Polar lipid composition and dietary sensibility for a marine mollusc. P Soudant [1], J Moal [1], Y Marty [2], JF Samain [1] *([1] Ifremer, BP 70, 29280 Plouzané; [2] URA CNRS 322, UBO, 29285 Brest, France).*

The main phospholipid classes of the animal kingdom are found in Pecten maximus but are characterized by the presence of a particular glycolipid (GLY) especially rich in 22:6 (*n*–3) (80%) and of plasmalogens (PLSM) in substantial amounts (30%).

The separation and analysis of polar lipid fractions of the gonads were done following the method described earlier (*J Chromatogr B,* 1995, 673, 15–26) at different ages (0, 5 and 11 weeks). A preferential incorporation of 20 and 22 carbon PUFA was evidenced in polar lipid classes: 22:6 (*n*–3) in GLY and PLSM, 20:4 (*n*–9) in phophatidylserine (PS).

The impact of dietary deficiency on the essential fatty acids 20:5 (*n*–3) and 22:6 (*n*–3) was studied on 3-year-old adults from the Bay of Brest by using three microalgal diets: *T-Isochrysis,* standard mixture and *C Calcitrans* with respectively 7.3%, 4.2%, 1.7% of 22:6 (*n*–3) and 0.5%, 16.2%, 23.8% of 20:5 (*n*–3). The eggs spawned by the scallop fed *T-Isochrysis* showed a better hatching rate and a lower atresia than those fed the other two diets (*Aquaculture,* 1996, 143, 361-378).

The dietary fatty acid composition clearly influenced the one of PC and PLSM, to a lesser extent the one of PS and PE, but the composition of PI and GLY did not vary. The 22:6 (*n*–3) level of PC and PLSM varied with the dietary amount of that fatty acid (24, 15 12 and 23, 17, 5% for PC and PLSM respectively). The involvement of PLSM and PC in the physico-chemical properties of the membrane and their associated cellular functions could explain the biological results. The high levels of 22:6 (*n*–3) in the PC and PLSM of the female gonads of broodstack fed *T-Isochrysis* could have been responsible for the better gametogenesis and embryogenesis results.

Intestinal absorption of glucose and insulin response in the pig: effect of supplementation with a low vs high viscosity seaweed fibre. P Vaugelade, F Bernard, PH Duée, B Darcy-Vrillon *(UEPSD, Inra, 78352 Jouy-en-Josas, France).*

Soluble and viscous fibre added to a diet can slow down intestinal absorption of nutrients and modify insulin response. We tested the effects of two seaweed fibres: a low viscosity (xylans from *Palmaria palmata,* LVP), and a high viscosity product (alginates from *Laminaria digitata,* HVP).

Eight Large White pigs (59 kg) were implanted with permanent catheters in the portal vein and in the carotid artery, and with an ultrasonic portal blood flow probe. Eight to ten days after surgery, they received an alternate sequence of four test-meals (800 g or 400 g of a maize-starch + casein diet) supplemented with 5% fibre (40 g LVP vs 40 g purified cellulose -CEL-, 20 g HVP vs 20 g CEL). Blood glucose and insulin were monitored in the portal vein (PV), and in the carotid artery (CA), and the glucose absorbed quantified over 8 h after the meal.

The post-prandial rise in blood glucose and insulin did not differ between the LVP and CEL supplemented test-meals (peak level of blood glucose: 7.3 ± 0.4 mM in PV, and 5.2 ± 0.3 mM in CA; peak level of insulin: 170 ± 26 µU/mL in PV, and 115 ± 25 µU/mL in CA). Moreover, the amount of glucose absorbed over 8 h did no differ, accounting for 67 ± 5% and 60 ± 7% of starch ingested (360 g), with LVP and CEL respectively.

As compared to CEL addition, HVP modified blood glucose and insulin responses. Peak levels were reached later (60 vs 45 min), and were significantly lower: 6.0 ± 0.3 vs 7.6 ± 0.5 mM (PV) and