Use of probiotical preparates for pig feeding

LIVEBIOS and MINGFIX

Report

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Influence of probiotics to pig feeding and meat production characteristics

Conkurence of pork production can be increased by using progressive feeding and keeping technologies, different ecological and safe feed supplements. In meat production buisness it's importan to use high genetic value animals, with high productivity, and to create optimal keeping and feeding conditions. It's measured, 30-50 % number of musculs depends on feeding. So it's important to take special care about feeding, instill new feeding programs for pig kept for meat. Using new feeding programs and perspective feed supplements in pork farms can be increased meat quality and meat eficiency. It can be reached by using ecological and safe supplements-probiotics.

Term „probiotical preparation" is used when we speak about feed supplemens with alive microorganisms, which are use for replace or refill alimentary canal mikroflora and keep good health of animal. These preparation are usen in animal husbandry with medical and profilactical mean. We improve animal alimentary canal balance of mikroflora, used up on feeding digestible and appropriation of nutritious matters, resistance of animals, when we use probiotics (profilactical) in animal feeding. In a result we get increase in makeweight, animals become ill rare,they use less feeds for production. So the research of probiotic use in pig industry are very urgent.

The aim of the work: to define influence of probiotic LIVEBIOS and MINGFIX to pig grouth and meat quality, when we use them since fifth day of age.

The research were fulfiled 2002. 06-11 mth. In Marijampolė region , progressive Lithuanian farmer V. Zarnauskas pig farm. The piglets of control and test groups (15 in each) crossbreds of Pjetren and Norway landraces were fed and kept at same conditions. In combine forage for piglets of test groups were mixed in probiotics: I test group probiotic LIVEBIOS and II test group probiotic MINGFIX. During two first month of piglets age preparations were mixed 2kg in 1t combine forage (appendix 1), and rest of life 1,5 kg of preparation to 1 t combine forage. At the beginning of experiment average piglets weight was 5,5 kg and 3,5 kg. Pig got water (from pond) to satiety. The changes of pig's weight were measured by weighing once in month before morning feeding also in a beginning and the end of experiment. Lean on results of weighing was calculated makeweight per day. At the end of experiment were made control slaughter and were measured physical-chemical characteristic of meat. Samples for measurement were taken from Musc. Longissimus.

Results of pig rearing are given in tables 1 and 2.

Table 1. **Weight and makeweight dynamics of fatenned pig**

Age of animal (days)	Weight of animal and makeweight per day					
	Control group		I test group		II test group	
	weight, kg	Makeweight per day, g	weight, kg	makeweight per day, g	weight, kg	Makeweight per day, g
5	5,50	–	5,43	–	5,40	–
36	9,3	126	9,5	135	10,3	163
67	19,2	319	18,2	280	22,8	403
97	34,3	487	34,3	519	43,5	667
128	53,1	627	54,7	680	65,9	747
158	73,3	651	83,2	919	90,4	790
Duering hole test	–	443	–	508	–	556
100 kg will reach in, day	218		191		175	

Table 2. **Weight and makeweight dynamics of fatenned pig**

Age of animal (days)	Weight of animal and makeweight per day					
	Control group		I test group		II test group	
	weight, kg	Makeweight per day, g	Weight, kg	Makeweight per day, g	weight, kg	Makeweight per day, g
5	3,6	–	3,53	–	3,54	–
36	7,7	136	8,0	149	8,6	168
67	17,3	309	17,2	296	20	367
97	33,8	532	34	541	41,2	683
128	52,6	627	54,5	683	63,7	750
158	73,0	658	84,1	955	89,8	842
Duering hole test	–	453	–	526	–	564
100 kg will reach in, day	217		188		176	

From these table results we can see, in combine forage mixed different probiotical preparation seemed increase in pig groth rate. Weight of forage with probiotic LIVEBIOS was in average 14,5% biger than forage of control group. Weight of forage with MINGFIX was in average 23% biger than forage of control group or 8,5% biger than forage vith probiotic LIVEBIOS Average makeweight per day were biger than control group: 15,4% group wich got LIVEBIOS

and 25% wich got MINGFIX. By using probiotics pigs will reach 100 kg weight in 28 and 42 days faster than these who did not got probiotical preparation. In conclusion can be afirmed that probiotic MINGFIX is more usable for pig feeding than probiotic LIVEBIOS.

The results of control slaughtering are given in table 3. (Weight of piglets in a biginning of experiment dosn't have any influence to control slaughtering results , so all data of experiment is given in one table.)

Table 3. **Control pig slaughtering**

Exponent	Group		
	Control	I test	II test
Weight befor sloughtering, kg	112,3	118,7	118,7
Weight of carcass, kg	78,7	85,5	86,7
Outlet of carcass, %	70,1	72,03	73,04
Weight of left side, kg	39,2	42,9	43,8
Weight of ham, kg	10,6	11,5	11,9
Outlet of ham, %	27,0	26,8	27,2
Outlet of soft part, %	89,3	90,1	90,4

From this data seemed that probiotical preparation LIVEBIOS 1,9 % and probiotic MINGFIX 2,9 % increased outlet of carcass, and increased outlet of hams soft part for 0,8 and 1,1 %respectively in comparison with control group. Probiotical preparations didn't have any influence to other exponent of measurement.

Physical-chemical characteristic of *Musc. Longisimus* Are given in table 4.

Table 4. **Physical-chemical characteristic of meat**

Exponent	Group		
	Control	I test	II test
Dry mater, %	40.80	35.86	45.03
pH	5.63	5.65	5.68
Color, EC	98	72	69
Cooking looses, %	40.38	40.59	28.96
Water holding capacity, %	58.97	63.90	54.82
Hardness, kg/cm^2	1.45	0.81	0.80
Ashes, %	1.20	1.08	0.97
Fats, %	3.99	6.53	5.91
Valuability of proteins	3.00	3.10	4.70
Cholesterol, mg/100g	55.49	53.82	54.30

We can see, from the data of table 4, probiotical preparations had influence to meat physical-chemical characteristic. By using probiotic MINGFIX for pig feeding we get meat hardness in average 44.7% (II test group), and by using LIVEBIOS (I test group) 43.5% less than control

group. Water holding capacity of I test group pigs meat were 4.9% higher than control group. In influence of probiotic MINGFIX was got 11.4% decrease in pig meat cooking looses and 56.7% increase in meat protein valuability. There is noticed influence of probiotic to less quantity of cholesterol in meat.

Like shows meat physical-chemical characteristic experiment, probiotical preparations improve meat culinary characteristic. Probiotic MINGFIX improves meat protein valuability.