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Abstract: This report presents measurements on netting typical of cod-ends in European Union (EU) demersal fisheries with mesh sizes in the range 70–120 mm and twine thickness from 2.5 to 6.1 mm. Polythene and nylon netting is considered. The aim of the study is to assess the magnitude and some of the causes of variance in the measurement of mesh by two methods: the EU wedge gauge and ICES gauge. The use of a tape measure laid along a series of meshes is also discussed. It has been reported previously (e.g. Parrish et al., 1956) that when a gauge is inserted into the mesh by force of hand the measured mesh size has greater variance than when it is obtained with other methods. Both the ICES gauge and the wedge gauge produce reliable measurements under consistent conditions. The tape measure is considered less suitable for mesh size measurement because the reading is a function of twine thickness. There are differences between the 4 kg spring-loaded ICES gauge and the wedge gauge with a 5 kg weight of approximately 3–5%. The measured mesh size increases with the force exerted by the gauge on the mesh so that a consistent applied force is essential in order to reduce the variance of measurements. When meshes are measured under controlled conditions the standard deviations indicate that variation in mesh size is mainly due to netting manufacture. There is no significant difference in variance with different gauges or with different weight or tension applied for a given method.