



## MYA –PINTALUBA Group exhibitor at the XXII LATIN AMERICAN POULTRY CONGRESS 2011



XXII Latin American Poultry Congress took place from September 6-9 at La Rural Expo Centre in Buenos Aires

(Argentina). The congress was organized by the CAPIA (Argentinean Chamber of Poultry Producers) and the CEPA (Centre of Poultry Meat Processing Companies). The conferences of the Congress were held in 5 conference rooms during the morning and the topics were: health, management, nutrition, genetics, reproduction and hatching.

Besides the complete program, there was a poster session of different research trials. MyA-Pintaluba Group presented two posters showing the efficacy trials of the multienzyme complex ENDOFEED DC on corn-soy diets for broiler chickens. More than 15.000 square meters were aimed at exhibiting of poultry business related

companies during the afternoon. More than 200 companies where exhibiting and among them was the PINTALUBA Group through its subsidiary company APSA International, which was celebrating its 10<sup>th</sup> Anniversary and the inauguration of its new facilities in Buenos Aires region.

## Effects of ENDOFEED DC supplementation on lactation performance of primiparous sows fed corn-soybean meal based lactation diet

Adapted from Effects of Carbohydrase Supplement on Lactation Performance of Primiparous Sows Fed Corn-Soybean Meal Based Lactation Diets (*Asian-Aust. J. Anim. Sci.* 2004. Vol 17, No. 4: 533-537)

A trial was carried out to test the hypothesis that supplementing diets of lactating first parity sows with a multienzyme complex (MC) improves lactation performance. The multienzyme complex (ENDOFEED DC<sup>®</sup>) contained 1600 U/g of endo- $\beta$ -xylanase, 1100 U/g of endo- $\beta$ -glucanase, 110 U/g of  $\beta$ -1,4-mannanase,  $\beta$ -1,4-mannosidase and 35 U/g of  $\alpha$ -1,6-galactosidase and trace amounts of other enzymes. Twenty primiparous sows were allotted to either the control group (no MC supplement) or the MC group (0.02% MC supplement) and fed the experimental diets during 21 d lactation period. Sows and nursing pigs were weighed at birth and weekly until weaning. Days of weaning-to-estrus were recorded. Sows had free access to feed and water. Feed intake of sows was measured daily.

For the first lactation, maternal body weight loss of the MC group was smaller ( $p < 0.05$ ) than that of the control group. There was no difference in litter weight gain between two groups. Voluntary feed intake of sows did not differ from between the two groups. Days of weaning-to-estrus of the MC group were smaller ( $p < 0.05$ ) than those of the control group. In conclusion, supplementing MC in the diet of lactating sows during the first parity decreased the body weight loss and days of weaning-to-estrus of sows. Experimental diets and results of performance of sows and litters during first lactation are shown bellow in Table 1 and Table 2 respectively.

**Table 1.** Composition of gestation and lactation diets during the second parity

Ingredient	Gestation diet	Lactation diet
Corn grain	60.25	59.20
Soybean meal, dehulled	11.45	28.00 <sup>a</sup>
Molasses cane <sup>b</sup>	5.00	3.65
Potassium chloride	0.25	0.10
Salt	0.35	0.35
Vitamin mixture <sup>c</sup>	1.50	1.50
Fat, vegetable	0.50	4.00
Dicalcium phosphate	2.20	2.50
Limestone	0.50	0.70
Beet pulp	6.00	
Rice hull	5.00	
Alfalfa meal	7.00	
Total	100.00	100.00
Chemical composition		
Dry matter, %	90.7	90.8
ME, Mcal/kg	2.90	3.36
Crude protein, %	12.0	18.1
Lysine, %	0.58	1.00
Cystine+Methionine, %	0.41	0.60
Tryptophan, %	0.13	0.22
Threonine, %	0.45	0.69
Calcium	0.97	1.01
Available phosphorus	0.47	0.55
Total phosphorus	0.66	0.79

<sup>a</sup> For the CS treatment, 0.1% of soybean meal of lactation diet was replaced by the CS.

<sup>b</sup> DYNA-K (IMC Global, Lake Forest, Illinois).

<sup>c</sup> The vitamin premix provided the following per kilogram of complete diet: 6,613.8 IU vitamin A as vitamin A acetate, 661.4 IU vitamin D<sub>3</sub>, 88.2 IU vitamin E, 4.4 IU vitamin K as menadione sodium bisulfite, 7.3 µg vitamin B<sub>12</sub>, 1.8 mg riboflavin, 5.0 mg D-pantothenic acid as calcium pantothenate, 6.8 mg niacin and 49.9 mg choline as choline chloride.

**Table 2.** Performance of sows and litters during first lactation

	Control	Carbohydrase	SE <sup>a</sup>
No. of sows	10	10	
Litter size	8.77	8.67	0.160
Daily litter weight gain, kg			
Week 1	1.56	1.49	0.159
Week 2	1.82	1.93	1.088
Week 3	1.70	1.75	0.103
Overall	1.69	1.71	0.088
Sow weight at farrowing, kg	164.7	163.8	3.64
Sow weight change, kg			
Week 1	-7.44 <sup>b</sup>	+1.1 <sup>c</sup>	1.644
Week 2	-3.20	-0.25	1.743
Week 3	-2.16	-2.96	0.974
Overall	-12.80 <sup>d</sup>	-2.11 <sup>e</sup>	3.351
Daily sow feed intake, kg/d			
Week 1	4.50	4.62	0.295
Week 2	5.78	6.26	0.485
Week 3	6.48	6.70	0.442
Overall	5.59	5.86	0.285
Weaning-to-estrus, day	5.94 <sup>d</sup>	4.68 <sup>e</sup>	0.358

<sup>a</sup> Standard error of the means. <sup>b,c</sup> p<0.01. <sup>d,e</sup> p<0.05.



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Soybean meal, one of the major protein sources in lactation diets, contains antinutritional factors. One is flatulence producing compounds (FPC), such as  $\beta$ -galactomannans and  $\alpha$ -1,6-galactosides. Most of antinutritional compounds in soybeans can be eliminated through extraction, soaking and germination and those  $\beta$ -galactomannans and  $\alpha$ -1,6-galactosides still exist after soybean meal processing. Soybean meal contains on average 4,6 to 6,6% of  $\alpha$ -1,6-galactosides and 1,5% of  $\beta$ -galactomannans. Pigs lack of endogenous enzymes in the intestine mucosa to cleave FPC. These oligosaccharides are utilized by hind-gut microorganisms producing flatulence including carbon dioxide and methane and reducing energy and protein digestibilities.

ENDOFEED DC is a multienzyme complex developed by MyA (Pinaluba Group, Spain) containing high amounts of betaglucanase and xylanase. Due to a unique selection of strains of *Apergillus niger* and to the non-GMO fermentation process the product also contains specific side activities. The use of exogenous multienzyme complexes like ENDOFEED DC containing  $\beta$ -1,4-mannanase,  $\beta$ -1,4-mannosidase and  $\alpha$ -1,6-galactosidase hydrolyze these anti-nutritional factors (FPC) in soybean meal, improving digestibilities of energy and aminoacids.

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Based in Spain, PINTALUBA GROUP is made up of companies dedicated to animal and human health and nutrition. Each one, independent from the rest, covers a complimentary sector area, sharing resources with the others. Nevertheless, all the group companies are guided by common aims: growth, innovation and a willingness to serve that have made PINTALUBA GROUP a solid group with a future within the feed and food industry at home and abroad.