BRAVE NEW CARTRIDGES

Choosing the right hunting cartridge isn't as simple as it used to be. Or is it?

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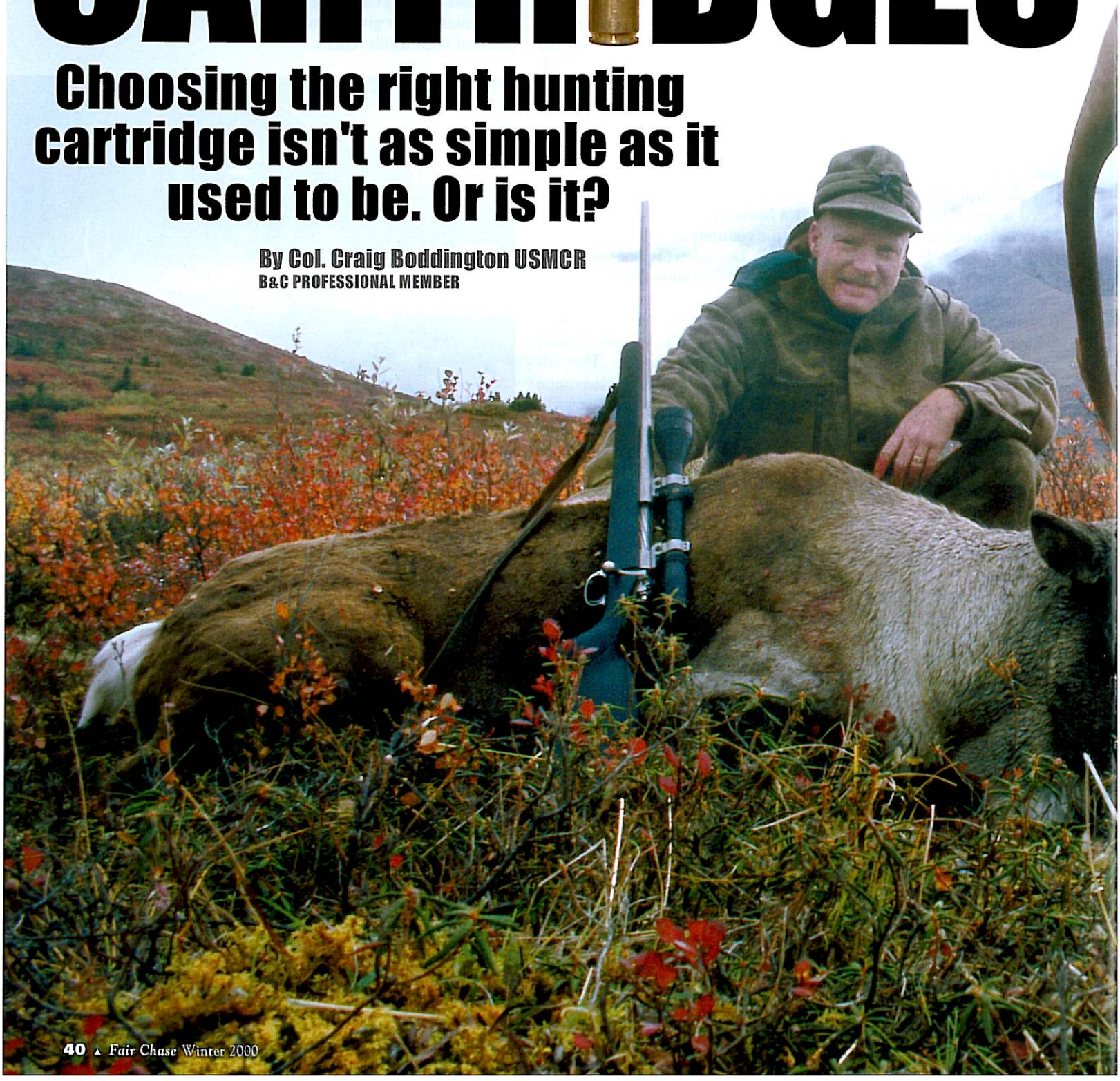


These are all new factory and proprietary unbelted magnums—in just .30-caliber alone. Unbelted is clearly the hot ticket today, with short, fat cartridges like Lazzeroni's short magnums and the new Winchester cartridge almost certainly the coming fad.

