

Landesanstalt für
Landwirtschaft und
Gartenbau

Research report

Addition of Animal
Biosa in pig production



SACHSEN-ANHALT

INFORMATION

Ministry of agriculture and environment



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1. Introduction

The discussion concerning reduction of damaging substances from the pig production has been sharpened both from the consumer side but also from the official side as a result of EU's desire to establish the so called "Best Available Technology". In addition, as a result of abolishing the use of antibiotic growth promoters and the new regulatives regarding use of medicine for animals, an important aspect for stabilising pigs health and growth abilities has been taken away. Through initial studies of how the natural feed additive Animal Biosa works, we received positive results concerning the additives effect on the organic growth parameters for fattening pigs. Tests should be carried out again with a greater amount of random checks.

2. Material and methods

Animals:

158 fattening pigs were included in the research. The animals were cross-breeds (Pi x (DexDL)). The animals were divided into two variants and fed equally in two identical stable departments (two sties per variant). Three of the animals did not manage to complete the research due to structure problems (one from the research group and two from the control group).

The results referred to in this research thus stem from the following numbers:

Control group: n = 78 (male 36; female 42).

Research group: n = 77 (male 39; female 38).

Feed:

The fodder used for the research was divided by the following parameters (%):

Parameter	Weaners	Porkers
Crude protein	17,5	17,0
Lysine	1,10	0,9
Crude fat	3,8	2,1
Crude fibre	5,0	5,5
Crude ashes	6,5	6,5
Ca	0,75	0,8
P	0,50	0,55
Na	0,15	0,14
ME (MJ)	13,4	13,0

Table 1: Feed content

The analyses that were carried out (weaners) showed good accordance with the desired values.

The added feed supplement Animal Biosa was given as an "on-top" and fed to the research group twice a day.

Animal Biosa: a mixture of water, sugarcane molasses, glucose, fructose, different herbs and lactic acid cultures. The ready product was **multiplied** in Iden according to the recipe. In this process, water, micro-organism-concentrate and sugarcane molasses were mixed at 37°C and incubated for 5 days.

A daily dose of 1 litre per 20 fattening pigs was fed.

Research parameters:

The following values were studied:

Growth performance: start weight, intermediate weight after 4 weeks, end weight, daily weight gains, feed absorption, feed consumption. Weight was measured by the single animal. Feed absorption was measured by groups.

Slaughter performance: slaughter weight, quantity of lean meat, classification, fat measurements and meat measurements.

3. Results

Figures concerning the growth performance:

The following figures in table 2 show the studied growth performances.

	Control group		Research group	
	Average	Deviation	Average	Deviation
Start weight (kg)	28,99	4,64	28,75	6,53
Weight 4 weeks (kg)	49,08 ^a	7,22	52,90 ^b	7,41
W gains 4 weeks (g/d)	718 ^a	131	894 ^b	86
Weight 8 weeks (kg)	73,57 ^a	8,61	76,77 ^b	7,58
W gains 8 weeks (g/d)	811 ^a	98	857 ^b	69
End weight (kg)	116,05	4,23	116,46	4,51
Total gains (g/day)	819	92	832	70
Feed absorpt. (kg/day)	2,46		2,36	
Feed consumpt. (kg/kg)	3,04 ^a		2,86 ^b	

Table 2: Growth performance data

The start weights of the two groups are comparable and not significantly different. The end weights are at the normal market level and are not distinguishable. The figures for gained weight show a diverse sequence for the two groups. While the research group had high growth figures in the beginning the control group shows higher growth gains in the second stage. At the end of the growth the control group shows only tendential advantages of approx. 1,5% (illustration 1). Considering that the animals in the research group have absorbed significantly less feed though, they show a significantly better feed utilization of 0,18 kg feed pr.kg gained growth.

