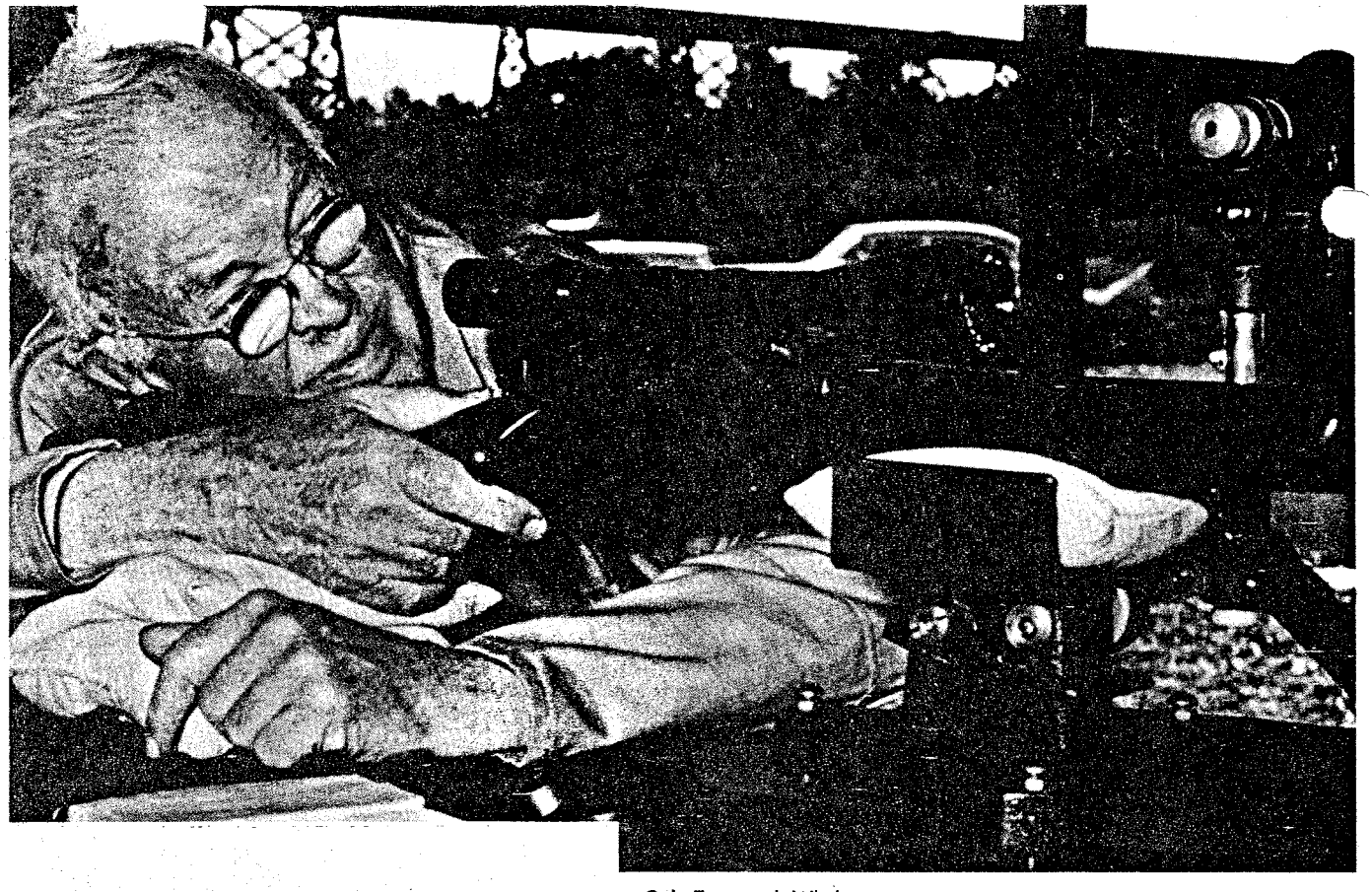


Col. Townsend Whelen is shown test-firing a batch of handloads shortly before his death.
Photo courtesy Guns & Ammo.

# *Pet Loads:*

# .270 WINCHESTER

*By Ken Waters*

Jack O'Connor, gun editor of Outdoor Life, with stone ram he shot with a .270 handload, using 130-grain bullet.

SCATTERED THROUGH the pages of various monthly gun and hunting periodicals have appeared brief tations as to the cartridges and loads which recognized authorities have found effective. Unlike similar material in book form, these odds-and-ends of worthwhile information are usually read once and then discarded. This has always seemed a pity to me, since so much of that "lost" data is fully as useful and quite as deserving of future reference as a good share of the verbiage bound between hard covers.

Thus it was that we decided to do a series of columns which would attempt to briefly examine each of our most popular cartridges, not from the standpoint of their potential capabilities, but rather as to what they have *actually* done, combining this with a look-see at the loads that have been employed in their accomplishment — sort of a multi-source field test for handloaders, if you will. Where appropriate, we'll attempt to show the results of both game hunting and target range experience.

For the first in our series we've chosen the .270 Winchester cartridge, a round that has been with us since 1925 but which is doubtless more popular oday and in more widespread use than t any time in the forty-one years of its existence. In fact, I think I am safe in saying that the .270 is one of our three most commonly used centerfire rifle cartridges, sharing the spotlight only with the .30-30 and .30-06. If this were a beauty contest, we'd refer to it as the "Second Runner-Up."

Developed by Winchester as a high velocity, flat trajectory companion to their then-new Model 54 bolt action rifle following the First World War, I doubt if even they realized how tremendously popular their creation would become. In those now distant days, a 130-grain bullet leaving the muzzle at 3,140 fps and still traveling 2,320 fps at 300 yards with a mid-range trajectory of only 5.3", was big news! But although such ballistics were more outstanding then than they are today, the typical 1925 rifleman was not as velocity-conscious as his 1966 counterpart; neither was he as well informed.