Depending on how you view such things, the late 1950s and 1960s are often called the era of the magnums—or "magnum mania." I was just a kid then, but I was a kid already committed to lifelong fascination with rifles, so I well remember the hype surrounding Winchester's family of short magnums—the .264, .300, .338, and .458 Winchester Magnums. They weren't alone, and indeed there were winners and losers. Norma tried to enter the market with their .308 and .358 Norma Magnums, but made limited inroads. Remington scored a huge success with the 7mm Remington Magnum, but did less well with their still-shorter 6.5mm and .350 Remington Magnums.

It's important to note that velocity is never free.

It comes only at the expense of more powder and added recoil and muzzle blast. Additional gun weight is usually part of the equation as well. So the new super-velocity rifles may not be fun to carry up a sheep mountain, and are usually a handful off the benchrest.

TOP LEFT: The .300 Winchester Short Magnum is introduced with both Winchester Ballistic Silvertip and Fail Safe loads. It will see daylight in March 2001 and is almost certain to be a winner.

TOP RIGHT: The higher levels of velocity now available would not be practical without the better bullets we have today. Remington's Ultra Mags are offered in a variety of loads, including Nosler Partition and both A-Frame and Scirocco bonded-core bullets from Swift.

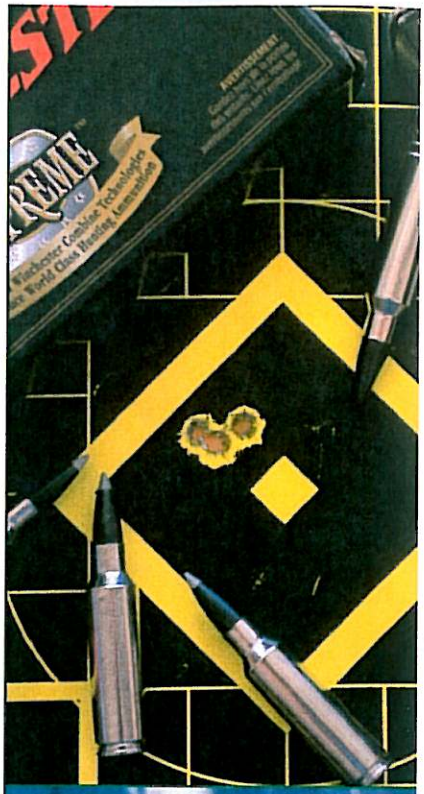
Roy Weatherby, fabulous promoter that he was, probably got the ball rolling in the postwar years, and by the mid-'50s his growing family of belted magnums were a force to be reckoned with. He followed the .458 Winchester Magnum with his own .460, and the .338 Winchester Magnum with his .340—but, from the standpoint of history, most of us define the first magnum era as the four Winchester Magnums and the 7mm Remington Magnum. Those were exciting times, when we craved velocity and the manufacturers responded with a raft of large-cased belted magnums that promised—and sometimes even delivered—what we wanted. Certainly our tastes in cartridges have never been quite the same. The 7mm Remington Magnum is far and away the most popular of all belted magnums, a world-standard hunting cartridge. Winchester's .300 is easily the most popular among the several fast .30-calibers. In time the .264 gave way to Remington's similar but more versatile 7mm, but the .338 Winchester Magnum is also a world standard, albeit in the smaller and more specialized world of a cartridge needlessly powerful for much hunting. The .300 Weatherby Magnum remains the flagship of the Weatherby line, and has gone far beyond Weatherby to become the classic long-range hunting cartridge. All of the Weatherby Magnums, by the way, are excellent cartridges that deliver exceptional performance, and all have their following—but only the .300 has truly transcended the limitation of a proprietary cartridge.

