

Poke n'Hope or Pray n' Spray?

The subject of forward allowance or lead is probably one of the most heated discussions in the shooting world. Targets are moving. You can't shoot at them. But very few, not even some the top shooting coaches, manage to explain lead to their clients in a logical way. Here are a just a few of the inconsistencies and contradictory statements that we hear from others, especially among competitive shot-gunners and some coaches.

Lead logistics. "It is hopeless to try to calculate lead." then "Lead 'em by a suburban."

Lead logistics. "Lead is the Magic of your Subconscious." then "Pull the trigger when you *think* it looks right." And here is the most puzzling one:-

Lead Logistics. "If your gun fits, it will shoot where you look." then "Always focus on the



leading edge of the target." With respect to the above, sometime ago ClayShootingUSA published an article, Masterclass by Richard Faulds one of the best shots the world had ever known. Richards advice on long crossers was (as the shot is triggered), to look *in front* of the target, not *at* the target. US Champion Jon Kruger says the same. Some coaches here in the US are now saying this, but there are some that are not. So there is no doubt that shooters get a lot of conflicting advice on how to establish lead.

Have you ever seen a shooting coach, when his student "can't get it" pick a small piece of target up or hold a shell up next to the muzzle to indicate to his student what the lead should be on a given target, like the picture above? Of course you have. What the coach is actually doing is projecting the lead that the student needs in feet out there at the target, in a more simplistic way by indicating his lead requirement at the muzzle. That, in essence, is the basis of the Unit Lead methodology.

The art of intercepting a moving target with a cloud of pellets from a scattergun has been around for centuries. On the subject of bird hunting with a shotgun, the earliest reference I can find is in "*Hungers Prevention or the Whole Arte of Fowling by Water and Land*" written in 1621, by Gervase Markham. When something has been around for almost four hundred years

and someone introduces something new on the subject, at first, it is viewed as being unorthodox and suspicious. And that is exactly what happened when I introduced the Unit Lead method to the shooting world 25 years ago.

To be a successful shotgunner, the one thing that confuses a shooter more than any other, is the problem of correctly intercepting each target with a cloud of pellets. In other words, how much lead/forward allowance he needs..... and it doesn't matter if his target is a clay pigeon on a trap field, skeet field, sporting clay course, a duck that's screaming across the Louisiana bayou or the pheasant that rattles out of the Kansas cornfield. If you don't shoot 8 or 9 feet in front of that dove that flies across in front of you at 40 yards, he'll keep flying. And what



about the 50 yard long crosser coming off the top of a high tower on the sporting clay course? That target needs forward allowance of about 12 feet. Believe me, I've done the figures. But if the laws of Physics dictates that the lead requirement on a 50 yard, full crossing target at 50 yards is approximately 12 feet. Is it any wonder that seeing lead out there at the target is problematic for most shooters? The problem for most of us is because of the phenomenon of perspective. Perspective means our ability to judge spatial relationships at a distance. In other words, it's difficult to figure out what 12 feet of lead looks like out there at the target, on a 50 yard crossing shot.



The physics of lead can be easily explained. On a skeet field, the full crossing target at 20 yards from # 4 is travelling at approximately 50 mph. The shot charge from a standard shot shell is travelling at approximately 1,200 ft/second which is close to 800 mph. That's a ratio of 16:1 which means that for every 16 yards the shot column travels towards the target, the target flies about 3 feet in the same time interval. Simply put, at 20 yards, if you don't shoot approximately 4 feet in front of the full crossing shot on a skeet field, you ain't gonna hit it!

In the top picture on the left I have put a white painted board in the middle of the skeet field to represent this 4 foot lead requirement on a full crossing shot from #4. As the angle changes, the perceived lead also changes. From # 1 because of the narrow angle, (as seen in the lower picture) the perceived lead is a lot less. Please let me explain what I mean by that.

