

Vaccination against boar taint – control regimes at the slaughter house

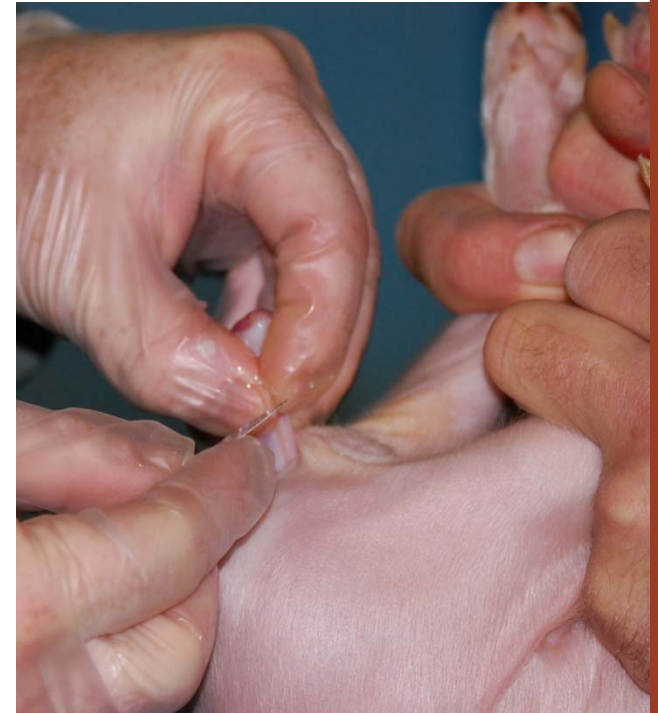
Bente Fredriksen

EAAP. Stavanger. 31.08.2011

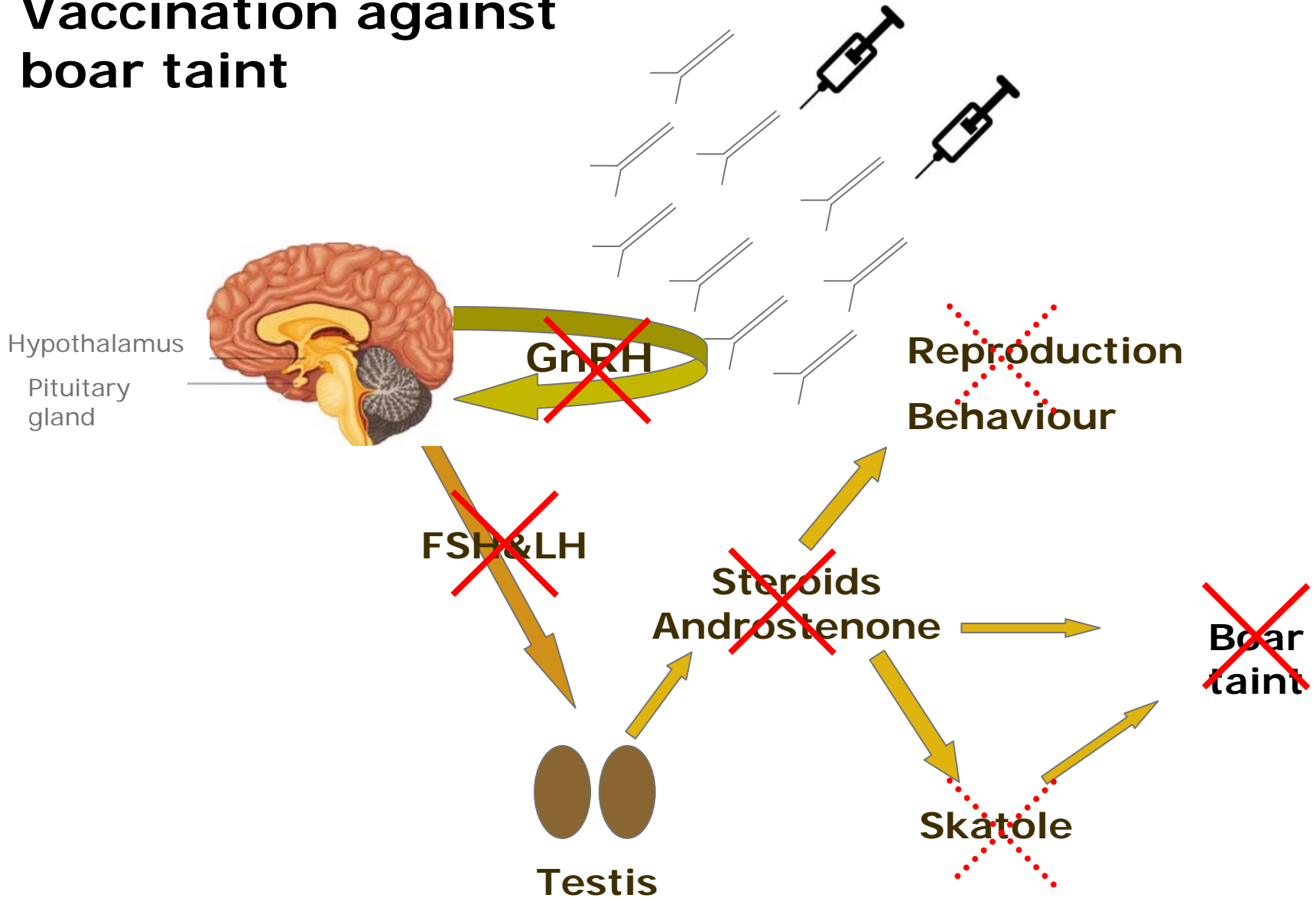


Background

- Surgical castration without anaesthesia
 - Still the predominant practice in Europe to avoid boar taint
 - Abandoned in Norway since 2002
 - Anaesthesia
 - Veterinarians
- Vaccination (immunocastration) is an alternative to surgical castration
- Vaccine approved in EU (and in Norway) 2009



Vaccination against boar taint



Aim

- Evaluate possible control measures at the slaughter house for pigs vaccinated against boar taint (Improvac®. Pfizer Animal Health)

Challenge:
How to identify
animals that have not
been treated twice?



Materials & Methods

Phase 1

- 1 herd
- 160 animals.
 - 156 vaccinated twice
 - 4 vaccinated only once
- Slaughtered September 2010
- Extensive sampling/control

Phase 2

- 19 herds
- 2415 animals
 - 19 vaccinated only once
- 5 slaughter houses
- Slaughtered October – December 2010
- Simplified sampling/control

Observations before slaughter (testis size + behaviour)