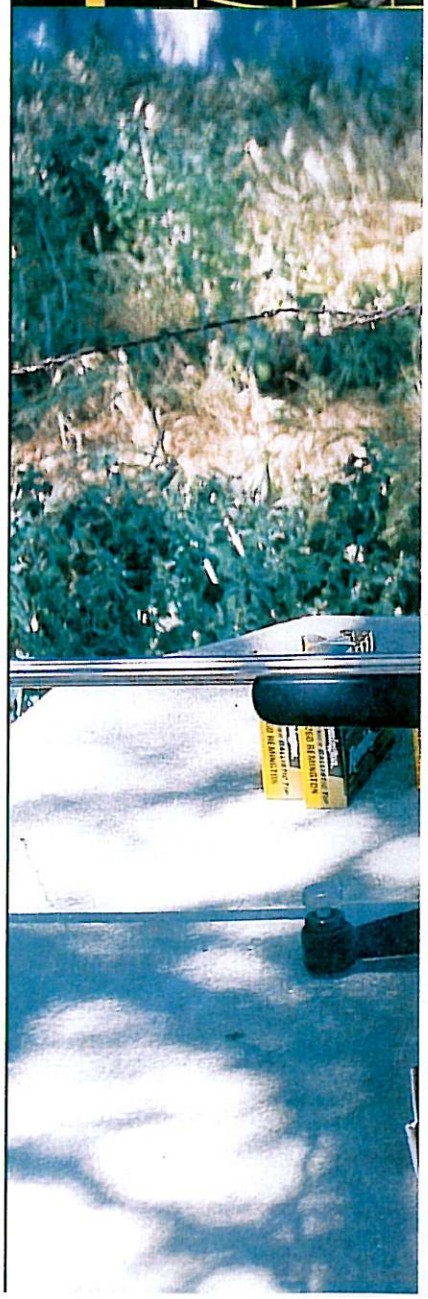
A FULL PLATE

Interestingly, virtually all of the cartridges we think of as "magnums"—meaning belted magnums based on the .375 H&H case (necked this way and that, left full-length or shortened, with body taper removed) have been with us for more than 30 years. Most of our standard hunting cartridges are much older than that, with the still-popular (and still effective) hunting cartridges like the 7x57, .30-06, and .270. Even Johnny-come-lately cartridges like the .280 Remington and .308 Winchester are pushing the half-century mark.

In the three decades following the magnum craze there were relatively few new cartridge introductions, and almost none that could be considered general purpose hunting cartridges. The obvious reason was that we had an adequate selection of hunting cartridges—a spectrum so full that there seemed no obvious gaps. I started my career in the 1970s, when our plate of hunting cartridges seemed very full. For most of my career new cartridge introductions have been few and far between. Now, we gun writers are constantly searching for things to write about. Regardless of how good they are, there are only so many stories that can be written about the .30-06 or the 7mm Remington, so something new is a genuine boon. There were a few new cartridges introduced in the '70s and '80s, and they received a tremendous amount of publicity. Some, like the 7mm-08, became extremely popular. Others, like the 8mm Remington Magnum, never caught on. Still others, like the .35 Whelen and .416 Remington, occupy useful niches but are limited in popularity by their caliber. A few more, like the 7-30 Waters and .375 Winchester, seemed to me to be of limited utility . . . but that's one man's opinion.

In any case, until recently it was absolutely no problem keeping track of every new cartridge that came down the pike. But my, oh my, have things changed! The last few years have seen a raft of brave new cartridges, so many that no one rifle nut, reloading maniac, or gun writer could possibly keep up with them. If anything, there's even more new stuff now than in the early 1960s, something I thought I would never see. For me, the good news is that there's a whole lot to write about. The bad news, for all of us, is that the already confusing universe of sporting car-





BRAVE NEW CARTRIDGES

The brand-new .300 Winchester Short Magnum has a short, fat 2.1-inch case, producing velocity slightly higher than the much longer-cased .300 Winchester Magnum. The new cartridge achieves this while burning about 7 percent less powder due to the short case.

tridges is now much more so.

WILDCATS AND PROPRIETARIES

The hobby of wildcatting—developing one's own non-standard cartridge—is uniquely American, largely because few other shooting societies in the world are as fortunate to have as much access to reloading tools, components, and data. Almost all wildcats use an existing cartridge case, and over the decades almost every commercial case has been necked up, necked down, and had the body taper, length, and shoulder angle altered in every imaginable way. Some wildcatting is done to increase velocity, some to increase accuracy, and some just for the sake of experimentation, to have something different. Many of our favorite cartridges—like the .22-250 and .25-06—enjoyed long careers as wildcats before being legitimized in factory form.

A proprietary cartridge is a cartridge that is developed and marketed only by one manufacturer. In the great days of the British gunmakers, proprietary cartridges were the norm, with Kynoch manufacturing ballistically similar but non-interchangeable cartridges for Rigby, Purdey, Holland & Holland, and so forth. The proprietary system was a tight rule, and only with consent—as was the case with the .375 H&H and .404 Jeffery—could a cartridge be chambered by other manufacturers.