Required forward allowance is the amount of lead that the Laws of Physics dictates we need on a target. Apparent lead is the amount that the shooter needs to see when making the shot. From # 1 the lead requirement on the same target that needs 4 feet as a full crossing at 90 degrees to the shooters position, now looks like a lot less than 4 feet, about a 1 foot lead. *Perceived* lead is only the same as actual lead on the full crossing shot.

Some time ago, I wrote an article for Sporting Clay magazine where I referenced the BASC publication written by D.W. Leeming, ballistics expert at the Royal Military College of Science, Swindon , UK. According to Leeming, when we hunt, total aim error is made up of two basic components:-

1. A shooters mechanics and ability to get the gun in the right place each time and
2. His lead error, which is in turn made up of three parts:-

- The ability of the shooter to judge the range and flight path of the bird.
- The shooters knowledge of the lead requirement.
- The shooters ability to apply this lead.

As you can see from the above, Leeming concluded that most misses occur because of poor form and downright bad shot gunning. In other words, what I have always called poking and hoping. His findings also revealed that for most of us, the most complex problem is one of lead error. These days, you only have to go to a sporting Clay event to see this. A shooter runs a station, convincing crushing the targets. As he exits the safety cage, surrounded by the back-slaps and high fives, what do you think his buddies ask him? You guessed it..... how much lead did he see?

For most coaches and also many shooting writers, the subject of lead is strictly taboo, a subject that they refuse to approach head-on. According to many of them, applying the correct amount of lead to the rapidly accelerating bird or clay target at varying ranges and angle, is something that just happens instinctively, a magical process that results from meditation or burning candles. Unfortunately for most of us that just isn't the case anyone who makes his living from coaching others knows this. The young student who, on the skeet field, continues to miss the crossing shot by several feet behind until his coach tells him to:- “ Miss the next target by three feet in front.” He does as he is told..... and he is open mouthed as his next shot smacks the target squarely in the middle. If he is a good student he will learn from the experience and file a picture of the bird/barrel relationship away in his memory bank.

I do lots of clinics at private ranches here in Texas. Usually, the bulk of the clients that attend them are bird hunters. My seminars cover a morning classroom session over coffee and often, during the course of conversations with these clients, many of them will look you right in the eye and tell you they never, ever see lead as they hunt. I believe them. Most of these guys

will also proudly tell me that they are instinctive shot-gunners. They may well be. After coffee, out on the field, at 20 yards most of the shooters manage to hit some of the targets. I then move everyone back ten yards and we shoot again. Now, at 30 yards the success rate drops, many targets are either missed cleanly or chipped unconvincingly. At the 40 yard range? Don't even ask. No matter. I'm a shooting coach. It's what I do, I can improve them. Of course some of the shooters are better than others and over lunch, more polite conversation reveals that usually the better guys shoot sporting clays. Some of the clients make excuses.

"I would never attempt a shot at a dove/duck at that 40 yards range." They say. Why? After a few lessons many of my clients think nothing of shooting crossing doves at ranges well in excess of 40 yards. Before the lessons, this type of shot would be impossible for them. I admit, this range may be close to the limit of a shotgun but make no mistake just one pellet in a doves head at 40 yards and he's in the bag. Six pellets in his butt and he's not.

First of all, let me define instinctive. Something that we do instinctively is an inherent, spontaneous and *unthinking* reaction to stimulus. In other words, regardless of the angle, speed and distance of the bird or target, we can connect with it and make a successful shot *without conscious thought*. Coaches who worship at the altar of the instinctive shot are quite specific with this.

Now unfortunately, I have never, in over 50 years of swinging shotguns, been able to do this. I am not alone with my thoughts here and I will give you two examples to the contrary. The first is Captain Adam Bogardus (1834-1913). He was World Champion, American Champion and also "Champion Wing-shot of the World." Bogardus said that he *always consciously aimed his shotgun*. And here's a more up-to-date example. In the December 2001 issue of sporting Clay magazine there was an article by Katy Scahill about Jon Kruger who was at that time the US Champion. Jon said, "I don't really believe much in instinctive clay shooting."

