

BIOAKTIV FarEast

Egypt: A Study by Ain Shams University



The Animal Production Department, [Faculty of Agriculture, Ain Shams University](#), Cairo, Egypt did a study on the effect of BioAktiv Animal Feed and BioAktiv Salis on broilers in 2009. B.A.E. GmbH and BioAktiv Evolution e.K. from Germany provided the two BioAktiv products for the study. A local company, Cairo Poultry Company, delivered the necessary vaccinated birds and feed to the experimental site in the university. There was a total physical separation of this experiment from all other experiments at the department to avoid any possible interference due to transfer of by-products such as oxygen as indicated by the two German companies.

The study investigated on three dosages of BioAktiv Animal Feed (BAF), 250 g, 500 g and 750 g/tonne of feed; and two dosages of BioAktiv Salis, 5 g and 10 g/10 litres of water. Each treatment group¹ had 50 birds. The study lasted 35 days. We recorded the conditions of each bird weekly during the study. The table below shows the various results of the study.

Parameter	BioAktiv Animal Feed			BioAktiv Salis		Control
	25 g/t	500g/t	750g/t	5g/10L	10g/10L	
Final broiler weight (kg)	1.54	1.55	1.58	1.55	1.59	1.55
Feed intake (kg)	2.55	2.53	2.57	2.56	2.60	2.60
Feed conversion ratio	1.656	1.632	1.627	1.652	1.635	1.677

All BioAktiv treatments provided a better FCR than the control. The FCR went down from 1.677 of the control to as much as 1.627. There was no significant difference in mortality among the different treatments in this study. But a similar study at Cairo Poultry Company farm proved that BioAktiv was effective in reducing mortality². Observations on the internal organs of the birds showed that none of the BioAktiv treatments caused any stress.

Treatment	Amylase activity		Protease activity		Cellulase activity		Xylanase activity	
	Stomach	Intestine	Stomach	Intestine	Stomach	Intestine	Stomach	Intestine
BAF 250g	0.715	40.521	11.569	8.562	5.925	27.326	10.658	42.159
BAF 500g	0.924	43.303	13.258	10.456	9.589	33.323	13.125	57.462
BAF 750g	0.566	45.509	12.554	11.258	12.231	36.592	15.852	61.751
Salis 5g	0.717	40.150	11.365	8.659	5.538	26.851	10.456	41.256
Salis 10g	0.742	42.655	13.365	10.289	9.425	33.015	12.958	55.685
Control	0.348	35.842	10.216	7.892	3.452	24.269	6.734	24.038
Significance	Yes	Yes	Yes	Yes	Yes	Yes	No	No

The table above shows that all BioAktiv treatments increased the amylase, protease and cellulase activities with statistical significance. The BAF 500g/tonne treatment gave the highest amylase activity in the stomach while BAF 750g/tonne gave the highest in the intestine³. Higher Salis dosage gave

¹ Indicated as "trial" instead of "treatment group" in the original report.

² See [Poultry Focus September-October 2009 issue](#).

³ Indicated "mg" instead of "g" and "stomach" instead of "intestine" in the original report.

higher amylase, protease and cellulase activities in the stomach and intestine. Higher BAF dosage gave higher cellulase activity in the stomach and intestine.

Parameter	BioAktiv Animal Feed			BioAktiv Salis		Control	Statistical Significance
	250g/t	500g/t	750g/t	5g/10L	10g/10L		
Total protein (g/dl)	4.523	4.824	4.953	4.523	4.824	3.686	Yes
Albumen (g/dl)	1.108	1.097	1.085	1.105	1.097	1.266	Yes
Globulin (g/dl)	3.415	3.727	3.868	3.418	3.727	2.420	Yes
Cholesterol (mg/dl)	112.228	113.970	122.261	123.065	126.064	117.085	No
Total lipid (mg/dl)	523.719	371.157	424.288	445.161	467.552	454.269	No
AST (IU/L)	29.400	26.800	28.000	29.400	28.000	30.200	No
ALT (IU/L)	43.210	42.890	42.560	43.210	42.690	44.200	No
Ca (mg/dl)	10.250	10.360	10.450	10.210	10.160	9.860	No
P (mg/ml)	6.150	6.250	6.320	6.270	6.300	5.860	No
Creatinine (mg/dl)	0.764	0.783	0.773	0.783	0.789	0.793	No

The BioAktiv treatments had no significant effect on cholesterol, total lipid, AST, ALT, Ca, P and creatinine. There was a significant effect on total protein, albumen and globulin. Higher dosage of BAF or Salis produced a higher effect.