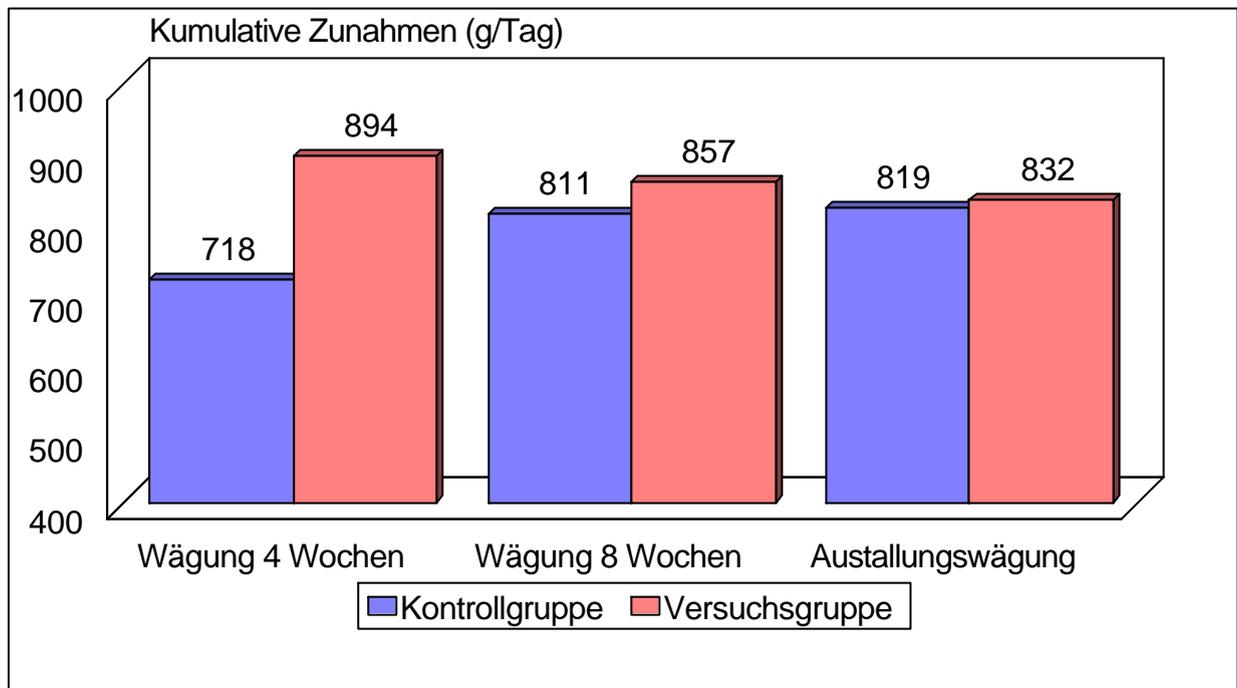


Illustration 1: growth development (cumulative)

Figures related to the slaughter performance:

Table 3 shows the figures of the slaughter performances. As expected due to the growth developments, the animals in the research group arrive at significant larger lean meat percentages (55,78% compared to 57,92%). This is primarily a result of the lower fat measurements (16,9mm compared to 14,43 mm). The meat measurements are only insignificantly greater.

The figures are repeated graphically in illustration 2.

	Control group		Research group	
	Average	Deviation	Average	Deviation
Slaughter weight (kg)	89,45	2,86	90,10	3,19
Lean meat proportion (%)	55,78 ^a	2,86	57,91 ^b	3,08
Fat measurem. (mm)	16,94 ^a	3,12	14,43 ^b	3,03
Meat measurem. (mm)	60,89	3,16	61,1	5,7