Ahahh! I hear you say. That's different! Jon was talking about clay shooting. I'm a bird hunter, that scenario doesn't apply to me, competitive skeet and sporting clays ruins bird hunting skills. It's absolute bull whip I'm afraid and I have no idea why that ridiculous myth exists. To be a successful bird hunter depends on your ability to intercept a target with a cloud of pellets. The bird traveling at 50 miles an hour needs *exactly* the same lead as the clay target going the same speed..... but the hard part is deciding just how far in front of the target you must be with you barrels before you pull the trigger. And that just ain't easy for some of us, is it? But, before we go further, let's not confuse *instinctive* reaction with *reflexive* reaction. Reflexive reaction is something we have absolutely no control over, instinctive reaction isn't the same. With birds and clay targets, we are looking for an *intuitive* reaction to pre-programmed stimulus.

Sometimes, a hurried, spontaneous snap shot at dove or quail will result in another bird in the bag because often, the scattergun with the ample width of its forgiving pattern will compensate and save the day. However, for many of us, (and I'm talking about both bird hunters and clay busters here), not knowing *specifically* where to put your pattern relative to the target/bird means that when you hit, you don't know why. But unfortunately, by the same rule, this also means that when you miss, you don't know why either. Ironic, isn't it?

I once told some of the pullers at the Dallas Gun Club that I could tell them, or make a pretty good guess by looking at a score card if a shooter was a Hunterclass shooter or a competitive shooter. Of course, they didn't believe me. So, on my instructions, they brought me 20 score cards from a recent sporting clay event. On the back of the cards, the pullers had penciled H for hunter, and some had C for competitor. By looking at the scores, I sorted the cards into two piles. I didn't get them all right, but I came pretty close. The pullers were amazed. How did I do it? Simply this. The Hunterclass guys would hit the first few targets on a station, then miss the last ones. The competitors score cards would be the opposite, miss the first ones and then hit the last ones. The hunter class guys were shooting instinctively, with no conscious lead, in other words, most of them were "poke and hope shooters".

The competitors, on the other hand, were missing odd targets, then adjusting their sight picture in some way to connect. In other words, by thinking, they were shooting *intuitively*. The difference in the timing between an intuitive shot and a poke and hope shot is a nano second, just enough time to allow your brain to compute the variables and give the target the correct amount of lead. Some of us, and unfortunately bird hunters are often the top of the list here, don't believe this.

"When I think, I miss. When I don't, I hit." They say. They prefer to believe instead that there is an easy path to instant gratification and that you can stroke birds from the sky without conscious thought. In my opinion, unfortunately, it's not that easy.

Many shooting coaches will explain in great detail how you should fit your shotgun. They will also tell you how important it is to mount and swing it efficiently. But unfortunately, when it comes to explaining one of *the most important facets of successful shotgunning* they crash and burn. The conversation on the skeet field would sound something like this.

"You missed that one behind," says your confident coach, peering over your shoulder. "Yep, that's where most of them go!" he continues, smiling smugly. "Give it more lead." He orders. You shrug your shoulders. Okay coach, you think. Thanks for the sage advice. Just how much lead do I need to give this target 2 feet, 3 feet, 6 feet perhaps 10 feet?

"Ahahh," replies your intrepid shooting coach with a nod and a wink, "I can't tell you that it's *instinct*."

But unfortunately for you, if your coach can't explain to you in simplistic terms how much lead you need how does he expect you to know? And if your coach can't tell you how much lead you need to give a target then why would you continue to pay him huge sums of money for shooting lessons?

Your coach continues.

"This time, focus really hard on the target," he tells you. "Your brain will tell you how much lead to give it. Allow the magic of your subconscious to tell you where to put the muzzle." "Magic of your subconscious? Well, I'll be you think....." And as you continue the lesson, your shotgun with its wide forgiving pattern compensates and by the law of averages you manage to hit some of the targets. But for the life of you, as I said earlier, you don't really know why, do you?