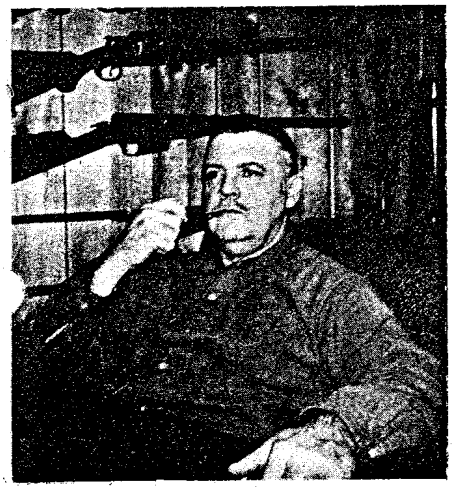
However, two of our best-known arms writers early became aware of the possibilities of the .270 Winchester cartridge and acquired rifles in this caliber. Over the years that followed, Jack O'Connor and Colonel Townsend Whelen put their .270's to all manner of tests and their cumulative experience exceeds that of literally scores of average hunters, ranging from varmints to big game weighing well over a thousand pounds. Both men have been keen observers and prolific writers, well fitted to accurately assess the merits of a cartridge, and singularly able to report their findings. In truth, O'Connor has probably done more to spread the .270 gospel than any other man. Townsend Whelen was also one of our outstanding authorities on reloading. What they have said, therefore, merits the attention of all .270 owners, both present and prospective.

Jack O'Connor once told of firing over 10,000 handloads from a pair of .270 rifles during a single year, accuracy-testing about all conceivable loads. That was before the appearance of Hodgdon's No. 4831, and 49.5 grains of DuPont's No. 4064 turned out to be the best prescription with 130-grain bullets. Chamber pressure is well under 50,000 psi, and velocity right around the 3M mark. The slower burning IMR No. 4350 develops higher velocities within the mean pressure limitation of 54,000 psi, but not quite as good accuracy on the average as No. 4064. Factory load ballistics with the 130-grain bullet can be duplicated with 57-grains of No. 4350. For grizzlies, Jack reported loading 160-grain Barnes bullets ahead of 52 grains of No. 4350.

When the still slower burning No. 4831 became available, O'Connor was one of the first to experiment with it in the .270. Due to the generous case capacity of this round in relation to bore size, maximum efficiency can be better produced with slow burning powders, and O'Connor found that factory velocities could be bettered slightly with No. 4831 — 60 grains of the large-stick propellant with 130-grain bullets, and 58½ grains with 150-grain slugs. Eventually, the 130-grain load was increased to 62 grains No. 4831, still at lower pressures than the top loads of No. 4350.

For those who wish to use their .270 for the biggest, toughest critters this continent has to offer, he has mentioned a pair of loads which add still further to the .270's effectiveness where pene-

Author Ken Waters relaxes in his gun room.



# O'Connor's Latest Loads

*This letter from Jack O'Connor arrived at the editorial offices of* The HANDLOADER *after Ken Waters' story was written. We are printing the portion dealing with his .270 loads, for it is obvious Jack has conducted some load tests that Ken was not aware of*

*—Editor*

Dear Dave,

. . . if you are printing some of my .270 loads, one I use a lot is sixty-two (62.0) grains of No. 4831 in Winchester-Western cases with the CCI Magnum primer. I have just checked my figures with that load with the 130-grain Nosler bullet in three .270 rifles. In two Model 70's with 22-inch barrels, one gave 3,130 and the other 3,210 fps. In a custom-made .270 with a 24-inch barrel, the velocity was 3,225.

I have never had pressure taken with the Nosler bullet, but with the Winchester Silvertip 130-grain bullet, the pressure was only 44,000 lbs. A Remington test with the same load but with the 130-grain Bronze Point bullet gave a mean pressure 51,200. With the 150-grain bullet, 59 grains of 4831 with W-W cases gave velocities varying in different rifles from about 2,900 to 2,975. An interesting load for very heavy game is the 180-grain Barnes round-nose bullet with 56 grains of No. 4831. Velocity is just under 2,700 in a 22-inch barrel.

As you undoubtedly know, velocities vary quite a bit from rifle to rifle and pressure figures vary according to who takes the pressures.

I have used the .270 for 40 years, shooting everything from javelina to Alaska-Yukon moose. I have also used it in Africa, India and Iran. This may shake quite a few people up, but I am inclined to believe that the 130-grain bullet is probably the one best bullet weight yet, if the bullet construction is adapted to the animal.

My best wishes,
Jack O'Connor

tration is a requirement: Nosler's 150-grain partition bullet backed by 58.5 grains of No. 4831 for better than 2,900 fps, or Fred Barnes' long 180-grain round nose slugs with 54 grains of the same stuff at 2,600 fps.

In spite of these super loads, however, Jack seems to stick mostly with the hot 130-grain bullet loads, having killed a dozen or so mountain sheep and several caribou, all with a single shot apiece, even to ranges crowding 400 yards. At least as many elk and moose have been bagged with the .270 in his hands, according to reports, mostly with 130-grain bullets. But for grizzlies, brown bear and moose he has recommended heavier bullets with strong jackets.

Concerning deer he makes the highly valid point that even if the high velocity of a .270 should destroy some meat, it's better to lose a few pounds than to let the whole animal escape badly wounded, as could easily happen with a poorly placed shot from a less powerful cartridge. No argument there! For deer in heavy woods though, the slower moving 150-grain round nose loads are probably to be preferred. One interesting load mentioned by O'Connor for such purposes is the 170-grain Speer pushed by only 39 or 40 grains of No. 4895 at .30-30 velocities. This one should be easy on meat.

Finally, let's look at the .270 as a small game cartridge. Yes, that's what I said. Seems Jack wanted an accurate yet light load for pot shooting blue grouse and ptarmigan, one that would shoot to point of aim at 25 yards without changing the rifle's sight setting from its big game load zero, and that wouldn't be too noisy while doing it. After some experimental brewing, (and maybe a few incantations), he hit upon a good one which combined some special 100-grain Speer full metal jacketed bullets with 25 grains of No. 4198. Result: Head-shooting accurracy together with light recoil and report.

This talk of small game load development in a big game rifle makes me feel the presence of that great old shooter, Townsend Whelen, somewhere in the wings. I knew the colonel and shot at targets with him, but never had the good fortune to participate in a hunt with him. I do know, however, that he spent many long hours working up just such loads for his favorite big game rifles, finding them useful in providing camp fare while on one of his beloved wilderness hunts.

It was in 1949, I believe, that Colonel Whelen told me he had carried special reduced loads on every hunting trip which he had made since the turn of the century. Often, the development of these loads that would shoot to point of aim, (at 50 yards in his case), with the rifle sighted for 200 yards, required a great deal of trial-and-error loading and shooting. Sometimes, with a particular rifle, he found it all but impossible, in which case he wanted no part of that musket for wilderness hunting. Generally though, he was successful, tireless experimenter that he was. For him, this ability to work up special loads for specific purposes was one of the primary challenges and delights he found in handloading, to which I can only add an emphatic "Amen."

