Germany: Better Fattening, Lower Ammonia Emissions and More Profit with BioAktiv

Germany Saxony-Anhalt State Institute for Agriculture and Horticulture reported in April 2003 that their study in 2001 showed that using BioAktiv feed additive was effective in fattening pig. Their later field trials showed that BioAktiv was also effective in reducing ammonia emissions in a pig farm. This study was a follow-up study to confirm the positive effects of BioAktiv on pig fattening and ammonia emission reduction, and to further investigate on its effects on slaughter performance.

The study involved 160 Pi × (DE×DL) crossbred fattening pigs in two groups of 80, which were fattened in two identical sheds, each containing four pens with 20 pigs in a pen. Feed in the shed for the trial group contained BioAktiv, while the other control group was given feed without this additive. One pig in the trial group was lost due to born physical conditions. Trial group had 40 males and 40 females, while the control group had 46 males and 34 females. The findings from the study are as follows.

Parameter	BioAktiv			Control		
	Male	Female	Overall	Male	Female	Overall
Initial weight (kg)	27.9	28.3	**28.1**	28.6	28.1	**28.4**
Final weight (kg)	116.9	115.3	**116.1**	117.6	117.7	**117.6**
Days in pen	100	105	**102[a]**	104	115	**109[b]**
Feed consumption (kg/pig/day)			**2.54**			**2.45**
Feed conversion (kg/kg)			**2.95**			**2.99**
Daily gain (g/day)	897	833	**866[a]**	860	784	**828[b]**
Daily gain – corrected* (g/day)			**865[a]**			**816[b]**

* Corrected for different sex proportions of the two groups | Significance level: $p < 0.05$

Table 1: Fattening performance

The initial pig weights of both groups were comparable. The final pig weight of the control group was 1.5 kg higher because they were the last to be slaughtered. Both the actual average daily gain and the one corrected for different sex proportions of the BioAktiv group were higher. The higher gains were clearly due to higher feed consumption of about 90g/pig/day and also a trend of better feed conversion. The better daily gain significantly reduced the average numbers of days in the shed by 7, with about 2 days due to technical grounds (see final weight). Figure 1 shows that greater daily weight gains for the BioAktiv group were registered mainly in the medium and final stages of fattening.

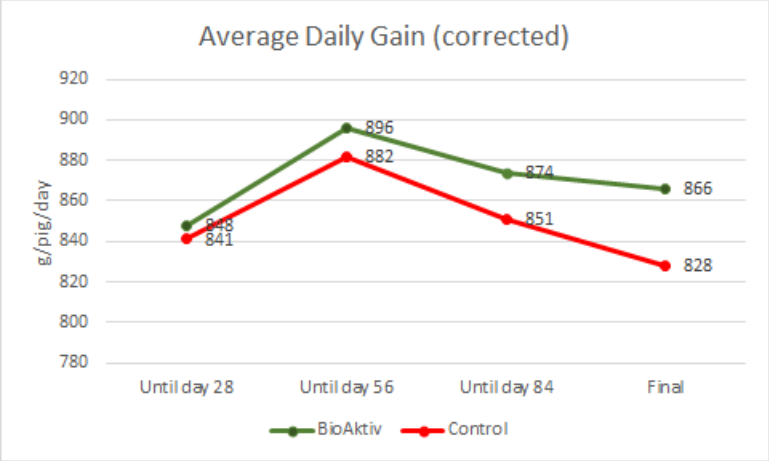

Figure 1: Average daily gain (corrected)

Parameter	BioAktiv	Control
Slaughter weight (kg)	89.4	89.5
Carcass dressing percentage	77	76
Lean meat percentage	54.6	55.2
Fat thickness (mm)	18.7	18.0
Meat index (cm²)	62.4	63.7

Table 2: Slaughter Performance

Table 2 shows that the dressing yield was quite low in each case because the animals did not fast before slaughter. When allowing for fasting losses of about 3%, the values would be in the normal range of 79-80%. The low lean meat content in the BioAktiv group resulted primarily from the higher gains during finisher fattening, which was also evident from a thicker fat layer.

Parameter	BioAktiv	Control	Difference	€/unit	Amount (€)
Fattening period (days)	102	109	-7	0.2	-1.4
Feed consumption (kg)	259	267	-8		
Feed costs (€/pig)	45.0	46.0	-1.0		-1.0
Lean meat content (%)	54.6	55.2	-0.6	2.4	+1.4
				Total:	**-1.0**

Table 3: Financial comparison

Table 3 indicates that using BioAktiv gave an extra income of €1.0 per pig.

The ammonia concentrations in both sheds were measured at three-week intervals using Draeger gas detector tubes (2-30 ppm). Measurements were taken at four points spread over the shed and the average values are shown below.

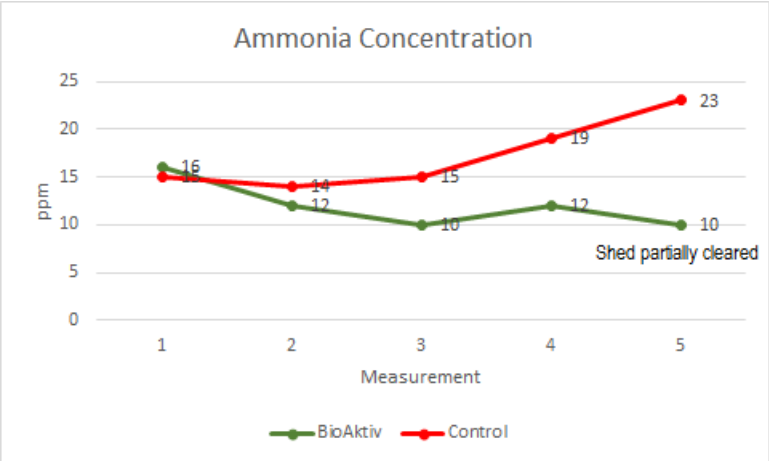

Figure 2: Ammonia concentration

The air in both sheds was similarly conditioned throughout the study. In the beginning, the ammonia concentrations in both sheds were almost the same. As the trial progressed, the values for the shed, where BioAktiv was given, remained at a certain level, while those of the control shed rose continuously. When the last measurements were taken, some pigs in the BioAktiv group had left the shed. The conditions of the air in the shed were adjusted accordingly.

In conclusion, the study showed that the use of BioAktiv feed additive improved fattening performance as far as days in the pen and daily weight gain were concerned. Although the BioAktiv group had a slightly worse slaughter performance than the control group, the group achieved an extra income of €1.0 per pig over the control group allowing for the extra BioAktiv cost of about €0.5 per pig. Clearly there was lower ammonia concentration in the BioAktiv shed, which apparently resulted in the better growth during finisher fattening.

- Original report