And if we delve a little bit further into the logic involved here, some shooting coaches will tell you that in bird hunting situations that it is hopeless to try to calculate lead. Later, when they are sitting in the duck blind they then go into lengthy details about why, when a flock of mallards skims across the decoys at a distance, you need to “lead ‘em by a truck length”. Maybe I'm mistaken but isn't that a form of calculation?

And here's another myth.

“ Focus so intently on the target that your natural instincts will tell you how far ahead of it you must put your pattern to ensure successful interception” or “focus so intently on the target that you can see the rings on the top.” Unfortunately, intense focus on the target does not make you automatically shoot father in front of it. Why would it? What it does is makes sure that your pattern will arrive “somewhere in the vicinity” of the target/bird. But if the bird or target requires a big lead, this may not be the appropriate distance ahead of it..... and you will miss. So, occasional bird hunters may shoot instinctively and hit a few birds as a result, but do the experts shots amongst us really shoot instinctively? After reading the next two paragraphs, I will leave it for you to decide

Let's say somewhere in the Texas Panhandle there is a young 12 year old hunter, we'll call him Johnny the farm boy. Grandpappy left him an old Mossberg pump and he can't wait for dove season each year. When school is out, his favorite pastime is sitting on the flight lines near the waterhole shooting the doves on their way to roost in the evening. At first young Johnny hasn't got a clue but he does manage to hit something..... occasionally. But he doesn't really care at this stage. It's a great way to spend the evening and if some of the birds succumb to his erratic poke and hope shotgunning so be it. But after a few outings, repeated misses are getting expensive. A ratio of ten shells to one bird in the bag is disappointing. Johnny starts to think. He learns that if he puts the muzzles of the old Mossberg in front of a dove *at this angle and this range* he has a good chance of hitting it. Over time, some of these shots are etched in indelibly onto his hard drive. He doesn't realize it at the time but every time the trigger is pulled, he is *practicing*.

By the time Johnny is 20 he is an accomplished shot. Over the years, he has built up a library of sight pictures that he knows to be correct. Each season, he strolls confidently into the local hardware store to buy his shells and onlookers talk behind his back in hushed whispers. These days, it's rare for a dove to get past him. But the question is this. Is Johnny shooting instinctively *without conscious thought* or is he re-winding each shot and shooting *intuitively* by thinking about it? I will leave it for you to decide.

So, just how can we learn how to apply the correct amount of lead? During the years I have been a shooting coach I have done a great deal of research into finding ways of breaking targets and convert this information into a logical formula that *other shooters can understand*. Is research the correct word to use here? I believe so. Several years ago I wrote an instructional shooting book that involved projecting lead at the muzzle out to the target.

Over a period of several months, dozens of calculations and experiments involving pieces of string, bits of wood and countless shots on a skeet field, I came up with something that would



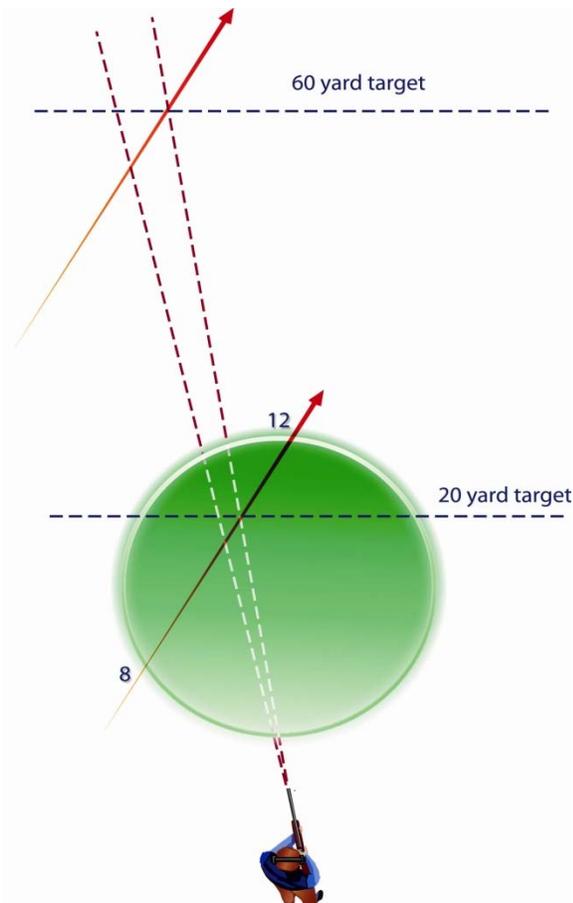
correlate accurately from measurement at the muzzle into feet out there at the target. To indicate this amount of lead to my students, as an improvement on holding something up next to the muzzles, I began using my now famous “target on a stick” as shown in the picture above.