In America, proprietaries have been rare, with Weatherby's line the best historical example. Only in very recent years have some other manufacturers started to load for some of the Weatherby cartridges. It could be argued that some of the Weatherby magnums would be more popular if ammo were more available . . . but that's the nature of a proprietary: one manufacturer, one source, and generally more expensive ammo than is available from the majors. Despite this drawback, proprietaries have come on strong in America. Small firms like A-Square, Dakota, and Lazzeroni are not only responsible for a large number of our recent spate of new cartridges, but they, along with good old American wildcatters, have inspired some of the new developments from the larger manufacturers.

Although I have handloaded for more than 35 years, I am not a wildcatter and I have owned just a couple of rifles chambered to genuine wildcats. Mind you, many wildcats are indeed better mousetraps than existing factory rounds. The thing to remember is that a true wildcat cartridge is not available from any manufacturer, and I've always been a little uncomfortable with rifles I couldn't get ammo for if I really wanted it. Proprietaries are a large step forward in availability, because by definition they are available from one manufacturer (and one only). In strictest terms, if you decide on a proprietary, you are banking that its manufacturer will stay in business and continue to offer ammunition, which is a point to consider. However, in practical terms, neither wildcats nor proprietaries are all that risky today. There are a number of custom ammunition firms who will load literally anything (for a price), and so long as you have the presence of mind to lay in a supply of cases, handloading is always a viable option.

A NEW PERFORMANCE RACE

For many years the Weatherby Magnums lay at the top of the velocity scale, at least in terms of practical hunting cartridges—and the limitations were different than they are today. When Weatherby's cartridges were new, expanding bullets were much less sophisticated than they are today, and few hunting bullets would perform reliably above, say, 3,000 feet per second (fps). Going faster was theoretically possible—the .220 Swift broke 4,000 fps in 1932—but available propellant powders couldn't do it with big game bullets without generating a whole lot of pressure. Too, a generation ago the very rumor that a cartridge was hard on barrels seriously affected its sales. That was a problem with the .220 Swift, and also with the .264 Winchester Magnum.

Today a lot has changed. We have slower-burning propellants that make velocities of 3,500 fps and faster practical in hunting calibers, and we have bullets that will stand up to the velocity. At high speeds, bullet selection must always be done with care, and sometimes accuracy must be sacrificed in favor of terminal performance (depending on what your rifle likes to shoot). However, bullets such as the Nosler Partition, Barnes X, Winchester Fail Safe, Trophy Bonded Bearclaw, and Swift A-Frame will definitely stand up to any velocity any known cartridge is capable of. Barrel wear is still a problem. In fact, when you get into the really fast, new cartridges barrel life shrinks to as little as 600 rounds. Oddly, this doesn't seem to hurt sales as much as it used to. It's possible that many shooters simply don't shoot enough to worry about it, but there's also a theory that it's almost like a badge of honor to shoot out a barrel. Whichever, or both, today's shooters seem much more willing to accept the fact that they'll need a new barrel before their new rifle sees 1,000 rounds!

During the '80s and early '90s our aging belted magnums continued to sell well. At the same time, however, I had the feeling that a whole lot of hunters were sticking with, or going back to, standard cartridges. Neither the .270 nor the .30-06 ever lost any popularity, but during this period the .280 really came into its own, and short-action cartridges like the .308 and 7mm-08 also gained in popularity. Part of this, undoubtedly, was due to increased interest in lightweight rifles. Never forget that gun weight is a huge factor in felt recoil; you can build a magnum as light as you want,

Winchester Ammo's Kevin Howard and Boddington with a Wyoming pronghorn taken during the .300 Winchester Short Magnum's debut in October 2000.

These are just a few of the new big-cased cartridges entered into the velocity race. All have been made practical by better, slower-burning propellants.

There is still plenty of room in the market for accuracy, efficiency, and mild recoil.

Among the majors, Remington has been the recent leader in new cartridge introductions—including not only the hot Ultra Mags, but also the mild-mannered .260.

TOP: Bernadette and Craig Boddington with Bernadette's first game animal, taken with the .260 Remington.

