"Omega-3 fatty acids" is a blanket term which includes the C18 α-linolenic as well as the successor acids eicosapentaenoic acid (EPA, C20) and docosahexaenoic acid (DHA, C22). The latter acids make up 30-50% of marine fish cellular lipids and 10-30% of the oils produced from fish depot fats. The "Seafood and Health '85" conference had little to add to the question of whether α-linolenic acid is an "essential" fatty acid, as the cardiovascular role of EPA received the most attention. DHA, usually quantitatively nearly as important in fish lipids and oils as EPA, also received little attention. The functionality of DHA in the nervous and visual systems was cited by W. E. Connor as an area where it still is uncertain if the α-linolenic acid available from vegetable oils can supply the necessary DHA at certain life stages or in some disease states. In plasma phospholipids the levels of EPA and DHA can be influenced by the dietary α-linolenic acid of vegetable oils, but the conversion and clearing for these two acids are different. No adverse comment was made with respect to the DHA accompanying the EPA beyond the need for assessing the dietary levels of tocopherols and selenium if the highly unsaturated EPA and DHA were increased radically over normal dietary intakes.

A rapidly developing view current at the "Seafood and Health '85" conference was that the massive doses (up to 20 ml/day) of fish oils given in the past to demonstrate the effects of EPA in the circulating blood lipids were not actually necessary except for clinical therapy and certainly were not desirable for most of the North American population. Future research likely will be directed to assessing long-term benefits of lower daily intake levels of EPA, probably of the order of 120-150 mg/day, in a large section of the population. Given the lengthy gestation period of our present knowledge of blood cholesterol and triglycerides, the role of the omega-3 series of fatty acids in human health may take up to 10 years to mature.

The current level of recognition of the role of omega-3 fatty acids in human health, starting with the work of J. O. Bang and J. Dyerberg in 1978, is, however, a remarkable instance of the rapidity with which contemporary research can spread. Fats and oils are suffering from an adverse image as the cause of obesity and many associated health problems. A future positive role for the omega-3 group of fatty acids in human health seems certain, probably in its way as important as the linoleic acid family cascade of leukotrienes and prostaglandins. Although the seafood industry initially may be the main beneficiary, the fats and oils community should be prepared to participate actively in all aspects of its development.

New Nestec R&D facility

Nestec, the Nestle companies' wholly owned research and development arm, is building a basic research center in Vers-chez-les-Blancs, just outside Lausanne, Switzerland. The facility, to be staffed by 450 people, is expected to be ready for use by September 1986. Company officials project it will take three to four months after that date to move all operations into the facility.

Five departments will be in the new facility. The fundamental sciences department will include synthetic and organic chemistry, flavor chemistry, math, statistics, instrumentation and information technology. The food science department will focus on lipids, carbohydrates and proteins, including mechanistics, separation and compositional identification. The third and largest department will be nutrition, including basic and applied as well as clinical nutrition. Work here also will focus on proteins, carbohydrates, lipids, trace elements, water and vitamins, including psychobiology, examination of food and fluid intake, obesity, and metabolic and digestive diseases. The fourth department will be toxicology, including classical, genetic and carcinogenicity. This section will include the animal house, consisting of 52,000 to 70,000 small animals for research purposes. The final department will be biology, which includes immunology, molecular biology, biochemistry and fermentation.

A sixth department, developmental biology, will remain at the company's facility in Orbe, Switzerland, until further funds are available to expand the new facility. This department consists of neurobiology, neuropsychobiology, oncology and neurochemistry.

The estimated cost of the new facility is 250 million Swiss francs.