Parameter	BioAktiv Animal Feed			BioAktiv Salis		Control	Statistical Significance
	250g/t	500g/t	750g/t	5g/10L	10g/10L		
Live body wt. (kg)	1.54	1.55	1.58	1.55	1.59	1.55	No
Carcass (%)	66.26572	67.51827	67.53215	66.59457	67.41727	63.12887	Yes
Gizzard (%)	1.973640	2.152914	2.572434	2.201246	2.051614	2.016707	No
Liver (%)	2.653780	3.478432	3.161964	3.466276	3.379432	2.682718	No
Heart (%)	0.439438	0.453507	0.571970	0.525545	0.462069	0.421162	No
Spleen (%)	0.132520	0.073465	0.086160	0.150579	0.083651	0.125542	No
Bursa (%)	0.153507	0.134009	0.106403	0.147473	0.123005	0.114567	No
Abdominal fat (%)	0.924205	0.703604	1.201469	1.534323	0.690436	1.490743	No
Breast (%)	11.89264	11.93230	11.85073	10.01052	12.53230	10.87619	Yes
Thigh (%)	4.965444	5.193621	6.110733	4.427903	5.207263	4.705459	Yes
Dram (%)	5.466432	5.023926	4.818058	5.240996	4.870040	5.161824	No
Intestine (%)	6.762559	6.029708	6.895810	8.024237	6.269571	7.855628	Yes

The BioAktiv treatments had no significant effect on live body weight and the percentages of gizzard, liver, heart, spleen, abdominal fat and dram. There was a significant effect on the percentages of carcass, breast, thigh⁴ and intestine. It is obvious that the higher the dosage of BAF or Salis, the higher the effect on increasing the percentages of carcass and breast and decreasing in the percentage of intestine.

From our findings:

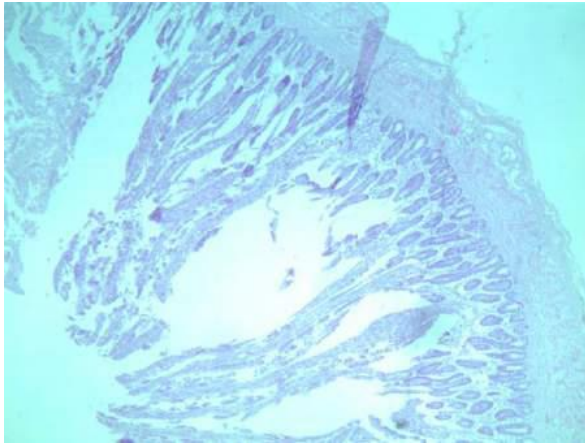
- We recommend to use the treatment of the BAF 500g/tonne of feed or BAF 750g/tonne if the economics permits.
- To use the treatment of Salis 1g/10 litres of water⁵.
- While BioAktiv had no significant effect on live body weight and the percentages of gizzard, liver, heart, spleen, abdominal fat and dram, it had a significant effect on the percentages of carcass, breast, thigh and intestine. The higher the dosage of BAF or Salis, the larger the percentages of carcass and breast and the smaller the percentage of intestine.

⁴ Indicated as “though” and “though” in the original report.

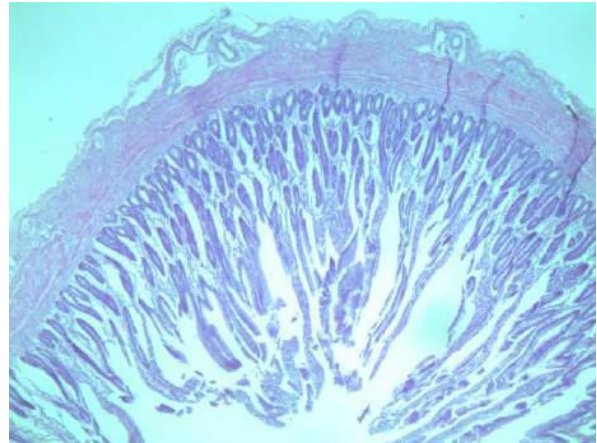
⁵ A result from the study in Cairo Poultry Company farm as reported in [Poultry Forum September-October 2009 issue](#).

- BioAktiv increased the amount of enzymes in the stomach and intestine, which resulted in improving the FCR.
- The histological and blood examinations showed that BioAktiv products were very safe for the birds and hence the birds are safe for human consumption.
- [The study in Cairo Poultry Company farm](#) showed that BioAktiv had a significant effect on broiler mortality.