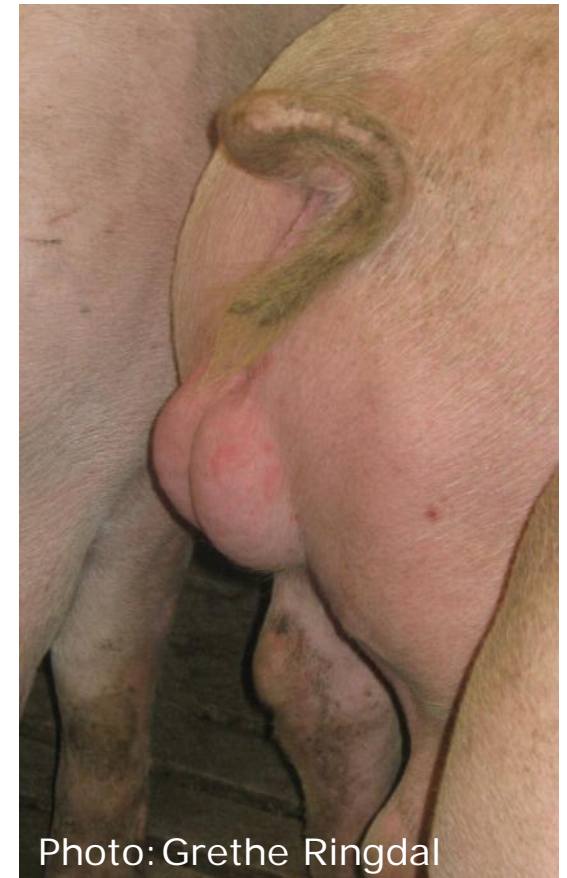


Photo: Grethe Ringdal

Measuring testis size



Improvac-measure



Foto: Grethe Ringdal

Testis weight



Gross



Net

Photo: Grethe Ringdal

Testis length and width



Photo: Grethe Ringdal

Length of bulbourethral glands



Photo: Grethe Ringdal

Colour – testis tissue

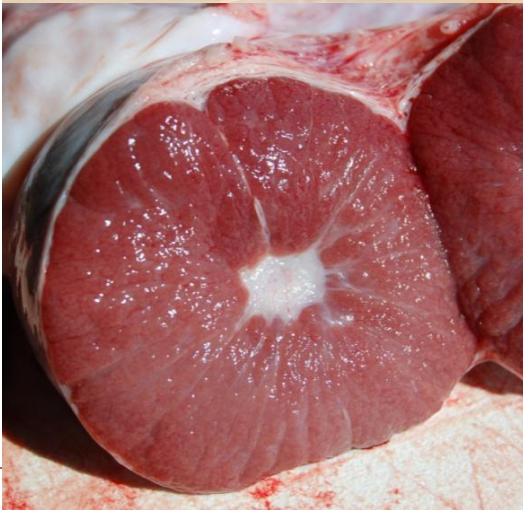