Table 3: Slaughter performance data

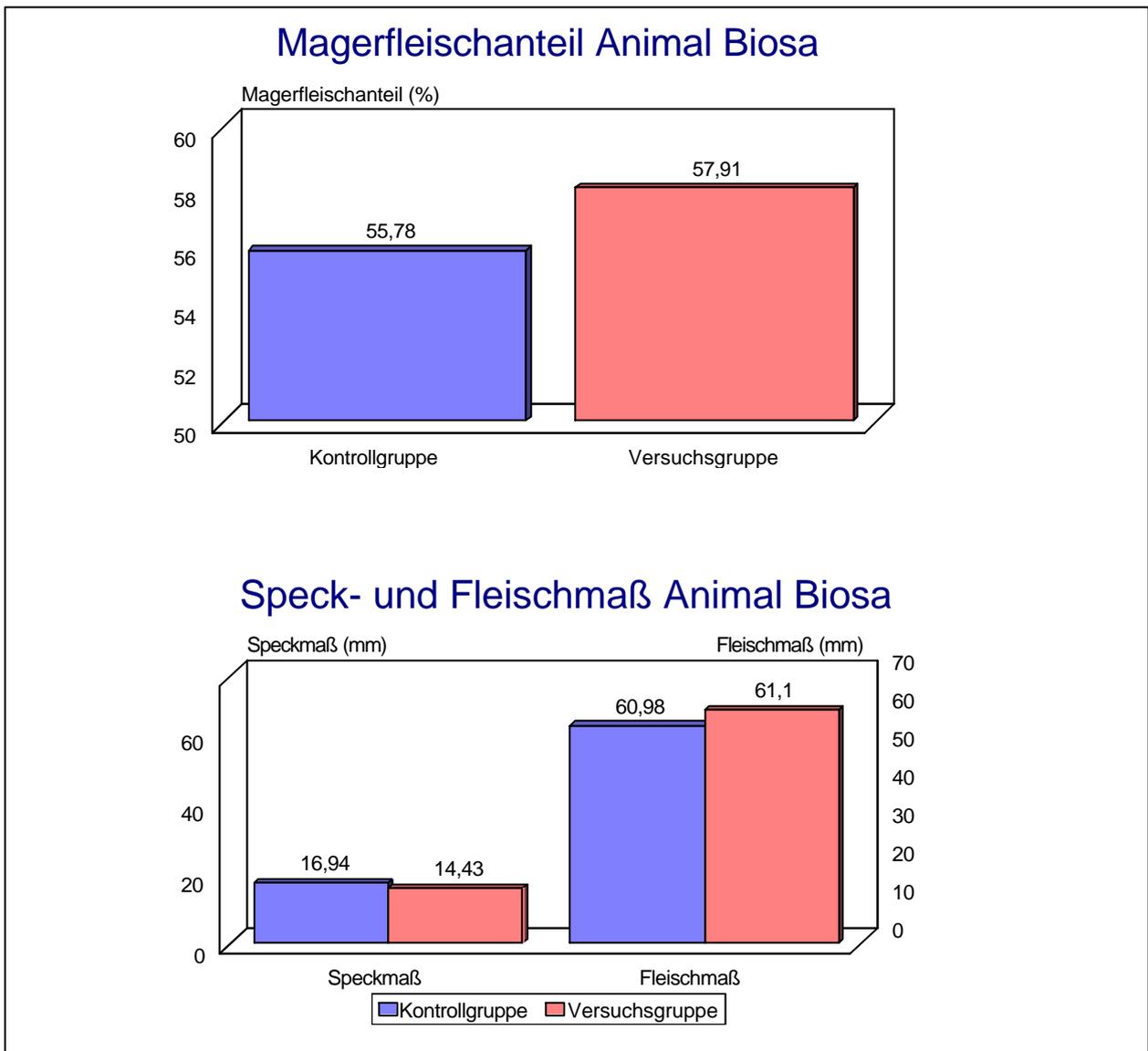


Illustration 2: Results of the slaughter performance

4. Discussion and recapitulation

In this research the feed additive Animal Biosa was tested on feed in the pig production. The value defining components of Animal Biosa are a herb mixture and lactic acid bacteria. The lactic acid that is produced from these components lowers the pH value of the liquid Animal Biosa to a pH below 3,5.

The research has shown that Animal Biosa can increase the growth a little (1,5%) and the lean meat percentage significantly (55,8 compared to 57,9).

Animal Biosa was prepared for use in the stable by carrying out some initial steps. During this process it is important to keep to the exact instructions and temperatures that are specified. Important failures are easily made during this process.