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Effects of yeast products on the intestinal morphology, barrier function, cytokine expression, and antioxidant system of weaned piglets

Key words: **Yeast products, Weaned piglet, Intestinal morphology, Barrier function, Antioxidant system**

Research summary

Effects of dietary supplementation with YP on growth performance and incidence of diarrhea in weaned piglets

Effects of YP supplementation on the morphology of the small intestine of weaned piglets

Effects of YP supplementation on intestinal IL-1β, IL-2, and IL-10 concentrations in weaned piglets

Effects of YP supplementation on serum and intestinal mucosal anti-oxidation index of weaned piglets

Effects of YP supplementation on serum D-lactate concentration, DAO activity, and intestinal occludin and *ZO-1* mRNA expression in weaned piglets

Results

- No statistically significant differences were observed in average daily feed intake, average daily weight gain, and gain-to-feed ratio among CSE, YP, and control piglets. Increased prevalence of diarrhea was observed among piglets fed the YP diet, whereas diarrhea was less prevalent among those fed CSE.

- Duodenal and jejunal villus height and duodenal crypt depth were greater in the control group than they were in the YP or CSE groups. Intraepithelial lymphocytes (IEL) in the duodenal and jejunal villi were enhanced by YP, whereas IEL in the ileal villi were reduced in weaned piglets fed YP.

- Secretion of jejunal and ileal IL-10 was higher and intestinal and serum antioxidant indexes were affected by YP and CSE.

- In YP- and CSE-supplemented animals, serum D-lactate concentration and diamine oxidase (DAO) activity were both increased, and intestinal mRNA expression of occludin and ZO-1 was reduced as compared to the control animals.

Conclusion

YP supplementation in the diets of weaned piglets appears to increase the incidence of diarrhea and has adverse effects on intestinal morphology and barrier function