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Abstract

Forty eight 21 days old piglets were used to compare the effect of prebiotic or probiotic supplementation and ileo rectal anastomosis on the morphology of the small intestine. Half of the piglets were maintained intact and the other half was subjected to an ileo rectal anastomosis (IRA). Each group of piglets received one of the following diets: 1) basal diet (C), 2) basal diet supplemented with a Xylo-oligosaccharide (XOS), 3) basal diet supplemented with a *Saccharomyces cerevisiae* (SC) and 4) basal diet supplemented with XOS and SC. Villus height was greatest with XOS and with XOS + SC, only in the ileum, as compared to controls. In the duodenum, crypt width was highest in the control group, but no significant differences were found in the jejunum and ileum. The IRA piglets had longer villi in the jejunum and shorter villi in the ileum. The crypt depth was greater in the duodenum and in the ileum of IRA piglets. Villus height/crypt depth was lower in the duodenum and in the ileum, in the IRA piglets. In conclusion, the XOS, but not the SC, moderately modified the intestinal morphology. The IRA modified the intestinal villus and crypt architecture but its consequence on the absorption of nutrients needs to be investigated.

Keywords: *Piglets; Xylo-oligosaccharides; Anastomosis; Villus; Crypt*

¹ Fernando Capela e Silva, Departamento de Biologia, Universidade de Évora, Apartado 94, 7002-554 Évora, Portugal. E-mail: fcs@uevora.pt