My findings were published in a small book; “Skeet Shooting, a New Perspective for the Beginner” I showed the formula to several of the top skeet shooters in the world, among them 37 times all American Robert Paxton from Paxton Arms here in Dallas. By using the method in the book, I found that new

clients could break every target on a skeet field very quickly.

So I followed that skeet book with the Unit Lead system for sporting clays in 2007. By using this methodology, there are only 6 *bird/barrel relationships* on a sporting clay course out to 50 yards. How can that be? Because on all the angular shots, due to something called the

“parallax” effect, the lead seen at the muzzles on a narrow angle shot at 20 yards, still works on the same target out to 50 yards. The methodology is simple, effective and easily learned. In fact, it is so simple that when Sunrise productions produced the companion DVD, Bruce Scott actually made the comment to me that the concept was so simple, why had nobody thought of it before? I don’t know, but like I said at the start of this article, it is a projection of lead seen at the muzzle instead of out there at the target. But the Unit Lead system does more than that. It shows you how far to shoot underneath dropping targets and even more, it gives you a systematic approach that shows you how to crush all the specialty targets.



So, how does it work? If we take an intermediate angle shot as shown on the picture on the above left as an example, the *approximate* leads we need at 20 yards, 30 yards, 40 yards, 50 yards

and 60 yards would be 3 feet, 6 feet, 9 feet, 12 feet and 15 feet respectively. But the perceived lead, seen at the muzzle, because of the parallax effect is the *same in each case*. Simple, isn't it?

I believe that the Unit Lead methodology is the best way forward for both the clay target competitor and bird hunter to become an accomplished shot. Of course, I would say that, I wrote the book.

Unfortunately, as is often the case with something new, the book was viewed initially with suspicion. For some of us, a willingness to learn and an open mind that embraces a new concept isn't readily acceptable. It took me a long time to convince shooters that this new methodology actually works and is worth investigation. But now in 2013, with the sales of the book reaching several thousands, shooters are changing their minds. Many Masterclass sporting clay shooters out there now know that the method works very well. Many shooting coaches also, are now using the methodology.....but some would prefer you not to know about it. I wonder why?

The Unit Lead system for Sporting Clays.

These days, there is an overwhelming amount of information on the Internet. For example, there are thousands of YouTube clips showing that we need to shoot in front of a crossing target. Absolutely correct. But not one of them explains, *not one*, in simplistic terms, *how far* you need shoot in front do they? Why? Because the coaches that put these clips on YouTube *don't know* how to explain how far in front you need to be. It's the same with dropping targets. Once again, the YouTube clips tell us we need to shoot under them. Correct again. But how far underneath?

"You're Behind it!" The Unit Lead system explains how to read targets on a sporting clay course and that means *every* target. Quartering, crossing dropping, rabbits, chandels, battues etc. The book gives you a logical way, based on trigonometry and ballistic science how to interpret the angles, range etc. Thousands of copies have been sold and the book has just been reprinted for the third time. Shooting lessons are expensive. The book, at \$34.95 from Amazon, isn't. Please read the reviews. At that price, what have you got to lose?