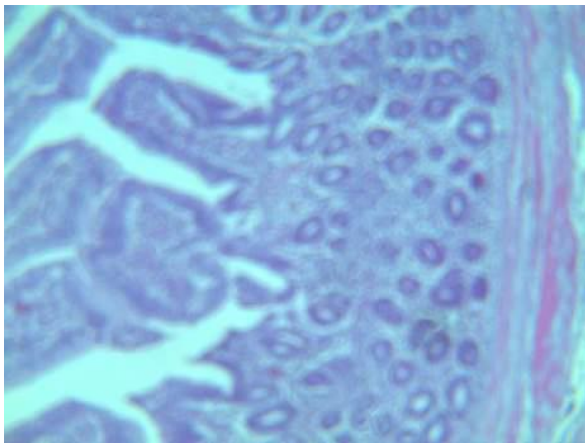
[\[Original report\]](#)



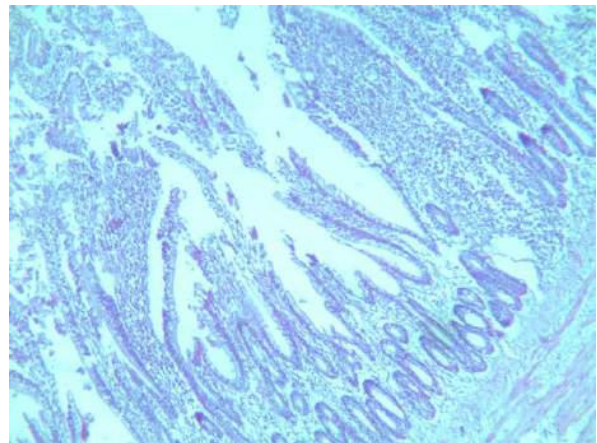
BAF 250g/tonne



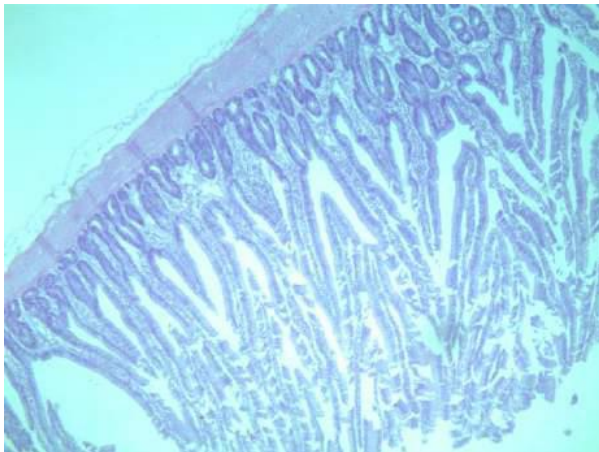
BAF 500g/tonne



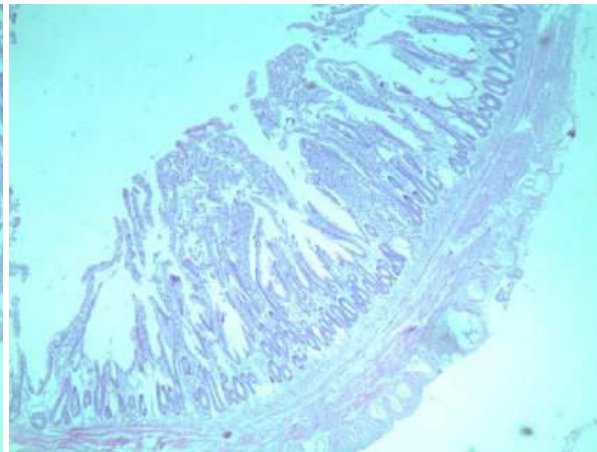
BAF 750g/tonne



Salis 5g/10L

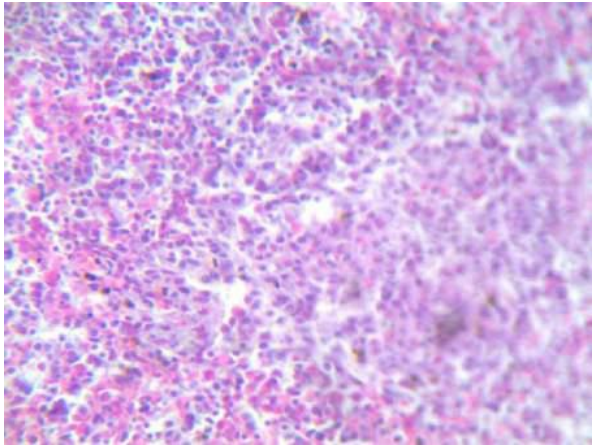


Salis 10g/10L

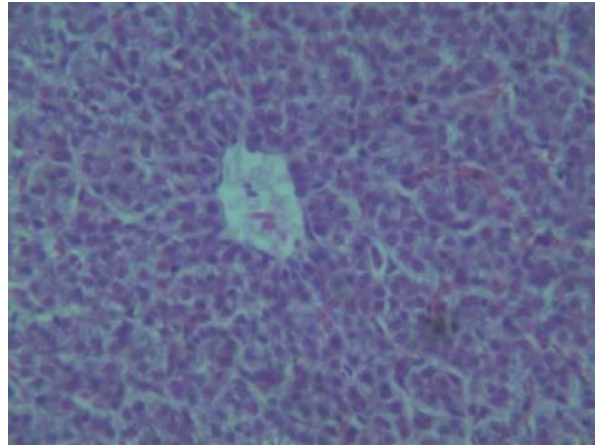


Control

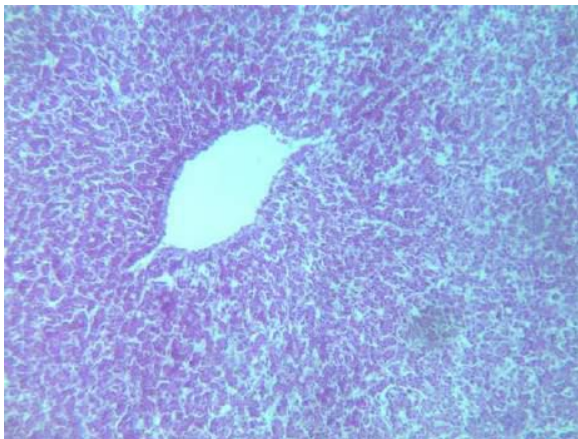
Histological observations showed that the broilers fed BAF 500g/tonne clearly had more and longer villi in the small intestine, followed by those fed