



Coded wire tagging needles

Application Note APC13

A clean, sharp needle of the proper length and style is necessary for effective tagging. The type of injector, the species, and the size of the fish, as well as the target location for the tag will determine the appropriate needle.

The Mark IV injector uses 2.5 inch (6.35 cm) and 3.5 inch (8.9 cm) needles. The shorter needle is designed for use with head molds. The longer needle is designed for use with the needle support tube which protects and reinforces the longer needle. Although either needle can be used without a needle support tube or head mold, experience has shown that a needle with the appropriate attachment is usually more effective.

The Multishot injector uses a 1.55 inch (3.94 cm) needle. This will accommodate both head molds and a needle support tube (note: the needle support tube for the Multishot is not interchangeable with the tube for the Mark IV; however, head molds are interchangeable between the two.)

Each of the three lengths of needle described above is available as either “etched” or “non-etched”. A non-etched needle has a constant outside diameter (0.0225 inch, 0.57 mm) from its base all the way to the beginning of the beveled tip. The etched needle, on the other hand, is reduced to a smaller outside diameter (0.0185 inch, 0.47 mm) for about 0.3 inches (0.76 cm) from the beginning of the bevel. The etched needle is designed to make a smaller injection hole in the fish and has been very successful in conjunction with head molds for Pacific salmon. The etched needle will not work as well (i.e., it has a greater likelihood of bending) with fish with tougher tissue such as steelhead, nor will it work as well with most “body” tagging such as the cheeks of smallmouth bass, the scutes of sturgeon, and the rostrum of paddlefish. For these types of tagging, the non-etched needle in a needle support tube is often the better combination for penetration and tag placement.

Needles should be kept clean of dirt and fish slime, on both the inside and the outside of the needle. A dirty needle may cause tag jamming, improper tag placement, or infection. Clean the needle with detergent and water, disinfect with bleach, then rinse with bleach, water and alcohol. A sharp needle is required to repeatedly penetrate the fish and deliver the tag to the target site. The point of the needle should be examined using the magnifying lens supplied in the toolkits for the Mark IV and Multishot injectors. Use an Arkansas stone to sharpen the needle (NMT supplies a stone with all new and rental tag injectors) – see injector instruction manuals for details of needle-sharpening. Bent needles will cause jamming and should be discarded.

With harder to penetrate species such as steelhead the maximum needle life expectancy is of the order of 100,000 tags, but with softer-skinned species such as coho up to half a million tags can be injected with one needle, with sharpening every 100,000 tags or so.