

Effects of JOHEX wellbeing pipe on pighouses

Sources:

IMPROVING THE EFFICIENCY OF PORK MEAT PRODUCTION AND DECREASING
THE ENVIRONMENTAL BURDEN WITH HYDROGENATION
Alimetrics Oy finalreport 26.2.2014

Johematic – pipetest Figen Ltd. teststation
Figen Oy

Ammonia measurements on Heikkila farm.
Farm workers has measured ammonia.



IMPROVING THE EFFICIENCY OF PORK MEAT PRODUCTION AND DECREASING THE ENVIRONMENTAL BURDEN WITH HYDROGENATION

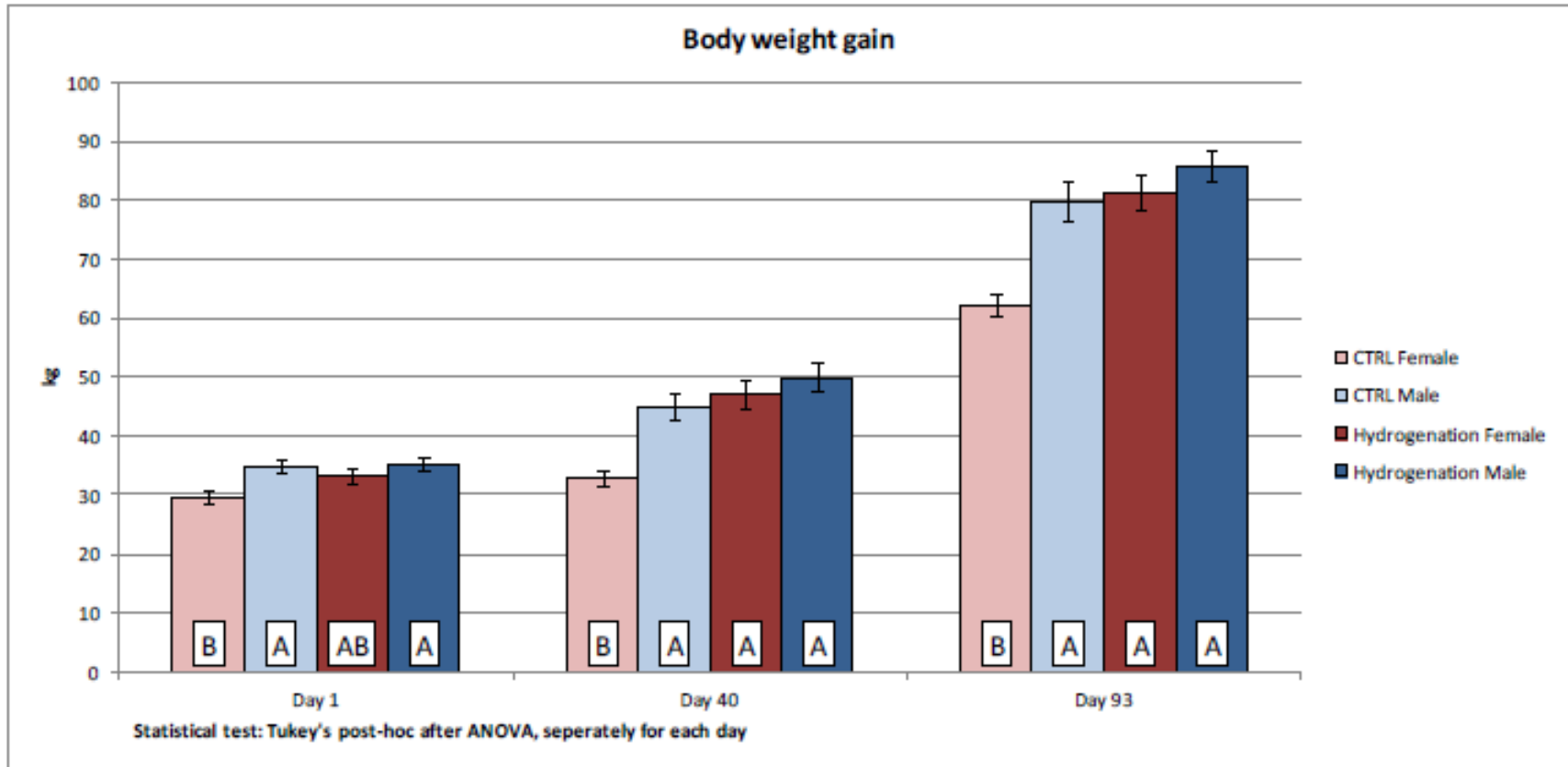


Figure 6. Body weight gain, grouped by treatment and sex. On the left: BWG from day 1 to day 40, in the middle: BWG from day 40 to day 93 and on the right: BWG from day 1 to day 93. Statistical analysis with Tukey's post-hoc test after ANOVA.

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The results of statistical analysis, feed efficiency (fu/kg)

	Estimate	SE	t-value	Pr(> t)	
Putken vaikutus	-0.08173	0.02524	-3.238	0.00293	**

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Estimate: In this experimental setting the treated water group spent 0.08 per ry less feed than the control group / growth kilos

The result is statistically significant at the 1% level of risk

Comments

Most of pigs were males and that's why small difference on daily growth.
On Alimetrics test we can see difference of growth male and females.

On Figen test we can see that pigs eats 0,08 fu less per growth kg when using pipewater.
It means prox. 1,5 - 1,7 € saving / slaughter pig.