BAF 250g/tonne, than the control group. Those fed BAF 750g/tonne showed growth of villi but the image was not clear. The broilers fed Salis clearly showed growth of more villi than the control group.



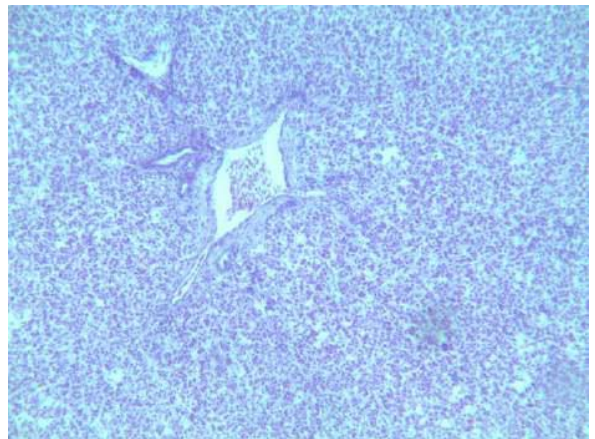
BAF 250g/tonne



BAF 500g/tonne

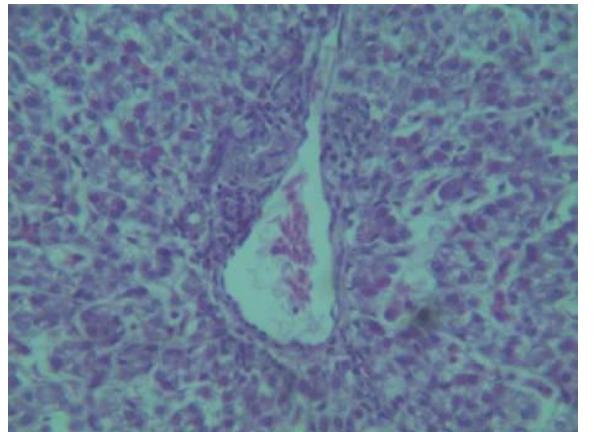


BAF 750g/tonne



BioAktiv Salis

The broilers fed BioAktiv Animal Feed or Salis showed normal distribution for cells and ducts, and the absence of any lesions in the liver, when compared with those not feed BioAktiv products.



Control