BOTTOM: The proliferation of affordable chronographs has changed the ammunition world quite a bit. In years gone by there was often a lot of "blue sky" in published ballistics. Today factory figures are pretty close, because most shooters have access to a chronograph to check velocities.

but if you get it too light it's going to hurt you. I think a lot of shooters discovered, or rediscovered, that mild-mannered, efficient "non-magnum" cartridges were able to handle most hunting chores with a lot less kick and blast.

On the other hand, by the late '90s we had new powders and better bullets . . . and a growing interest in extending the range envelope. On the surface, at least by scanning the gun magazines, it appears that we have entered yet another magnum craze, with larger-cased, ever-faster cartridges appearing by the fistful. I don't think it's quite as simple as that. Many American shooters do crave velocity—but many also crave efficiency and accuracy. The two concepts aren't always mutually exclusive, but I think our current cartridge development is taking us down both tracks.

The growing Remington Ultra Mag family. These unbelted magnums are based on the .404 Jeffery case. Although fast, none of the Ultra mags are the fastest in their respective calibers; their strong suit is efficiency.

SPEED AND MORE SPEED

Forty years ago, Roy Weatherby experimented with necking his big .378 Weatherby Magnum case down to .30-caliber. Exactly why he didn't release the cartridge is unclear, but the likelihood is, with the propellants then available, he couldn't get the cartridge up to velocity with acceptable pressures. Wildcatters continued to experiment with the .30-.378, and today it's a reality, over the counter from Weatherby. It is faster than the .300 Weatherby Magnum by 200 to 250 fps, able to push a 180-grain bullet to about 3,450 to 3,500 fps, depending on load and barrel length. It is not the fastest .30-caliber. That honor goes to John Lazzeroni's 7.82 (.308) Warbird. Depending on the rifle, the load, and the barrel length, the Warbird should beat the .30-.378 by a small margin, about 50 to 100 fps.

Okay, if these cartridges are so fast, why doesn't everybody use them? Many reasons, the most significant being that not everybody needs that kind of velocity! And it comes at a price. Recoil is very stout, so you must have gun weight to contain it. You also need an extra-large action to contain the big cases, which means a more expensive rifle (as well as more expensive ammunition), and barrels need to be quite long to burn all the powder and get full velocity. A barrel of 26 inches really isn't long enough; these big boomers are at their best with 27 and 28-inch barrels.

For serious long-range shooting most hunters gravitate to the .30-caliber, but there are also the very fast 7mms and .33s. For a brief period the 7mm STW was the fastest factory 7mm, but it has now been eclipsed by Remington's brand new 7mm Remington Ultra Mag, propelling a 140-grain bullet at an honest 3,450 fps. Faster still is John Lazzeroni's 7.21 (.284) Firebird. The very fast 7mms shoot wonderfully flat and are much easier to shoot well than the big .30s, but the guys who do this a lot are convinced that the greater bullet weight and larger frontal area of the .30-caliber are important when shooting big game at very long range. So if the .30 is good, the .33 must be better, right? In theory, yes. Weatherby's .338-.378, Sako's .338 Lapua Magnum, and Lazzeroni's 8.59 Titan are not as fast or as flat as the fastest .30s, but they are fast and flat, and devastating on game. Realistically, however, few people can stand up to a steady diet of this kind of recoil, especially from the solid shooting positions required for long-range work. So they're in the power race rather than the long-range race, and they're among the winners!

A BELTLESS REVOLUTION

Somewhere along the line a smart marketing guy convinced us all that a belt on a cartridge meant high performance, spelled m-a-g-n-u-m. The belt is actually an anachronism, designed at the turn of the century to strengthen then-weak cases against the higher pressures of smokeless powder. You need good brass to contain the pressure of any modern cartridge, but it doesn't need a belt. Absent a belt, the cartridge headspaces on the shoulder, creating more positive indexing which tends to promote accuracy. Also, the belt takes up needless space in the magazine box and can complicate feeding.

Wildcatters have long experimented with rimless (beltless) cases. Parker Ackley was the master; some of his "improved" cartridges with taper removed and shoulder sharpened and moved forward equal belted magnums in performance. Classic examples are the .280 Ackley Improved and .30-06 Ackley Improved which, respectively, pretty much equal the 7mm Remington Magnum and .300 Winchester Magnum. Another favorite for wildcatting has been the rimless .404 Jeffery case, which has been shortened and necked this way and that for decades. More recently the new proprietaries got into the act. The Dakota Magnums are all rimless cases (four of the five based on the .404 case). Shortened to fit into standard actions, none of them exceed the velocities of at least some belted magnums; what they're all about is efficiency. Now, Lazzeroni's family of long magnums are also unbelted, so they get the efficiency checkmark—but you can't say they aren't about velocity. Ranging from .25-caliber upwards, Lazzeroni's long-cased unbelted magnums are the fastest cartridges on the block.