Photo: Grethe Ringdal

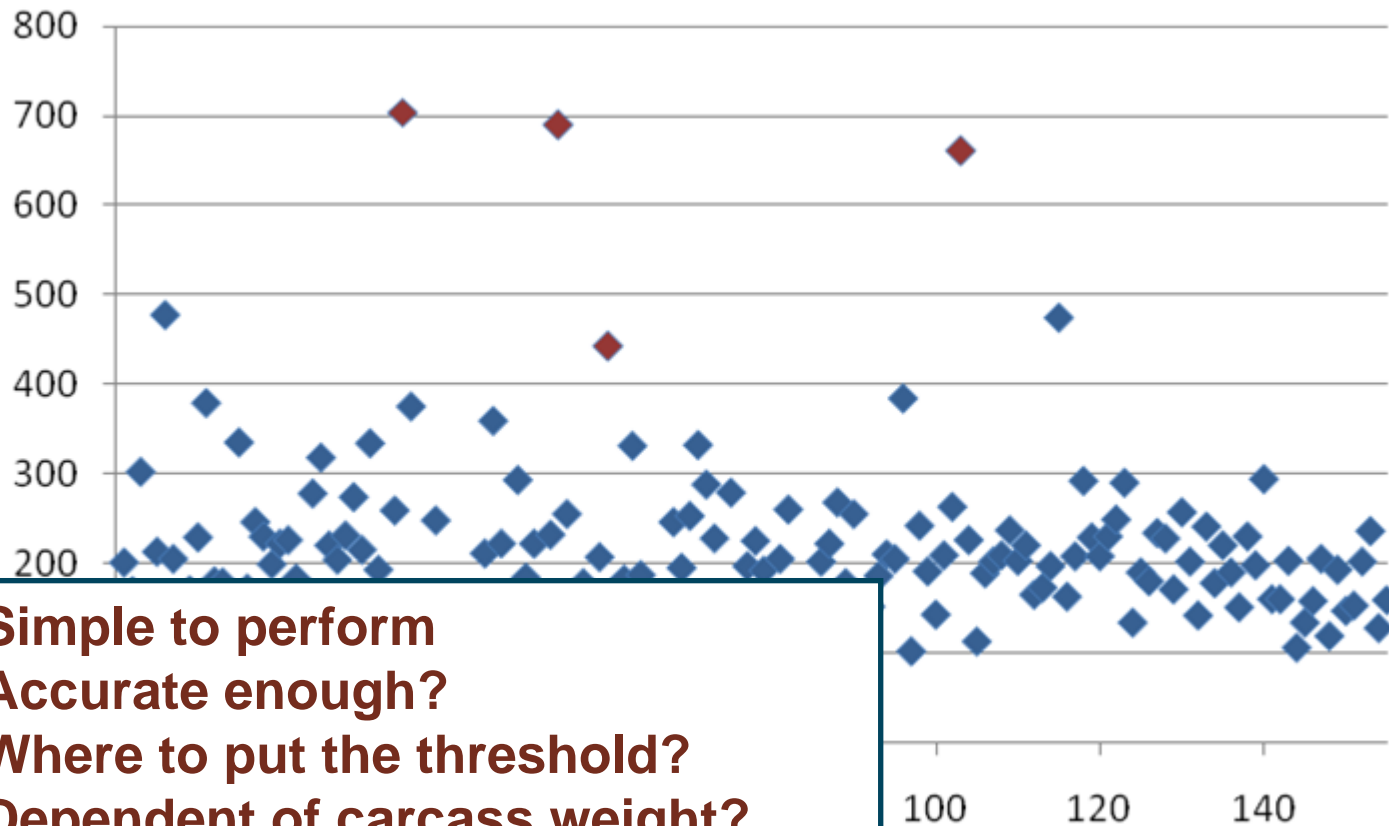
+ Minolta Chroma Meter II Reflectance
– I* values

Skatole and androstenone

- No animals with high values



Testis – gross weight



- Simple to perform
- Accurate enough?
- Where to put the threshold?
- Dependent of carcass weight?
- Dependent of time from 2nd vacc?
- Herd variations?