<http://www.johematic.com/pipetest.pdf>



Ammonia measurements, Heikkilä farm 7/2015-1/2016

Serie	1					2					3					4				
	20.July					26.Aug					10.Nov					12.Jan				
klo	ppm	Inside °C	ppm	vent-%	Outside °C	Inside °C	ppm	vent-%	Outside °C	Inside °C	ppm	vent-%	Outside °C	Inside °C	ppm	vent-%	Outside °C			
9:01	9	25,1	7	100	17,8	20,1	7	64	6,8	21,2	5	21	-8,9							
9:06	9		7				7				5									
9:11	8		7				7				5									
9:16	9	25,2	7	99	17,8	19,9	7	63	7	21,4	5	24	-9,1							
9:21	8		7				8				5									
9:26	9		7				7				6									
9:31	10	24,8	7	100	17,9	19,6	7	57	6,9	21,2	6	22	-9,1							
9:36	10		7				8				6									
9:41	9		7				7				6									
9:46	9	25	7	98	17,9	19,3	8	54	6,7	21,1	6	21	-9							
9:51	10		7				8				6									
9:56	8		7				8				6									

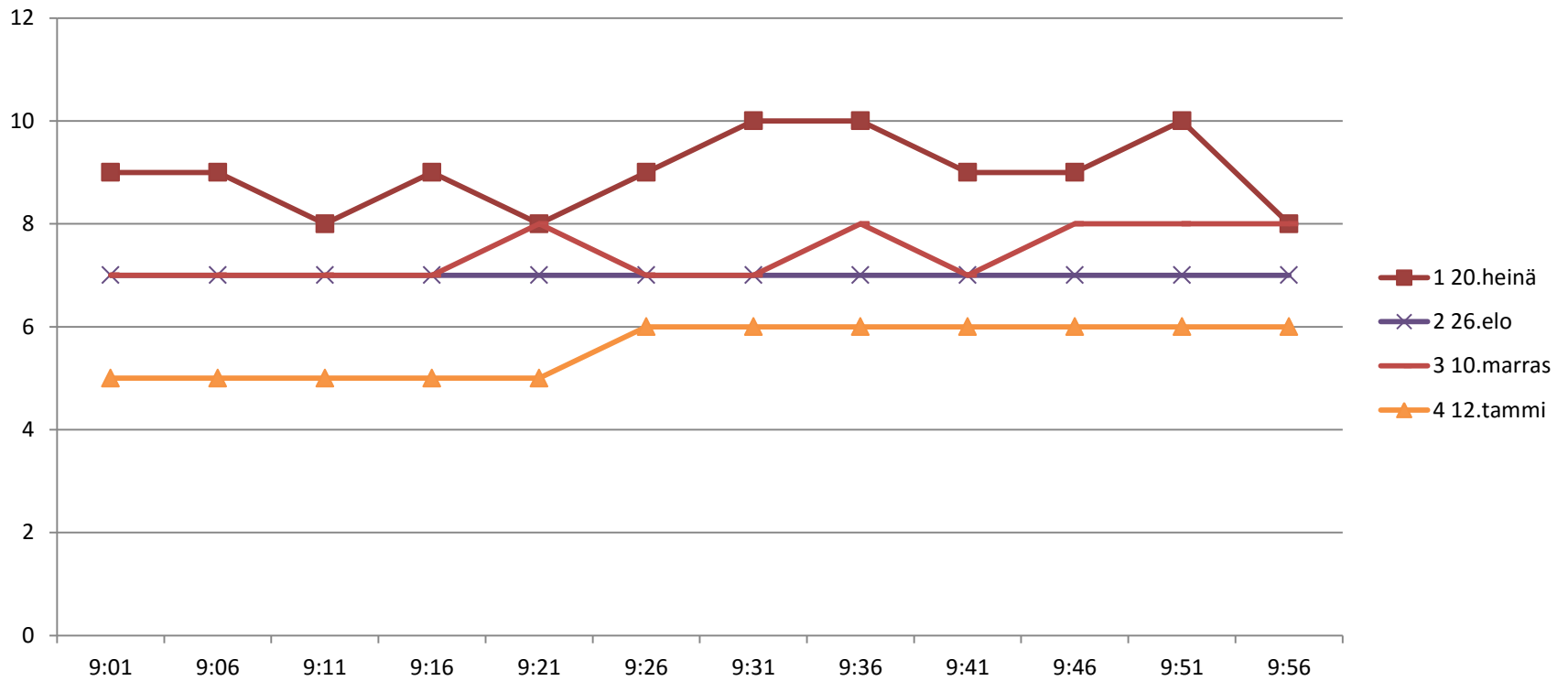
Pipes were installed in July and biggest difference on ammonia happened during first 2 months.

Serie 1 and 2, outside conditions were nearly same.

Seie 3 and 4, ammonia values much less than in the beginning of test and still ventilation-% were much smaller, so it means that pipes work well



Ammonia measurements, Heikkilä farm



Heikkilä farm, Rusko Finland, about 3600 sows , 4400 weaners and 1200 growing gilts.

Timo Heikkilä, owner of farm:

“I made a deal that I can return pipes if I don't like those, but I didn't return so something good is going on with pipes.

External odor situation demanded us to do something.

In December 2014 started a new cooling in the slurry channels.
In July 2015 the well-being pipes were installed.

Result is good = inside of pighouse much less ammonia than earlier.

And outside of buildings much less odors than earlier.

Production results are developed better, but they are affected by very many things.

On the whole, I am satisfied with the tubes. "