

The standard point is the parallel pile turned from steel or brass rods. Arrow length is important, as short arrows cramp the archer and do not get the most out of the bow, while long ones overtax the bow and make the archer extend beyond comfort. The arrow length determines the length of the bow, the bow does not determine the length of the arrow. The correct arrow length should be determined by the shooter at full draw.

Dr. Lapp, will you mention some of the factors to be considered in the purchase and care of arrows?

Dr. Lapp

In the buying of commercial arrows one should first look for straightness. A series of small curves does no great harm, but a single wide bend should not be accepted. A good test for straightness is to spin the arrow between the nails of the thumb and second finger. If the arrow hops off, it should be rejected. Arrows, however, may become warped with use. To straighten these, heat the bent portion, taking care not to scorch the shaft, bend it carefully to straighten it, and hold it in this position till the wood is set. Arrows warp less if stored in an upright position.

Arrows range in price from \$3.00 per dozen for cheap birch, to \$16 - \$18 per dozen for matched footed arrows which are machine tested to group in the gold at 60 yards. Mr. Hoffman, we have governed bows and arrows rather thoroughly. How about the other tackle necessary for shooting?

Mr. Hoffman

An arm-guard is necessary to prevent bruising or lacerating the left forearm. Theoretically this should not be needed since the bow should be so held that the string will not strike the wrist, but even the top notch archers find an arm guard necessary. A service quiver is a most convenient accessory. It should be light and deep enough to hold the arrows from falling out. The quiver should be fairly rigid so that the arrows are easily inserted and removed. Any sort of receptacle that will answer the purpose will do. Wm. H. Palmer, the 1928 champion, appeared at the 1925 tournament with a long pasteboard box stuffed into one of his wife's stockings which was fastened to his waistband with a large safety pin.

Good finger tips or a satisfactory shooting glove are essential to good results. These should be made of reasonably stiff, smooth leather. If tips are too thick and hard the string cannot be felt through the leather and the loose will be uncertain.

The target boss (the backing for the face) may be made of coiled straw or marsh grass. A satisfactory substitute for the regulation target boss is the "butt". This is a permanent backstop. A butt made of bales of straw serves nicely. The target face is painted on cloth and is a four-foot circle divided into five equal and concentric rings. The diameter of the gold or center of the target is 9.6 inches and each of the four surrounding rings is 4.8 inches wide.

Dr. Lapp

If you were advising a beginning archer in the purchase of equipment, how much should he pay for acceptable tackle?

Mr. Hoffman

About \$10 would do the trick. A good inexpensive outfit for