Everyone who has read Colonel Whelen's highly interesting writings, knows that he considered the .270 Winchester to be the finest all-around cartridge in existence for American hunting. One of his reasons for feeling thus, he once said, was because its relatively small diameter bullet made it easier to work up a light load which would not be too destructive. For such use, he preferred a cast gas-check bullet weighing 111 grains of 1-to-10 tin-lead mix, sized .003" over groove diameter and seated so as to barely touch the rifling. With this bullet he loaded 16 grains of DuPont No. 4759 (recently discontinued), and the old, cooler Winchester No. 115 primer. Accuracy at 50 yards and even 100 yards was outstanding. When sighted a half-inch high at 50 yards, these bullets would be only two inches low at 100.

The colonel was a real rifleman as well as a hunter — a man who enjoyed a rifle for what it was rather than just a tool for bagging game. He showed this in his endless seeking for ever greater accuracy, and we handloaders would do well to emulate his approach to riflery. Pursuing this bent, he engaged in extensive bench-rest testing of rifles and loads, using only those on game which had first proven themselves on the target range.

With the .270, he told of using 50 grains of DuPont No. 4320 and various 130-grain bullets, obtaining 100 yard groups that ran from 1¾" to 2¾", averaging 2¼" over several groups. That was shortly after the close of World War II, and bullets in those days simply weren't up to delivering the accuracy of present day bullets. Experiences such as this convinced him that minute-of-angle groups from run of the mill sporters were not to be expected, and even today readers sometimes write us expressing skepticism as to the veracity of our reported groups, quoting the colonel's writings. He was NOT wrong (in the days when he wrote those words) but he would not be saying them if he were with us today. The reader must be careful to note the date at which any such statements were made, particularly those not old enough to have used the bullets of 18 or 20 years ago. I did, and I know he was right at the time, but today's finer bullets have changed all that.

Whelen didn't kill as many head of big game with his .270 rifles as O'Connor, but he traveled much the same road ballistically and knew what loads would do. His early loading recommendations were based upon the use of No. 4064 and No. 4320 powders, including that old much-tried 130 - 49.5 - No. 4064 prescription, after which he progressed to the slower burning No. 4350, finding 57 grains of that powder to be maximum with 130-grain bullets, duplicating factory cartridge speeds.

But eventually he too decided that the still slower burning No. 4831 was best of all. Fifty-eight grains with the 150-grain Sierra boat-tail bullet was tops as a big game load in his estimation, and in this one respect he appears to have differed from O'Connor. Whereas Jack has always plugged the 130-grain, Townsend Whelen expressed a preference for the 150-grain, maintaining that it gave a flatter trajectory and deeper penetration beyond 200 yards.

He once concluded that in all ways other than killing power, the .270 cartridge bettered all other standard factory rounds of that day, and that it was entirely adequate for most American big game, more power seldom being necessary.

Having owned and used three .270 caliber rifles of my own, I'd like to add a few comments to what has been said, starting with the observation that the .270 got off to an uncommonly good start for its day. The cartridge originated in, and for much of its life has been confined to, strong bolt action rifles. Unlike many others, the .270 has never had to be loaded down because of the borderline strength of some weaker action type. It started right off as a high pressure performer and has never had to compromise that position.

The high operating pressures at which the .270 was designed to function have made possible its outstanding ballistics. Even modern slide action rifles (Remington's Model 760), possess the front locking bolt necessary to contain this cartridge's high pressures, and an attractive asset of the caliber lies in the enormous selection of modern bolt action rifles available in .270 chambering.

A well known advantage of .270 rifles is their splendid average accuracy coupled with the fact that they are not finicky as to changes in bullet weight, shooting both heavy and light slugs to practically the same impact center. For

the shooter desiring an all-around rifle, this has always been a strong incentive in the .270's favor. Perhaps this feature, along with the ever-wider variety of bullet types and weights, has been at least partly responsible for the increased popularity of the .270 among Eastern deer and 'chuck hunters.

Some hunters report an almost invariable succession of instantaneous kills with the .270 on game as large as caribou, while I have heard others complain of its failure to stop even small whitetail deer within a reasonable distance. Since this apparent contradiction is still more pronounced with the smaller .243 cartridge, it has long been my conviction that the widely different performances on game are due, NOT to any lack of power in the cartridge, but rather to the bullets used. An entirely adequate cartridge may occasionally fail to down game well within its limits of power and range because the bullet was either too slow in opening on the lighter big game, or too fast expanding for really tough, large game. All .270 users who are careful to select bullets intended for the species of game they intend to hunt, stand a far better chance of getting one-shot kills.

I see that I've said nothing so far about varminting with the .270, so I'll wind up with an observation or two in that direction. Friend of mine named Billy Westerhoif is an avid 'chuck shooter as well as a fine rifleman. He wanted to use his Remington .270 over longish mountain pasture ranges where the wind has a bad habit of pushing light bullets around. I brewed up a load for him, (which he assembles on his own RCBS press), consisting of 100-grain Hornady spire points driven to 3,200 fps by 60 grains of No. 4831. He tells me that this combination has given him some 135 kills to date at ranges up to 350 yards with a 75% hit record. Drop at 300 yards from a 200-yard sight setting is only 4½", and average accuracy has been right around minute-of-angle, three-shot groups running from 2¾" to 3½" at that range. Sighting was with a Weaver V-8 scope. A pretty good record, I'd say!

My own Winchester Model 70 in this caliber has responded best to Sierra 110-grain spitzers with 60 grains of Norma's No. 205 for varminting, placing five shots in ¾-minute-of-angle. Like Westerhoff's load, velocity approximates 3,200 fps.

If you want to see your .270 *really* perform with hunting weight bullets though, try 49 grains of Hercules' new Reloder No. 21 powder with the Sierra 150-grain bullets at 2,856 fps, and watch those groups close up into one tight cloverleaf! ●

# Notes

Waters' .270 test rifle was a Winchester Model 70 with a 22-inch barrel wearing a Redfield 4-12X scope in Weaver mounts. Waters found the Case Gard "60" cartridge box to be handy for taking cartridges to the range and keeping the different loads separated.

