0.05). PP and LD had no laxative effect. Nevertheless, these two fibres modified stool composition by increasing water content: 78.4 ± 2.1% (PP) and 76.8 ± 1.9% (LD) vs 68.5 ± 2.6% (Cel), $P < 0.05$. Neither EC nor PP changed OFTT, whereas LD increased it (96.6 ± 19.8 h vs 64.9 ± 15.3 h, $P = 0.016$), which could be due to its high viscosity.

In conclusion, the fibres isolated from dietary seaweeds exert digestive effects which depend on their physico-chemical and fermentative properties. Among the tested fibres, EC appears as an efficient laxative well accepted by the subjects.

Colo-ileal refluxes modulate terminal ileum motility in pig. G Cuche, CH Malbert *(Inra, station de recherches porcines, 35590 Saint Gilles, France).*

The terminal ileum exhibits typical motor patterns, Discrete Clustered Contractions (DCC) and Prolonged Propagated Contractions (PPC), induced by ileal infusion of caeco-colonic compounds [Kruis et al (1985), *Am J Physiol* 249, G264-270; Kamath et al (1987), *Am J Physiol* 253, G427-433]. The aim of this study was to evaluate: *i)* the possible reflux of colonic contents in the terminal ileum; *ii)* the relationship between these refluxes and ileal motor events.

In four conscious pigs, the motility of the terminal ileum was evaluated using three strain gauges sutured 15, 10 and 5 cm proximal to the ileocecal sphincter (ICS). The ileal pH, used as an indicator of coloileal refluxes [Roger et al (1990), *J Gastrointest Motil* 2, 224-229], was continuously measured 5 and 10 cm proximal to the ICS.

During interdigestive and postprandial periods, frequent pH dips were recorded. 82% of these dips were detected successively by the two pH probes. Their frequency (8 ± 0.5 vs 6 ± 0.4 h^{-1}; interdigestive vs postprandial, $P < 0.05$), duration (262 ± 12.7 vs 356 ± 27.0 sec, $P < 0.05$), but not amplitude (0.6 ± 0.02 vs 0.6 ± 0.03 pH, NS) were modified by feeding. The frequency of DCC increased during pH dips (0.6 ± 0.18 vs 1.6 ± 0.15 contraction.min^{-1}, $P < 0.05$). The onsets of 46% of the dips were preceded by more frequent retrograde contractions. On the contrary, while pH went back to basal level, contractions were mainly aborally propagated. About half of PPC occurred 6 ± 0.9 sec before the end of the pH decrease. The amplitude (0.4 ± 0.06 pH) and duration (118 ± 26.0 sec) of pH dips associated with PPC were reduced compared to those not temporally related to pH dips ($P < 0.05$).

In conclusion, the last 10 cm of the ileum are periodically invaded by caecocolonic fluids. These acidic refluxes are temporally related to ileal motility.

Systemic and mucosal immune responses after oral administration of bovine lactoferrin in mice. H Debbabi, M Dubarry, M Rautureau, D Tomé *(Unité Inra de nutrition humaine et de physiologie intestinale, INA-PG, 16, rue Claude Bernard, 75005 Paris, France).*

Lactoferrin (Lf) is an ironbinding glycoprotein presents in milk, in different external secretions, and in specific secondary granules of neutrophils. Bovine Lf has been shown to have bacteriostatic and immune functions. As Lf acts also as an oral antigen, we have studied the systemic and mucosal immune responses after oral administration of bovine Lf in mice.

Three groups of mice were force-fed during 4 weeks with either: 1 mg/day (Lf1), 20 mg/day (Lf20) of bovine Lf or water (T) as control. The humoral immune response was determinated in mucosal secretions and in sera. IgA and IgG productions and IL 2 and IL-5 secretions by B lymphocytes and T helper lymphocytes respectively were mea-