FISH CAPTURE COMMITTEE

by

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Attention was paid to four main topics, viz.
- gear research,
- research on selectivity,
- research on netting materials and
- the introduction of computer techniques in technical
  fisheries research.

Gear Research

The gear research aimed at the development of efficient
fishing gear from a technical, biological and economical point
of view. As a consequence this research is often carried out
in close cooperation with the fishing industry. The types of
gears involved in this research were beamtrawls for flatfish
as well as for shrimps, semi pelagic and high opening bottom
trawls and pair trawls. As in the past years a reduction in
towing resistance was still of a major concern in the
development or improvement of fishing gear.

The technical parameters of two semi-pelagic trawls for small
trawlers (240 hp) were compared. The parameters were measured
with SCANMAR equipment. New equipment to measure warp tension
and warp length was also installed on board the RV "Belgica".

A study with twin shrimp trawls on board a coastal stern
trawler was finished. The nets used did not satisfy completely
and new designs will be considered in the future.

The catching performance of different designed nets for the
sole beam trawls fishery was compared. Other comparative
fishing experiments were carried out to study the influence of
the ground rope design on the catching efficiency of shrimp
beam trawls.

Selectivity studies

A study on codend selectivity for sole in the coastal beam
trawl fishery was completed. The codend parameters involved
were the mesh size, the netting material, the mesh shape
(diamond versus square) and the codend length. Of these only
the mesh size proved to have a significant effect on the

selectivity for sole. Contrary to the results obtained with roundfishes, no influence of the mesh shape on the selectivity could be shown for sole. As a consequence further selectivity research will emphasize on the use of square meshes to improve species selectivity. This problem is also the subject of an EC cooperative research project (FAR-program DG XIV) with RIVO in IJmuiden and Seafish in Hull.

The methodology of selectivity experiments was studied during several research cruises with the RV "Belgica". In these experiments use was made of a twin beam trawl consisting of two four meter beam trawls rigged to an 8 m beam. The covered codend method was compared with the twin trawl method. In these experiments special attention was paid to the masking effect occurring in the covered cod end method.

Netting materials

The research on netting materials concentrated on the shrinkage of netting due to the absorption of bottom sediments. A new experimental method permits to control the tension on the netting sample during testing. Nettings of different materials and construction were tested. Dependent on the tension on the netting (0, 2 or 4 kgf per mesh), the nature of the sediment (sand or mud) and the yarn characteristics (multi or monofilaments, twisted or braided), mesh size reductions of up to 6 % were noted.

Computer techniques

The application of computer techniques in technical fisheries research was continued. A computer program for the analysis of data from selectivity experiments was improved. A database of technical characteristics of fishing gears used in the Belgian fleet was compiled. PLANCHALUT software is used to store, edit and modify trawl specifications and to plot the net plans.

Data from warp tension measurements and from SCANMAR gear control sensors can now be stored on disk for later analysis.

Work is going on to handle the large number of data of obstacles on the fishing grounds operated by Belgian fishermen.