher speeds for some loads even when the barrels were shorter than those used at the factory.

As for accuracy, you might conclude that the minute-of-angle groups so often reported in rifle and ammunition reviews are now unremarkable. Truth is, they're still hard to guarantee with big game loads. Average group sizes for all the loads tested here: 1.7 inches for three shots, 2.1 inches for five shots. While I could cream the

**TOP LEFT TO BOTTOM:** A stunning five-shot group with Remington AccuTips, from a .270 M70 and 2.5x scope; Five shots inside 1.5 inches: great performance from Trophy Bonded bullets, Federal ammo, and a Sako rifle in .300 Weatherby topped with a Zeiss 6.5-20x scope; Winchester now loads Nosler's new AccuBond bullets in its .300 WSM ammo; No matter how your load shoots from the bench, what counts is how well you direct bullets afield.

tight groups and deliver rosy prose about selected loads and rifles, such distortion would misrepresent both the loads that didn't perform well here but might in your rifle, and those that, by great good luck, drilled a tight group when it counted. A rifle and a load that combine for 2-minute accuracy at 100 yards are likely to deliver at least that level of precision farther out, which means you can expect (but should shoot to prove it) 7-inch groups at 350 yards. Now, 7 inches looks pretty sloppy on paper, but all those bullets will land in the vitals of a deer, and 350 yards is a mighty long shot. Natural shot dispersion at that range, even from a 2-minute load, is much less a problem than errors in wind and range estimation, and your own shaky position. Horsing the trigger will, at that distance, move the bullet off a target the size of a Volkswagen.

Other myths abound. You might have heard that pointed bullets are more accurate than round-nose bullets. Well, Winchester's 117-grain round-nose bullet in .257 Roberts delivered a .8-inch group. Only 10 of the 74 loads tested matched that, and only three beat it! Don't believe, either, that small-bore, small-case cartridges are inherently more accurate. Three .300 Win. Mag. loads fired groups of less than an inch. So did Federal's 210-grain .338 Nosler Partition.

Hornady 180 InterLock bullets in my .300 Weatherby printed a .8-inch group. The main advantage of smaller cartridges is that they kick less and help you shoot better.

Are the popular polymer-tipped bullets more accurate than ordinary softpoints? Not always. While poly-nose bullets did punch some of the tightest groups, they also gave me the largest one. Of 10 ordinary softpoints tested, five delivered groups of less than 1.5 inches. It's a mistake to dismiss Barnes X-Bullets as inaccurate, though historically they've been more sensitive to variables like seating depth. The new Triple Shock bullets impressed me in these trials, shooting into .6 inch from Federal's .270 Winchester load, and into an inch from a .270 WSM. Jarrett's .300 Win. Mag. ammo put 180-grain Triple-Shocks into .9 inch.


In summary, you have more choices in new hunting ammunition than you have time to test. That's the bad news. The good news is that you don't have to try them all. The best bullets are turning up in factory ammo, offering better accuracy, flatter flight, and more predictable terminal results than even handloaders could achieve a few years ago. Bonded poly-tip bullets like Nosler's AccuBond, Hornady's InterBond and Swift's Scirocco insure the high weight retention and deep penetration once married to low



## A SHORT WORD ON WINCHESTER SUPER SHORT MAGNUMS

Winchester has hit a home run at market with its .25 WSSM cartridge, a stubby rascal that will, as claimed, make the .25-06 blush. The .243 WSSM is also impressive for its length. But ballistics aren't the whole story in hunting cartridges. Like the more powerful WSMs, these cartridges have very fat bodies, so require rifles with thick magazine sections. They don't feed as smoothly as the WSMs, and sometimes not reliably. The advantages of a super-short rifle action – incrementally lighter weight and slightly shorter bolt throw – are, in my view, over-rated. But to be fair, Winchester has developed some excellent loads for the .243 and .25 WSSMs. As for all new ammunition, the best place to get acquainted is in a current catalog.



ballistic coefficients. More bullet types and weights allow you to match loads to the game, or pick one that will do everything you ask of it. Shooting one load not only absolves you of having to change zero; it gives you the confidence that leads to better marksmanship. ■



**Every rifle could use a little more Browning. Even a Browning.**

A rifle becomes a better rifle when a Browning scope sits atop it. Fully multi-coated optics for 94% light transmission. Dura-Brite™ scratch resistant outer lens coating. One-piece tube and saddle. Your rifle deserves nothing less.

**The Best There Is™**

Browning trademarks licensed from Browning. ©2004 BPO [www.BrowningSportsOptics.com](http://www.BrowningSportsOptics.com)