# .270 Winchester

PET LOADS

By KEN WATERS

MORE THAN ten years ago my first "Pet Loads" column appeared in *Handloader* No. 1. The subject caliber was the .270 Winchester, and in those days the emphasis was not on what I had done with the cartridge, but rather on the observations and findings of eminent authorities who had used it more extensively. In the case of the .270, we reported on some of the experiences of Jack O'Connor and Colonel Townsend Whelen.

Since that time however, in line with what we have found to be of interest to readers, our columns have become more analytical of the cartridges themselves, including chronograph data along with notes on accuracy and pressure indications. Commentary on the mechanics and special requirements involved in handloading are also a part of our current critiques. Then too, the past decade has seen the introduction of several fine new components which readers will inevitably wish to use.

Accordingly, we decided to conduct new experiments and write updated reports on those popular calibers which appeared in the early issues, giving them the same investigative treatment employed in our more recent "Pet Loads" columns. The .270 Winchester is the first of these cartridges to be reviewed.

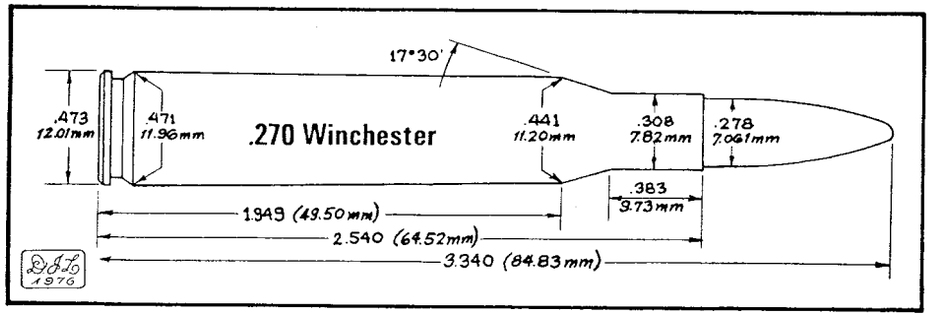
I seriously doubt whether the history of the .270 needs re-telling. As one of our five most popular centerfire big game rifle calibers, just about every shooter who's really interested in riflery is well acquainted with its background. So I'll simply re-cap by noting that it was introduced by Winchester in 1925, paired with their new Model 54 rifle, in 130-grain bullet loading only. The predicted heavier bullet round didn't appear until 1933 — a 150-grain load for hunters desiring more bullet weight at lower velocity for less meat destruction. And in 1937 came the ineluctable varmint loading with a fast-moving 100-grain lightly jacketed missile. Shooter acceptance of the .270 has ever since been little short of phenomenal.

It has had a built-in advantage. Because it didn't come on the scene until after the First World War, the .270 has never been factory-chambered in an old or weak rifle design. Consequently, both rifles and cartridge cases in this caliber were designed to handle high pressures. In fact, the .270 is still one of the highest-pressure standard American cartridges, with a rated maximum working pressure of 54,000 psi. Reference here is to maximum *individual* load pressure — *not* "average!"

Most factory loads are held to around 52,000 psi, I'm told. But because handloads may run to the maximum — or above — a special warning is in order; namely, that ammo so loaded should not be used in excessively hot climates or exposed to the sun, or stored in a car under such high-heat conditions, else pressures may become excessive!

The statement has been frequently made that the .270 is factory-loaded to full throttle and can't (or shouldn't) be speeded up. This is only partly true, since some factory rounds with 150-grain round-nose bullets are deliberately loaded down for brush and timber hunting. Modern slow-burning powders have also modified this situation somewhat.

It's an easy cartridge to reload, not in the least temperamental, with no sudden "pressure peaks," and an almost ideal case capacity for today's controlled-burning powders. Among those cases



