

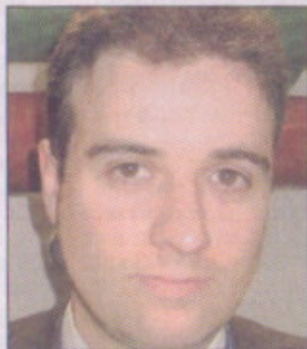
Big gains with new Spanish tuna wells

TUNA purse seiners will be able to carry 20% more catch in the same well size with a new type of freezing system being developed in Spain.

Refrigeration specialist Tucal of Bergondo, La Coruna, has designed a simplified system with assistance from Astillero Barreras of Vigo, which has built the world's largest tuna purse seiners.

The new system centralises the brine freezing in two or more wells, according to the capacity required: normally, one or two wells on the port side and one or two wells on the starboard side equipped with a cooler and an automatic cleaning system to avoid possible obstructions in the system.

Prepared brine is cooled in these main wells and, from there, is circulated through the cooler and pumped to the



Roberto Menéndez of Tucal's engineering department has been working on the new-type fish well.

required freezing well until it is full and the brine overflows. The brine is returned to the main well so as to repeat this process.

With this brine circulation system, the freezing well is always full and stirred, so

achieving a homogeneous temperature.

When the tuna is frozen, the brine is drained from the freezing well and pumped back to the main tanks, ready to start a new cycle in another freezing well.

Forced air is used to maintain the catch temperature. It is cooled outside the wells with evaporators, impelled by fans and distributed through ducts, covering all of the well area.

Present tuna ships have coils installed on each well to freeze the tuna and to maintain the temperature of the frozen tuna as the trip progresses. They require a big quantity of ammonia to operate and, therefore, on board security is important.

However, with the new system, there are big advantages in terms of security, as well as



Above: Tucal displayed a mock-up of a tuna purse seiner's freezing well at the Navalia show in Vigo to launch its new freezing system developed with Astillero Barreras.

Right: pumping systems are much reduced during the installation of the newly-patented tuna freezing well.



in space. Neither coils, nor isolation between wells, are needed and so there is more storage space available for tuna.