You can't shoot Clout with a Compound

Part 2

In this issue we are going to look at the subject of ARROWS for clout shooting.
There are 2 basic theories with regard to the type of arrow best for compound clout shooting :-

- ❖ Heavy aluminium arrows that require more loft (elevation) to reach the target.

or

- ❖ Light carbon arrows that require very little loft in order to reach the target.

We will look at each type in turn in order to highlight their respective pro's and con's.

Heavy aluminium

Firstly by the term heavy I mean that the arrows have a mass greater than those normally used for target shooting where the usual approach is to try and use the lightest possible arrow with the correct spine for the bow being shot. A heavy arrow will require a greater angle of elevation in order to reach the clout target.

Pro's

- ✓ Greater mass, more directional stability.
- ✓ Steeper angle of entry into the target increases effective target area and arrows are more visible from the shooting line.
- ✓ Generally fairly cheap to set up.

Con's

- **x** Arrow is in the air longer and generally has a larger diameter than carbon arrows and therefore may be more sensitive to wind changes, etc.
- **x** Requires some set up changes to tune the bow to suit the arrow if it is different than normal target arrows. Alternatively another bow specifically set up for these arrows may be required.
- **x** Due to the increased elevation required to get the arrow to the target area it is difficult to gauge the prevailing weather at the arrow altitude. The archer only 'feels' the weather at ground level.

Light Carbon

Pro's

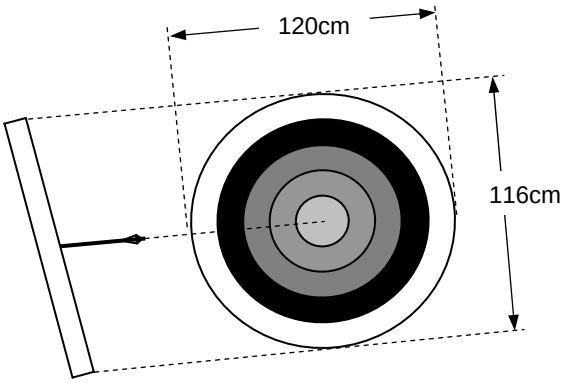
- ✓ Lower mass gives faster, flatter flight which means the arrow is in the air for less time and may be less affected by wind or weather changes.
- ✓ No changes required to bow setup if they are the same arrows normally used for target shooting.
- ✓ No additional cost.
- ✓ Arrow travels closer to the ground in similar weather conditions to those that the archer is experiencing.

Con's

- **x** Flatter angle of entry into the clout target means a reduction in effective target area and arrows are hard to spot from the shooting line.
- **x** Lesser mass may increase sensitivity to changes in weather.

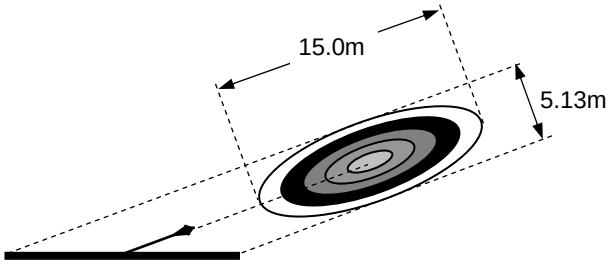
So as you can see there is no clear cut argument for using either arrow type as both have good and bad points, so the final choice is up to the individual.
Having made that statement my personal preference has always been to use heavier aluminium arrows (2018 XX75 with 128 grain RPS points) for reasons pertaining to the effective target area.
To demonstrate what is meant by effective target area let's look at the diagram below.

After allowing for the angle of entry of the arrow into the face you can see that the effective height of the target face that is available to the arrow for a 120cm target face is pretty close to the full 120cm height. This means that the target is no more sensitive to height errors than left or right errors.



NORMAL TARGET SHOOTING
Face angled 15 degrees to vertical
Arrow entering at about 5 degrees to horizontal
Therefore the arrow to target angle is around 10 degrees off square resulting in very little effective distortion of the scoring zone

As can be seen from the diagram above the situation is quite a bit different for clout shooting. A heavy aluminium arrow will enter the clout target at around 20 degrees which means that the effective target area is 15m wide by just over 5m high (or deep in this case). This means that the target is most sensitive in the direction which the archer has the most difficulty in determining, ie the length of the shot. Left and right errors are easy to see in clout and relatively easy to compensate for, whereas generally errors in length are VERY hard to pick and usually only become apparent when you walk up to the target to score.



CLOUT SHOOTING
Target angled at 0 degrees to horizontal.
Arrow entering at about 20 degrees to horizontal.
Considerable effective distortion of the scoring zone.

Whilst the situation Is not ideal even for heavy arrows it is even worse for light arrows which may enter the target at less than 10 degrees which results in an effective target area 15m wide by 2.5m (or less) deep. If you are really trying to shoot a top score this means that the 10 zone is 1.5m wide by 25cms deep and any small deviation from dead centre, from a left or right perspective, means there is very little 10 zone to hit. Scary stuff eh!
To get a clearer picture of what this means it would be similar to taking a 120cm target at 90m, laying it back until it was almost horizontal, then trying to shoot a good score. Left or right errors across the target would be similar but the effect of any variation in height, up or down, would be grossly exaggerated resulting in either a much lower score, or misses.
For clout shooting it is obviously not desirable to shoot an arrow that would be elevated so high that it enters the target zone close to 90 degrees. This would not only require a very awkward shooting stance but the arrow would be in the air for so long that any advantage gained from increasing the effective target area would be well and truly lost to the weather.
So as with everything else in life one has to compromise to arrive at a practical solution that best suits the individual.
The best approach is for each archer to experiment with various arrow types and weights to see which better suits their bow and shooting style. Of course this does mean that one has to do something that appears to be alien to most archers and that is 'practice' clout shooting. I'd love a dollar for every time I've heard an archer say (at the State Champs none the less):
"*The last time I shot clout was at the State Champs last yea*r"
If you are serious about achieving better scores in clout, experimentation and practice are a must.

With regard to aluminium arrows, if one chooses to use this type in order to achieve a heavier arrow, keep in mind that it is desirable to keep the arrow diameter as small as practically possible in order to minimise the effect of cross winds. Perusal of an Easton Arrow catalogue will verify that the most effective way to increase arrow mass is to increase wall thickness, not diameter.
For example if the chart shows that a 1916 XX75 with 9% FOC bullet points is the correct arrow for the poundage, draw length, pulley style and release aid type that you are shooting and you want to try an arrow which is heavier then you will be better off getting hold of some 1918's which will be about 17.5% heavier. Alternatively if you chose 2016's they would only be around 7% heavier. To get an arrow with similar mass to a 1918 one would have to use a 2315 which is not only a lot bigger in diameter (o.297" vs 0.36"} but the arrow spine will be too stiff unless one uses some very heavy custom made points.

Another consideration that will need to be made is fletches. In my opinion using large (3 to 5 inch) fletches with a view to slowing the arrow down such that more elevation is required to reach the target, is not a desirable option. The reason being that extra elevation is necessary to compensate for the additional drag of the large fletches (especially if they are fitted using a helical jig) and any drag makes the arrows more susceptible to changes in weather and that's something one can well do without.
When testing out a different set of arrows for clout the main points to look for are:

- How well they group.
- How much they are effected by changes in the prevailing conditions.

Of course it's easier to compare the new arrows with those you normally use if your bow setup is flexible enough to permit shooting a mixture of arrow types using the same point of aim. That way you can make a direct comparison of grouping of the different arrows under similar conditions.

In the next issue we will look at sights for clout shooting.
Until then enjoy your chosen sport.

Robin Briggs
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