# Pet Loads for the .270 Winchester

| Bullet | Charge | Powder | MV [22-inch barrel] [fps] | Case | O.A. Ctg. Lgt. [Inches] | Remarks |
|---|---|---|---|---|---|---|
| 100 Hornady Spire-Point | 51.0 | IMR-4064 | 3,205 | Fed. | 3.25 | |
| 100 Hornady Spire-Point | 54.0 | H-380 | 3,150 | Fed. | 3.25 | |
| 100 Hornady Spire-Point | 56.0 | W-W 760 | 3,276 | Fed. | 3.25 | Excellent varmint load; highest velocity. |
| 100 Hornady Spire-Point | 58.0 | N-204 | 3,109 | Fed. | 3.25 | |
| 100 Hornady Spire-Point | 58.0 | IMR-4350 | 3,180 | Fed. | 3.25 | |
| 100 Hornady Spire-Point | 59.0 | H-205 | 3,184 | Fed. | 3.25 | Most accurate varmint load; 1 ¼-MOA: *Maximum!* |
| 110 Sierra Spitzer | 62.0 | MRP | 3,217 | Fed. | 3.30 | Erratic velocities and pressures. *Maximum!* |
| 130 Sierra Spitzer | 53.0 | IMR-4350 | 2,829 | R-P | 3.33 | 1 1/4-MOA. |
| 130 Sierra Spitzer | 54.0 | IMR-4350 | 2,899 | R-P | 3.33 | 1 1/4-MOA. |
| 130 Sierra Spitzer | 55.0 | IMR-4350 | 2,950 | R-P | 3.33 | |
| 130 Sierra Spitzer | 56.0 | IMR-4350 | 3.048 | R-P | 3.33 | |
| 130 Sierra Spitzer | 55.0 | IMR-4831 | 2,920 | R-P | 3.33 | 1 5/8-MOA. |
| 130 Sierra Spitzer | 57.0 | IMR-4831 | 3,064 | R-P | 3.33 | Most accurate load tested. Under 3/4-MOA. |
| 130 Sierra Spitzer | 58.0 | H-4831 | 2,941 | R-P | 3.33 | Very accurate. |
| 130 Sierra Spitzer | 60.0 | H-4831 | 3,049 | R-P | 3.33 | 1 3/8-MOA. |
| 130 Sierra Spitzer | 60.0 | H-4831 | 3,008 | W-W | 3.33 | Note lower velocity in W-W larger-capacity cases. |
| 130 Sierra Spitzer | 56.0 | H-205 | 2,924 | R-P | 3.33 | Extremely accurate; Under 1-MOA. |
| 130 Sierra Spitzer | 57.0 | H-205 | 3,036 | R-P | 3.33 | 1 1/2-MOA. |
| 130 Sierra Spitzer | 52.0 | H-380 | 2,897 | R-P | 3.33 | |
| 130 Sierra Spitzer | 51.0 | W-W 760 | 2,800 | R-P | 3.33 | |
| 130 Sierra Spitzer | 53.0 | W-W 760 | 2,970 | R-P | 3.33 | |
| 130 Sierra Spitzer | 59.0 | W-W 785 | 2,954 | R-P | 3.33 | Extremely accurate; Under 1-MOA. |
| 130 Sierra Spitzer | 60.0 | W-W 785 | 3,021 | R-P | 3.33 | |
| 130 Sierra Spitzer | 61.0 | W-W 785 | 3,033 | R-P | 3.33 | Excessive pressure — Do *not* use! |
| 130 Sierra Spitzer | 56.0 | N-204 | 2,985 | R-P | 3.33 | |
| 130 Sierra Spitzer | 57.0 | N-204 | 3,035 | R-P | 3.33 | 1 3/4-MOA. |
| 130 Sierra Spitzer | 58.0 | MRP | 2,873 | W-W | 3.33 | 1 1/2-MOA. |
| 130 Sierra Spitzer | 59.0 | MRP | 2,963 | W-W | 3.33 | |
| 130 Sierra Spitzer | 60.0 | MRP | 3,055 | W-W | 3.33 | Note difference in velocity from next load. |
| 130 Sierra Spitzer | 60.0 | MRP | 3,103 | R-P | 3.33 | Second most accurate load plus high velocity. |
| 130 Sierra Spitzer | 61.0 | H-4831 | 3,100 | W-W | 3.33 | *Maximum.* Do *not* exceed! |
| 130 Sierra Spitzer | 62.0 | H-4831 | 3,158 | W-W | 3.33 | *Excessive* pressure — Do *not* use! |
| 130 Nosler Partition | 56.0 | IMR-4831 | 2,990 | W-W | 3.33 | Accurate. |
| 130 Nosler Partition | 57.0 | N-204 | 3,030 | W-W | 3.33 | 1 1/2-MOA. |
| 130 Nosler Partition | 59.0 | H-4831 | 2,995 | W-W | 3.33 | 1 1/4-MOA. |
| 150 Sierra Spitzer | 52.0 | IMR-4350 | 2,774 | R-P | 3.33 | 1 3/4-MOA. |
| 150 Sierra Spitzer | 54.0 | IMR-4350 | 2,880 | R-P | 3.33 | *Maximum* — Do *not* exceed. (53 grains Normal.) |
| 150 Sierra Spitzer | 54.0 | IMR-4831 | 2,843 | R-P | 3.33 | Accurate — 1 3/8-MOA. |
| 150 Sierra Spitzer | 56.0 | IMR-4831 | 2,948 | R-P | 3.33 | |
| 150 Sierra Spitzer | 56.0 | H-4831 | 2,813 | R-P | 3.33 | 1 1/4-MOA. |
| 150 Sierra Spitzer | 58.0 | H-4831 | 2,908 | R-P | 3.33 | *Maximum* — Do *not* exceed! 1 1/2-MOA. |
| 150 Sierra Spitzer | 52.0 | H-205 | 2,672 | R-P | 3.33 | 1 1/2-MOA. |
| 150 Sierra Spitzer | 54.0 | H-205 | 2,780 | R-P | 3.33 | *Maximum* — Do *not* exceed! 53 grains more accurate. |
| 150 Sierra Spitzer | 49.0 | H-380 | 2,672 | R-P | 3.33 | |
| 150 Sierra Spitzer | 49.0 | W-W 760 | 2,680 | R-P | 3.33 | 1 3/4-MOA. |
| 150 Sierra Spitzer | 50.0 | W-W 760 | 2,741 | R-P | 3.33 | Extremely accurate. |
| 150 Sierra Spitzer | 51.0 | W-W 760 | 2,799 | R-P | 3.33 | *Maximum.* |
| 150 Sierra Spitzer | 57.0 | W-W 785 | 2,809 | R-P | 3.33 | Most accurate 150-grain load tested. |
| 150 Sierra Spitzer | 58.0 | W-W 785 | 2,880 | R-P | 3.33 | 1-MOA. |
| 150 Sierra Spitzer | 56.0 | MRP | 2,745 | W-W | 3.33 | 1-MOA. |
| 150 Sierra Spitzer | 58.0 | MRP | 2,925 | W-W | 3.33 | Accurate. |
| 150 Sierra Spitzer | 58.0 | MRP | 2,967 | R-P | 3.33 | Highest velocity 150-grain load. 1-MOA. |
| 150 Sierra Spitzer | 55.0 | N-204 | 2,882 | R-P | 3.33 | *Maximum* — Do *not* exceed! |
| 150 Nosler Partition | 57.0 | H-4831 | 2,860 | R-P | 3.33 | 1 1/2-MOA. Good big game load. |
| 150 Nosler Partition | 54.0 | IMR-4831 | 2,840 | R-P | 3.33 | 2-MOA. |

## FACTORY LOADS

| | | | | | | |
|---|---|---|---|---|---|---|
| 100 Winchester S.P. | | | 3,256 | | 3.09 | 2 1/2-MOA. |
| 130 Winchester S.P. | | | 2,946 | | 3.31 | 1 3/8-MOA. |
| 130 Winchester Silvertip | | | 3,023 | | 3.265 | Not as accurate as 130-grain W-W Soft Points. |
| 130 Remington PSP Core-Lokt | | | 2,937 | | 3.24 | |
| 130 Federal Hi-Shok S.P. | | | 2,925 | | 3.25 | |
| 150 Federal R.N.S.P. | | | 2,690 | | 3.275 | |
| 150 Remington R.N. Core-Lokt | | | 2,671 | | 3.24 | |
| 150 Winchester S.P. | | | 2,704 | | 3.27 | 1 1/2-MOA. |

## SMALL GAME LOADS

| | | | | | | |
|---|---|---|---|---|---|---|
| 90 Sierra H.P. | 10.0 | Unique | 1,661 | Fed. | 3.162 | Fair accuracy. |
| 90 Sierra H.P. | 15.0 | 4227 | 1,519 | Fed. | 3.16 | 1 3/8 inches at 100 yards. SR-4759 may be substituted. |
| 90 Sierra H.P. | 16.0 | 4227 | 1,565 | Fed. | 3.16 | Fair accuracy. |
| 90 Sierra H.P. | 16.0 | 2400 | 1,771 | Fed. | 3.16 | 1 1/2 inches at 100 yards. |
| 90 Sierra H.P. | 22.0 | 4198 | 1,827 | Fed. | 3.16 | 1 1/2 inches at 100 yards. |
| 110 Sierra Spitzer | 21.0 | 4198 | 1,772 | Fed. | 3.30 | Under 1-inch at 100 yards. Best small game & turkey load. |

NOTE: Winchester No. 120 Primers used in all handloads, except Federal No. 210 in Small Game Loads.

used in this trial series, R-P brass had an average capacity of 62.5 grains of water, Federal's held 62.9 grains, and Winchester-Western's a big 63.7 grains.