Efficiency is the primary basis for Remington's growing family of Ultra Mags. The Ultra Mags are based on the .404 Jeffery case, but Remington's cartridges are full length, requiring a .375 H&H-length action. They started with the .300 Remington Ultra Mag, quickly followed up with a .338, and in 2001 they will have their new 7mm and .375 Ultra Mags. None of them are the fastest in their respective calibers; the Lazzeroni case and the big .30-.378 are larger, hold more powder, and develop more velocity. Which isn't to imply that

the Ultra Mags are slow. The case is fatter than the .375 H&H case, so an Ultra Mag with a 2.850-inch case can develop more velocity than any cartridge based on the 2.850-inch .375 H&H case. However, the velocity gain is not huge, perhaps the potential of 100 fps per caliber, all other things being equal.

EFFICIENCY AND ACCURACY

The Ultra Mags are fast, but they don't break new velocity ground; efficiency and accuracy is what they are really all about. Most shooters will also find their recoil quite tolerable, especially in 7mm and .30-caliber. They are not, however, the latest word in the efficiency race.

It has long been known that short, fat cartridges tend to be more accurate, and produce their velocity with less powder, than long, narrow cartridges. This is because the primer accesses a greater percentage of the powder charge, creating more rapid ignition. The .308 Winchester is a wonderful example. Although burning a whole lot less powder, it comes very close to the velocity of the much longer-cased .30-06 . . . and is legendary for its accuracy. The .260 Remington, based on the .308 case necked down, is one of the only new "standard" cartridges to come down the pike in a long while. It was developed for accuracy and the utmost efficiency in the .308 case. But short and fat doesn't stop there. John Lazzeroni has a second family of short magnums, using the same parent case but cut down to fit in short actions. His short magnums are not in the velocity race; they are similar, caliber by caliber, to our existing standard belted magnums—but their extremely fat cases gain tremendous efficiency and tend to produce exceptional accuracy.

While the velocity race is likely to continue, reality is that not everybody needs it, nor is everybody willing to put up with the additional recoil, muzzle blast, and needed gun weight to get it. On the other hand, accuracy may not be free, but it doesn't have to hurt to get it . . . and all riflemen need as much of it as they can get. So I think there will be continued development along these lines. Proof of that is (at this writing) America's newest sporting cartridge, the .300 Winchester Short Magnum. Developed by Winchester ammo, this cartridge uses a fat case that is similar in diameter (but not identical to) the Remington Ultra Mag case, but it has a very sharp 35-degree shoulder and a stubby 2.1-inch case, meaning it will fit into true short (.308 Winchester-length) bolt actions. It does not break new velocity ground, but in a true short-action rifle it slightly exceeds the velocity of the .300 Winchester Magnum. Because of its short, fat nature, it achieves this velocity by burning substantially less powder, and I can feel the difference in the recoil. The case is a natural for necking to additional calibers, so I expect over time it will spawn its own family of Winchester Short Magnums.

So I think further development is going to go in two directions, more efficiency and more velocity . . . and sometimes, in some cartridges, these paths will cross. Having said that, we the public suddenly have a whole bunch of new cartridges to digest. It will take time to sort out the winners from the losers, and I don't expect we will see as many new cartridges in the next five years as we have seen in the last five.

Now, what does all this mean to you? Should you trade in your .300 Weatherby for a .300 Remington Ultra Mag, or should you forsake your trusty .30-06 for some new super-blaster? Not necessarily. The advances in velocity, accuracy, and/or efficiency that have been made are incremental, not exponential. Game is no tougher now than it was 10, 20, or 50 years ago, nor are their vital areas smaller, nor are they necessarily standing farther away. The cartridges that worked in our youth continue to work, and I seriously doubt any inroads will be made into the market share occupied by our beloved .30-06s and .270s. On the other hand, we riflemen are always looking for excuses to own new rifles, aren't we? Our brave new cartridges may not be revolutionary, but they are improvements, and they've given us a whole bunch of the excuses we crave. ▲▲▲