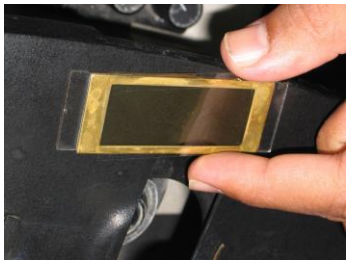
Enumeration of plankton using a Sedgewick-Rafter chamber

Introduction: Counting the plankton using the Sedgewick-Rafter cells is an oldest method which is still widely used for enumerating plankton.

Specifications: The chamber consists of a rectangular brass or polystyrene frame mounted on a heavy glass slide. The chamber is rectangular with the dimensions 50 mm x 20 mm x 1-mm depth and a volume of 1-ml. The chamber base is marked with a grid of 100 x 1mm squares. There are 50 fields in the length and 20 fields in the width of the chamber (comprising a total of 1000 fields). The chamber could be made of glass especially for the continuous professional use or of less expensive, disposable chamber for classroom use.



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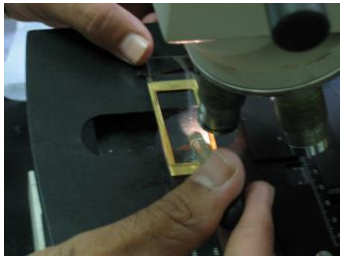
Procedures: From a well-shaken sample, use a calibrated large-bore pipette to transfer a 1-ml aliquot into the chamber ensuring that the chamber is filled evenly with the sample.

The chamber should not be under-filled or over-filled. Also, the formation of air bubbles during filling should be avoided.

After filling, covering the chamber with a cover slip, the sample is allowed to stand still for about 20 min to enable the phytoplankton to settle to the chamber bottom ready for counting

A compound microscope at 100x magnification is used. The entire or a fraction of the chamber is examined.

A whipple disk which is inserted into the eyepiece of the microscope as well as the stage micrometer will permit the counting of plankton in random subdivisions within the counting chamber.



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