For this comparison, cases were filled with water to the base of a 130-grain Sierra flat-base spitzer seated to give an overall loaded cartridge length of 3.33 inches, which was the length used for both 130 and 150-grain bullets throughout the tests. Average weights of brass were, respectively: R-P, 205.2 grains; Federal, 198.3 grains; W-W, 193.4 grains. As will be seen further along, these differences affect both velocities and pressures.

Cases in our Winchester Model 70 test rifle have shown a long reloading life with a surprisingly low rate of longitudinal stretching, and retain snugly tight primer pockets despite repeated firings with full-power loads. I had the distinct impression that all three makes of brass are exceptionally strong.

In this matter of case life and the preventing of excessive expansion, it's my opinion that the accurate chambering common to first class commercial rifles in this caliber is a big help in minimizing swelling and thus the amount of case resizing needed. After some initial variations in chamber specifications during the early years of .270 rifle production, headspace tolerance was reduced in 1939, and dimensional controls tightened — another advantage this caliber has over military rounds.

Vital statistics for the .270 Winchester cartridge are: Case Length, 2.540 inches; Neck Length, .383-inch; Shoulder Angle, 17° 30' (same as that of the .30-06). Headspace measurement is also the same as for the .30-06, the .270 being in essence, a necked-down '06 but with 64mm rather than 63mm case length. The respectable neck length of the .270 allows bullets to be seated to the specified overall cartridge length of 3.34 inches maximum, without their bases protruding into the powder space below the base of the case neck.

Although bullet diameter is almost invariably listed as .277-inch, actual micrometer measurements reveal one make running as small as .2763, others .2765, still others a full .277-inch. Strangest of all, I found the 130-grain bullets of one make miking .2765, while 150-grain slugs from the same maker measure .277.

To complicate matters, some of the old references refer to the .270 as having a .270 bore and .278 groove diameter, while more recent texts speak of .277 groove diameter. It is my understanding that a Winchester pressure barrel has a groove diameter of .2773-inch.

Hoping to resolve this confusion, we slugged-and-miked the bores of our old Model 54 Winchester and 1972-issue Model 70 Winchester in this caliber, obtaining a reading of .278-inch in both barrels. From this it would appear that we've been using bullets which are a thousandth or more undersize without realizing it! Curiously, I can't recall ever having read any report to this effect. A fairly common practice at one time with European rifle makers as one way of reducing pressures, this use of bullets which are smaller than groove diameter is *not* typical of American manufacturers. It would certainly indicate a need for sizing cast bullets to at least .278 and perhaps even .279.

Differences also exist among riflemakers as to the best rate of rifling twist. Most standard .270 barrels have a 1-in-10 twist. However, Mannlicher-Schoenauers were given a steeper 1-in-9, and Husqvarnas a 1-in-9½ twist. The 1-in-12 is frequently specified for custom barrels, being especially liked by shooters preferring to stick with 130-grain and lighter bullets. But for those desiring to use 150-grain and heavier bullets, the standard 1-in-10 is probably the best all-around rifling pitch.

The Speer Manual shows .270 factory loads as failing by considerable margins to reach advertised velocities in 22-inch barrels, and the excellent new Nosler Manual reports the 130-grain Remington lagging behind by almost 100 fps, even in a 26-inch barrel.

Our own chronographing of factory loads has been included in the accompanying table, showing all three makes and bullet weights failing by from 87 fps to 239 fps to reach advertised velocities in our 22-inch barrel. Even adding 50 fps to each of our readings to compensate for the difference in barrel length (factory figures having been taken in 24-inch barrels), brings only one load — Winchester's 130-grain Silvertip — close to specifications. The others are still lacking by more than a hundred foot-seconds. Much handload data likewise proves optimistic when fired through chronograph screens.

All who haven't already done so should attempt to get their hands on a copy of *Handloader* 50 and read Bob Hagel's article on the .270. His report on velocity and pressure variations with different "lots" of powder when fired in different .270 caliber rifles is most informative, and to a considerable degree has been confirmed by my own chronographing and case expansion measurements. Summarizing:

(1) Some rifles deliver markedly lower velocities than others using identical loads.

(2) Velocities (and probably pressures) produced by the slower-burning powders vary more widely between different "lots" of powder than is generally believed.

(3) Differences due to either rifle or powder may easily exceed those caused by different length barrels.

(4) Substantial variations in pressure and velocity will be incountered between various makes of cases due to differing internal capacities. I thought this would be especially pronounced if a handloader decided to form .270 cases from .30-06 arsenal brass, but that turned out to be an incorrect assumption. Measurements with reformed R.A., W.R.A. and Lake City '06 cases worked out to 63.2, 63.0 and 62.7 grains of water respectively. Not too much different from their .270 commercial counterparts.

(5) And finally, between all these variables it's easy to see why ballistics vary so widely among published tables.

The moral to be deduced from such considerations is first and foremost, I believe, that regardless of the loads anyone else may use or recommend, start low and when you find a combination giving indications of maximum working pressures *in your rifle*, even though it may be a lighter load than listed, it's time to stop!

That's what I've done in these load trials, calling a halt whenever case expansion exceeded that of factory loads by .0005-inch, backing off for succeeding loads to a level where expansion just equaled the already-warm factory rounds. In a couple of instances, I've listed loads which I consider too hot — for my rifle at least — wanting to show readers the impracticality of such barrel-strainers. In each case they've been clearly identified and are *not* recommended!

Bear in mind too that many reloads will be put up in brass that is anywhere from ten to twenty years old, may have been previously fired numerous times, and worst still, may have stretched and be in need of trimming. All these things tend to lower the shooter's safety margin, as anyone who has ever experienced a ruptured case with escaping powder gas knows full-well!

