

NOTE

Fabrication of a Water Sampler for Use in Aquaculture

Water samples from aquacultural ponds are collected in different ways for different types of analysis. Samples collected for estimating dissolved gases should not come in contact with atmospheric air and other gases and they are not agitated unduly, to avoid changes in its gas contents. A Kemmerer, Friendinger or Forest type sampler may be used for collecting samples for dissolved gases (Jhingran *et al.*, 1969). Of these, Kemmerer type sampler is widely used. When a Kemmerer type sampler is used, the sample from the bottom of the sampler is let out through a tube extending to the bottom of the sample bottle. For dissolved gases the sample bottle is filled over flowing for at least 10 seconds taking care to avoid turbulence and formation of bubbles during filling the bottle (Anon, 1975).

Usually the aquaculture ponds are shallow water impoundments and their depths are not more than 2.5 metres. Water samples from aquaculture ponds may be collected in narrow mouth glass-stoppered bottles. Tapered ground glass stoppers with flat head may avoid contact with atmosphere and 100 ml sample bottles have been suggested (Anon, 1969; Jhingran *et al.*, 1969). Boyd and Lichtkoppler (1979) have reported that the samples of surface water may be collected by immersing and filling an open mouthed bottle and samplers may be used for obtaining samples from different depths. They have suggested a sampler having a stoppered bottle attached to a wooden stick for lowering to the desired depth. It has been suggested that a Kemmerer type sampler is suitable for collecting samples from depths greater than two metres and the APHA type sampler is suitable for ponds and tanks of moderate depth (Anon, 1975).

Keeping in view of the requirements for aquacultural work, a water sampler has been constructed with 3 metres long aluminium angle of section 37 x 37 x 3 mm having a small piece of M.S. plate of about 120 mm diameter fixed at the bottom to support and hold

the sample bottle (Fig. 1). Arrangement for attaching the bottle with the aluminium angle is made through an adjustable clamp made of G.I. sheet both ends being fitted with threaded bars for fixing and tightening the bottle by fly nuts. For sampling with this sampler glass stoppered bottle of size between 100 and 1000 ml can be used. A graduated scale is attached with the aluminium angle to record the depth from which

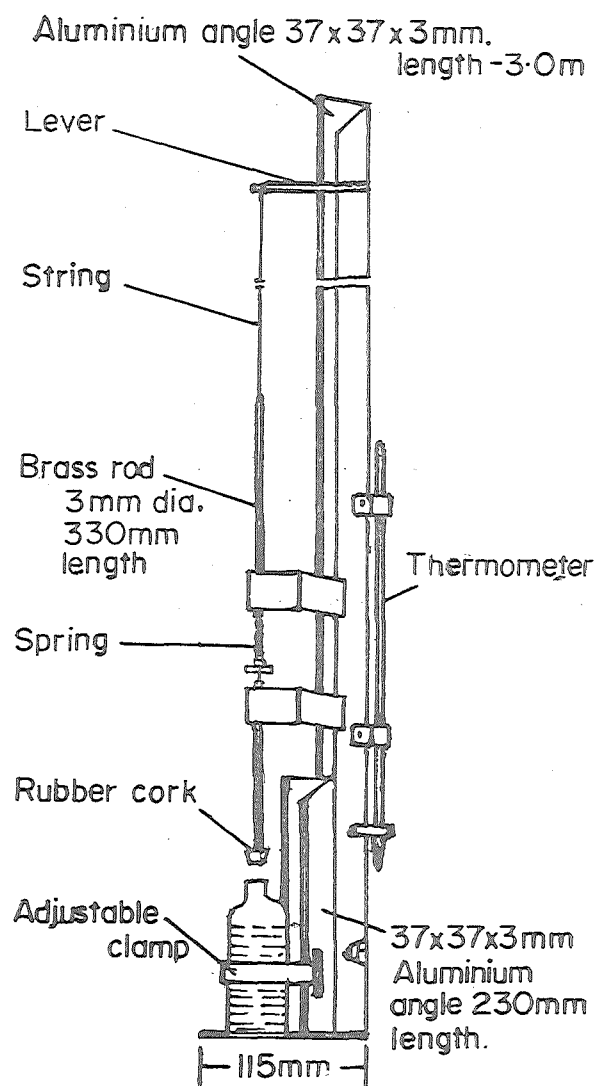


Fig. 1. The water sampler.

the water sample is collected. The sampler is lowered to the desired depth and the stopper (rubber cork) is jerked out with the help of G.I. string fitted with a lever so that the bottle may be filled. The rubber cork is fixed with a brass rod of 3 mm diameter and 330 mm long tied with the G.I. string and guided through two clamps and a spring for smooth and trouble-free operation. Provision has also been made for attaching a thermometer to record the temperature of water simultaneously (Fig. 1).

This sampler is light and handy and is useful for field and laboratory model studies. Since aluminium angle is used this is not affected by rusting due to repeated use in water. This simple equipment is easy to fabricate and operate. In Kemmerer type samplers, the sample is transferred from the sampler to the sample bottle for estimation of dissolved gases. But in the present sampler there is an additional advantage of collecting the sample directly in the sample bottle.

The authors wish to thank the Agricultural Engineering Department, I.I.T., Kharagpur for providing workshop facilities for fabrication of the sampler.

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