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THE ICES-GAUGE
SOME NOTES ON PAPER C.M. 1977/B: 18

by

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- 1 The ICES-gauge has been developed as a tool for easy, quick and reliable mesh measurement on the high seas. Measuring by means of flat parallel gauges onboard a fishing vessel in a sea-way is cumbersome. The use of a flat tapered gauge, with a weight of 5 kg, onboard a vessel at sea can result into a measurement of mesh openings giving unreliable, namely too high values due to the flat tapered gauges motions as generated by the vessels rolling and pitching. This phenomenon has been investigated in the Netherlands and the results have been reported to the Meeting of Inspectors and Administrators of NEAFC, Lisbon, March 1972.
- 2 In an early stage it became already clear that a spring-loaded gauge, like the ICES-gauge, could not become a tool satisfying legal requirements of mesh measurement in case of a lawsuit. The following way of working might offer a possibility to escape such difficulties. An inspector takes measurements with an ICES-gauge of the required number of meshes onboard the vessel at sea. If the results of these measurements make a cod end suspected, he is entitled to impound the cod end and to have it remeasured ashore, in the manner as prescribed by law.
- 3 Although some delegations to the Meeting of Inspectors (see par. 1) suggested to use the ICES-gauge as a standard of reference in case of doubt, the meeting recommended to NEAFC to ask ICES to investigate the differences in lateral pressure exerted on different materials in differing circumstances, and to advise on the practical consequences of such differences, and if possible recommend simple and effective remedies. However, such a request never reached ICES, because NEAFC agreed that further research would not be necessary. Report 10th Meeting - May 1972 par. 6 - 1

4 In C.M. 1977/B:18 by P.J.G. Carrothers, par. 4, the pretension for breaking load tests and for elongation tests has been mentioned to point out that an ICES-gauge cannot cover the range of twines being used for fishing-nets. From this it is concluded that the ICES-gauge "cannot be used universally as required of an international standard". However, the pretension for breaking load tests and for elongation tests has to be distinguished from the load of a gauge for mesh measurements. The longitudinal load on the mesh legs has to be derived from the lateral load fish can exert to a mesh in its endeavours to escape through the mesh. Therefore, a flat tapered gauge with a weight of 5 kg is used to simulate the fishes lateral pressure and to eliminate the human factor in mesh measuring when using a tapered gauge. The magnitude of the longitudinal load to the mesh legs depends on the gauges weight and its tapering. This longitudinal load has no reference to the resultant tex of the twine.

5 In the same par. of C.M. 1977/B:18 it is stated: "Much additional, factual information is required on these changing load-elongation characteristics of the meshes before the mesh-loads for mesh-size measurement can be selected with any degree of intelligence, particularly as it relates to fishing selectivity. This subject has been taken into consideration by the first and second working group on Selectivity Analysis (1969/1970). The terms of reference mentioned a.o.:

1st working group:

- . Comparison of the properties of net materials of trawls in the North Atlantic and investigation of the effect of trawl construction on selectivity.

2nd working group:

- . To investigate further all factors (including physical properties of net twines, biological factors, etc.) which cause, or many cause, differences in mesh selection.

The report (Cooperative Research Report - Serie A - nr 25) states on page 11 "Thus, from these preliminary results it has not been possible to demonstrate any relationship between selectivity and the physical properties of the net materials tested". Unlesse there are clear indications of the contrary, this statement still holds.

The necessity to study physical properties of the net materials in relation to selectivity has not been identified as yet. Such a necessity might be the outcome of selectivity experiments designed according to par. 9.2 of the Cooperative Research Report - Serie A - nr 25.

As long as such selectivity experiments do not offer clear-cut questions on mesh measurements it is not advisable to deviate from the officially recognized way of measuring, i.e. the use of the flat tapered gauge with a suspended weight of 5 kg. The maximum spring load of the ICES-gauge has to exert a longitudinal load to the mesh-legs comparable to the longitudinal load exerted by the tapered sides of a flat tapered gauge of the officially recognized type.

Regarding par. 5 of C.M. 1977/B:18 "Fate of the ISO draft proposal". I should like to note that the experience of the ICES Fish Committees with the newly designed selectivity experiments (Coop. Res. Rep. 25) has to be gained. If their experience indicates a relationship between the selectivity and the physical properties of the net material tested, the ICES/ICNAF working groups on selectivity analysis might have to be revived to evaluate this relationship of the physical properties and the selectivity. The outcome of this has to be awaited before further action with ISO can be taken.