While I've no intention of engaging in the perennial debates concerning the hunting effectiveness of .270 versus .30-06, it is appropriate while discussing chamber pressures to observe that '06 mean working pressure is some 4,000-psi lower than .270 maximums. Inevitably this restraint handicaps the .30-06 which, if it were to be loaded to same pressure levels as the .270, would challenge the smaller caliber for sheer speed, even with heavier bullets.

Let's just say that bullet weight and base area favors the '06, but at unknown longish ranges the slightly better sectional density gives the flatter-shooting .270 an advantage. When taking sectional density into account, a commonly quoted rule-of-thumb is that the 130-grain .270 bullet compares to a 150-grain .30-caliber of the

same configuration, and a 150-grain .270 is similar to a 180-grain .30-caliber. Actually, a 130-grain .270 spitzer betters a 150-grain .30, approaching but not quite equaling the fine 165-grain .308-inch spitzer's sectional density.

Consequently, in order for a 150-grain .30-caliber spitzer to shoot as flat over 500 yards as a 130-grain .270, it would have to start out at better than 3,100 fps, while Sierra's 165-grain .30-spitzer boat-tail must be launched at 3,050 fps, requiring unacceptable chamber pressures. The 165-grain .30-caliber would be less affected by wind at that distance, however.

Recoil of the .270 in a rifle weighing 7½ pounds figures out to 17½ foot-pounds. This compares to 18 fp for the .30-06 with 150-grain factory loads, or 19 fp with 180-grain commercial. This is then, a further small theoretical advantage to the .270's credit for shooters who are sensitive to recoil.

Another factor which has gained followers for the .270 is its propensity to maintain close to the same point of impact at usual ranges (100-200 yards) whether 130 or 150-grain bullets are used, provided they are of the same shape and point form. This is rarely true with the .30 calibers.

Turning now to handloading the .270, let's first take a look at components. Cases have already been discussed as to brass weight and internal capacity, but it remains to be pointed out how the difference in powder space results in velocity and pressure variations. When 60 grains of Norma MRP were loaded behind 130-grain Sierra bullets in our test rifle, velocity from the larger capacity Winchester cases fell 48 fps lower than in R-P brass, and case expansion was reduced by .0002-inch. Similarly, with 150-grain bullets and 58 grains MRP, velocity from W-W cases was 42 fps lower with .0002 less expansion than recorded with R-P brass and otherwise identical loads.

Available bullet selection in .270 caliber is very wide indeed. I have personally had more experience with those made by Sierra than any other make, and with entirely satisfactory results, I might add. Hornady and Speer bullets have also proven excellent in my .270 rifles, and Remington Core-Lokts long ago earned a reputation as reliable game bullets. If for some reason though, I were to find it necessary to use a .270 on the larger American big game species, I believe I'd select either 150 or 160-grain Nosler Partition bullets, or Winchester's 150-grain Power-Point.

Another bullet that should do the trick, but which is so new I haven't tried it yet, is Speer's "Grand Slam" with hard antimonial lead base core, jacket-locking cannelure and soft lead nose core. It should be a dandy, especially in the 150-grain weight.

In general however, I'd recommend trying to fit the bullet to the game being hunted. Reserve the light 90, 100 and 110-grain jacketed bullets for varmints or — in low velocity loads — for turkeys and small game, of which more later. For deer, antelope, mountain goats and the like, the various 130-grain slugs are odds-on favorites. It is when we come to the larger big game species that arguments develop between hunters favoring 150-grain bullets and those who would still stick with the faster-moving 130-grain.

It is doubtful if anyone has had more experience with the .270 on big game than Jack O'Connor, and his predilliction for and confidence in the 130-grain bullet is well known. Interestingly though, in a letter Jack wrote me twenty years ago, he said that in many instances he had used the 130-grain because that was what his rifle was loaded with at the time, adding that if he were to select a rifle for the express purpose of hunting moose in the timber it wouldn't be a .270, and if necessary to use a .270, he wouldn't choose the 130-grain bullet.

That about says it, I think, for it isn't a question of whether the .270 *cartridge* generates sufficient power to kill large game. Of course it does! Rather, the issue at stake is bullet performance. As with all bullets, but particularly those of under .30-caliber, the biggest single determinant of how well a cartridge performs on big game is the action of the bullet itself. Either too little expansion or, conversely, too violently explosive bullet break-up can cause failures. There must be sufficient expansion to open a large wound channel, and yet hold together for adequate penetration.

Yet another consideration when choosing a bullet is its demonstrated accuracy. Not all rifles respond the same way to any given bullet weight, style or make, nor do all situations require the same grouping ability. Nevertheless, I still like bullets which consistently shoot into small clusters. It's confidence-inspiring if nothing else.

I've owned four .270-caliber rifles over the years, all but one of which have preferred flat-base bullets except perhaps when very long range shooting was planned. There's little if any advantage to be gained by using boat-tail bullets at ranges under 500 yards, and none at all under 300 yards. On an average, I'd expect flat-base bullets to deliver better accuracy in most rifles.

At the time of the .270's introduction, the old Du Pont No. 15½ and No. 17½, and Hercules' Hi Vel No. 2 were probably among the best powders available. That is to say, they would develop the highest velocities with 130-grain bullets within allowable pressure limitations and still give good accuracy. But in 1935, No. 15½ was superseded by IMR-4064, and No. 17½ by IMR-3031. Also introduced that same year was the slightly slower-burning IMR-4320, and for the next fifteen or so years, these three powders were favorites with reloaders of the .270 cartridge.

IMR-4350 had appeared in 1940, but with the interruption caused by the war, most of us didn't see much of this slower-burning and still better powder (for the .270, that is), until around 1950. About that time also, Bruce Hodgdon made his surplus 4831 available at attractive prices, and because of this, plus the fact that it was the slowest burning yet, handloaders took to it, reporting higher velocities with reasonable pressures. The excellent but higher priced IMR-4350 suffered from the cost competition with the military surplus propellant.

H-4831 was and is one of the finest and best suited powders for the .270, and considerable load data with it has been published. However, in the past dozen years, no less than six more new slow-burning powders have come along, inevitably raising questions as to how they will perform in the .270 and providing the impetus for our current investigations. Specifically, we wanted to know what could be attained in the way of velocity as well as accuracy with the new powders, and what the indications of pressure would reveal. In a broader spectrum, it was hoped also to gain a sense of comparison in this typical modern high performance cartridge which would be useful in appraising their suitability for use in other similar rounds.

These powders include Du Pont's IMR-4831 (not to be confused with Hodgdon's H-4831); Winchester-Western's 760 and 785, and Norma's N-204, N-205 and their newest "MRP." N-205 was dropped early in the series when its manufacture was discontinued, as W-W 760-BR and 780-BR had previously been. Hodgdon's new offering is designated H-205.

To gain additional insight into their performance, it was decided to chronograph and take pressure checks (via case expansion) with at least two different charges of each powder using the same 130-grain bullets, then repeat the process with 150-grain slugs of the same make. Sierra spitzer bullets were used throughout for uniformity. The accompanying load table contains the results of these trials in detail. However, certain additional comments are indicated:

(1) Probably of most interest to reloaders will be the velocity comparisons between our handloads and factory cartridges. 130-grain Winchester-Western Silvertip loads gave an MV of 3,023 fps from our 22-inch barrel with a case

expansion measurement of .4700-inch. Using this as a base or "norm," it was found that small increases of from 12 to 41 fps could be achieved using N-204, H-205, IMR-4350 and IMR-4831, without any increase in case expansion. W-W 785 was right on the nose, 60 grains delivering 3,021 fps. Only H-4831 and MRP gave notable velocity gains (77 and 80 fps, respectively).

(2) These two powders — Hodgdon's H-4831 and Norma's MRP — proved to be the two outstanding powders, delivering higher velocities without excessive case expansion (and therefore pressure), than any of the others. This was true with both 130 and 150-grain bullet weights. It is *not* to say that the others weren't entirely acceptable, for they were; very much so, in fact. It's just that this pair was outstanding.

(3) In the accuracy department, best grouping was obtained with the following loads:

(a) Using 130-grain Sierra spitzers:
- 57 grains IMR-4831
- 60 grains MRP
- 56 grains H-205
- 59 grains W-W 785

(b) Using 150-grain Sierra spitzers:
- 57 grains W-W 785
- 58 grains W-W 785
- 50 grains W-W 760
- 56 grains MRP

Thus, it will be seen that again MRP ranks high, this time joined by IMR-4831, the two Winchester ball powders, and Hodgdon's new H-205.

(4) Approaching full-power loads, it was found that a 1-grain increase in the weight of charge produced the following velocity increases:

(a) With 130-grain Sierras:

| | |
|---|---|
| IMR-4350 | 98 fps |
| IMR-4831 | 72 fps |
| H-4831 | 54 fps |
| H-205 | 112 fps |
| W-W 760 | 85 fps |
| W-W 785 | 67 fps |
| N-204 | 50 fps |
| MRP | 92 fps |

(b) With 150-grain Sierras:

| | |
|---|---|
| IMR-4350 | 53 fps |
| IMR-4831 | 52 fps |
| H-4831 | 48 fps |
| H-205 | 54 fps |
| W-W 760 | 61 fps |
| W-W 785 | 71 fps |
| MRP | 90 fps |

This will give handloaders some idea as to what may be expected when varying a load. Once the peak has been passed, of course, these figures will no longer apply; as a guess, based on earlier tests, the next grain would give half as much increase; the next, one-fourth, and possible blown primers.

(5) If one wishes to group these powders into roughly similar classes, I'd consider: W-W 760 and IMR-4350 as being "Medium-Slow;" H-205, N-204 and IMR-4831 as being "Slow;" and H-4831, MRP and W-W 785 as "Very Slow." The now-gone Norma N-205 would also be in this last group, for those still having stocks of it.

So now the .270 shooter has *eight* rather than only two appropriate powders from which to choose. Actual factory-load ballistics (as differentiated from advertised velocities) can be duplicated with any of them.

I should note here that once again in order to provide a uniform basis of comparison, Winchester No. 120 primers were used (except as otherwise indicated in the table), proving entirely adequate to properly ignite all of the various powders.

The Remington Ballistics Tables tell us we can figure on an approximate difference in muzzle velocity of from 20 to 30 fps for each change of 1-inch in barrel length at around the 3,000 fps level. Thus, it would be reasonable to add 40-50 fps to our MV readings if using a 24-inch barrel.

It doesn't make much sense for the handloader who has already reached maximum to pack in an extra grain of powder trying for an additional 50 fps at a cost of too-high pressures and shortened case life, then deliberately discard that questionable gain by insisting on having a shorter barrel. If I'd had any choice in the matter, I'd have specified a 24-inch barrel for my .270 Model 70, and would accept nothing less in a custom rifle. This is no "brush gun" and doesn't need that fabled "handiness" so often attributed to a 2-inch reduction in barrel length.

Not enough is said these days about the surprising capabilities of this cartridge when properly handloaded for the purpose of taking edible small game, and in particular, turkeys. Old friend Townsend Whelen used to advocate the development of such specialized light bullet loads in big game rifles, and with the expansion of wild turkey populations, it is useful for a hunter to be able to take a turkey or smaller game without severe meat damage should the opportunity present itself while hunting larger game in those states where seasons overlap.

Handloads tailored for the purpose make this not only possible, but eminently practicable. One of my .270's has been a German drilling with a .270-caliber barrel beneath a pair of 12-gauge tubes. With the objective of developing a load suitable for Virginia turkeys, I worked with the 90-grain Sierra hollow-point and 110-grain soft point bullets, chronographing and testing loads for 100-yard accuracy.

As will be seen from the table, it is practical to slow these bullets all the way down to 1,500 fps while still maintaining fine accuracy. But our very best accuracy with this type load came with the 110-grain Sierra and 21 grains of 4198, which registered an MV of 1,772 fps. That is a nearly perfect load for the purpose, being stout enough to down all such game, fast enough for a reasonable short range trajectory, yet *not* so fast as to cause explosive bullet expansion. The drilling took to it at once, and so have our bolt action .270's.

Varmint loads in the .270 are something else again. I haven't found the 100-grain factory loads sufficiently accurate for the long ranges at which this caliber would normally be used, nor have most of our hot handloads with the light slugs been cause for jubilation. With some powders, both velocities and pressures were erratic, but this wasn't true in all cases.

Two loads stand out as bucking the trend. These consisted of 100-grain Hornady spire-points backed by either 59 grains of Hodgdon's H-205 or 56 grains of Winchester-Western's 760, both of which proved capable of 1¼-1½ MOA.

Taken on balance, the .270, which has now passed its 50th birthday, is still one of our most useful and versatile cartridges, showing no signs of obsolescence whatever. ●