Testis - Gross weight

	Vaccinated once		Vaccinated twice		Previous data – entire males
	+	-	+	-	
Threshold	+	-	+	-	
>=500 g	3	1	0	151	45 %
>=400 g	4	0	2	149	72 %
>=350 g	4	0	6	145	83 %
>=300 g	4	0	13	138	92 %

Phase 2

Control at the slaughter house

1. Visual control of testis size – all animals
2. Gross weight to confirm testis weight > 300g
3. Fat samples for androstenone and skatole analyses
4. Alle carcasses with testis weight > 500g classified as boars



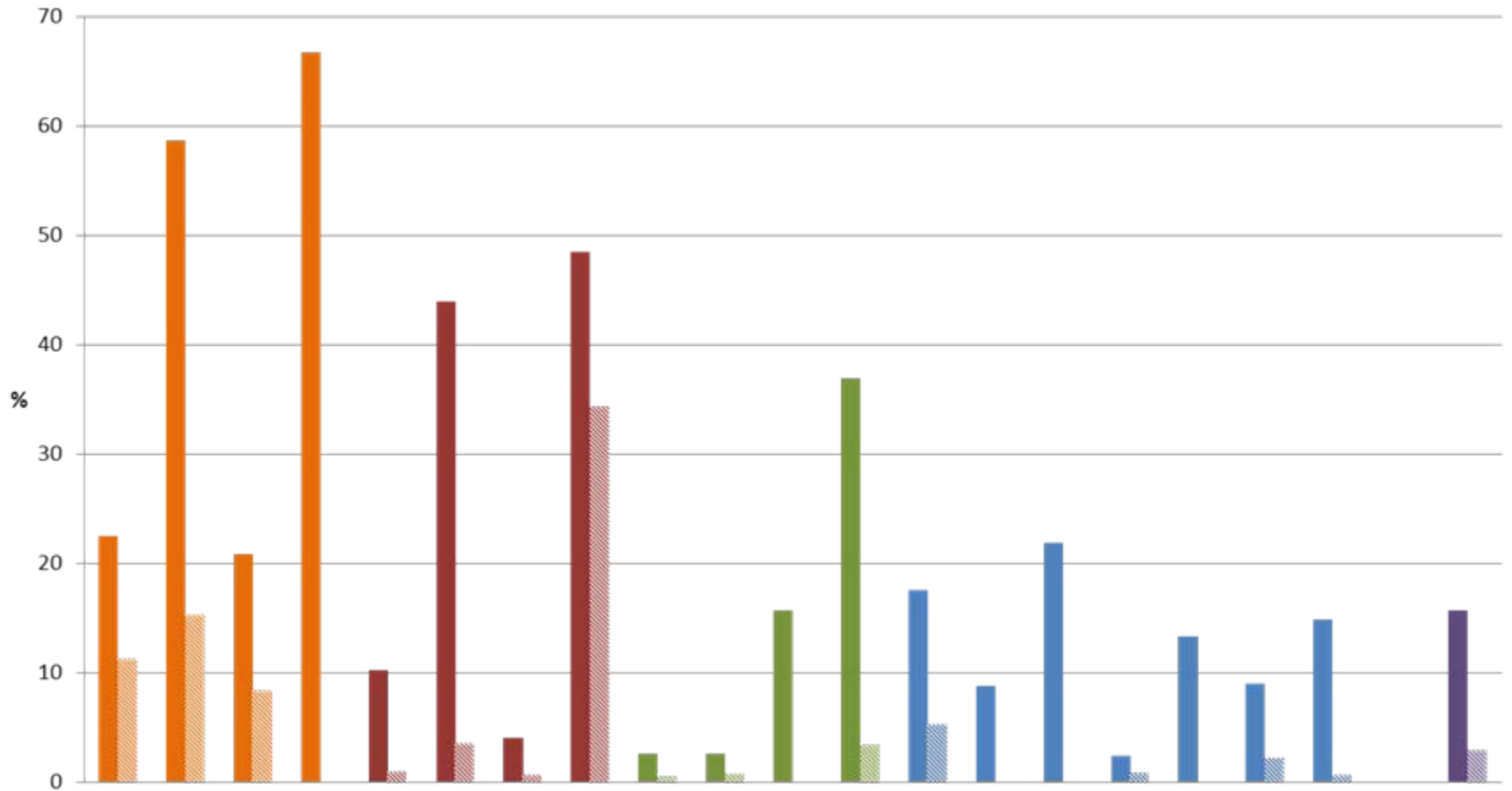
Photo: Grethe Ringdal



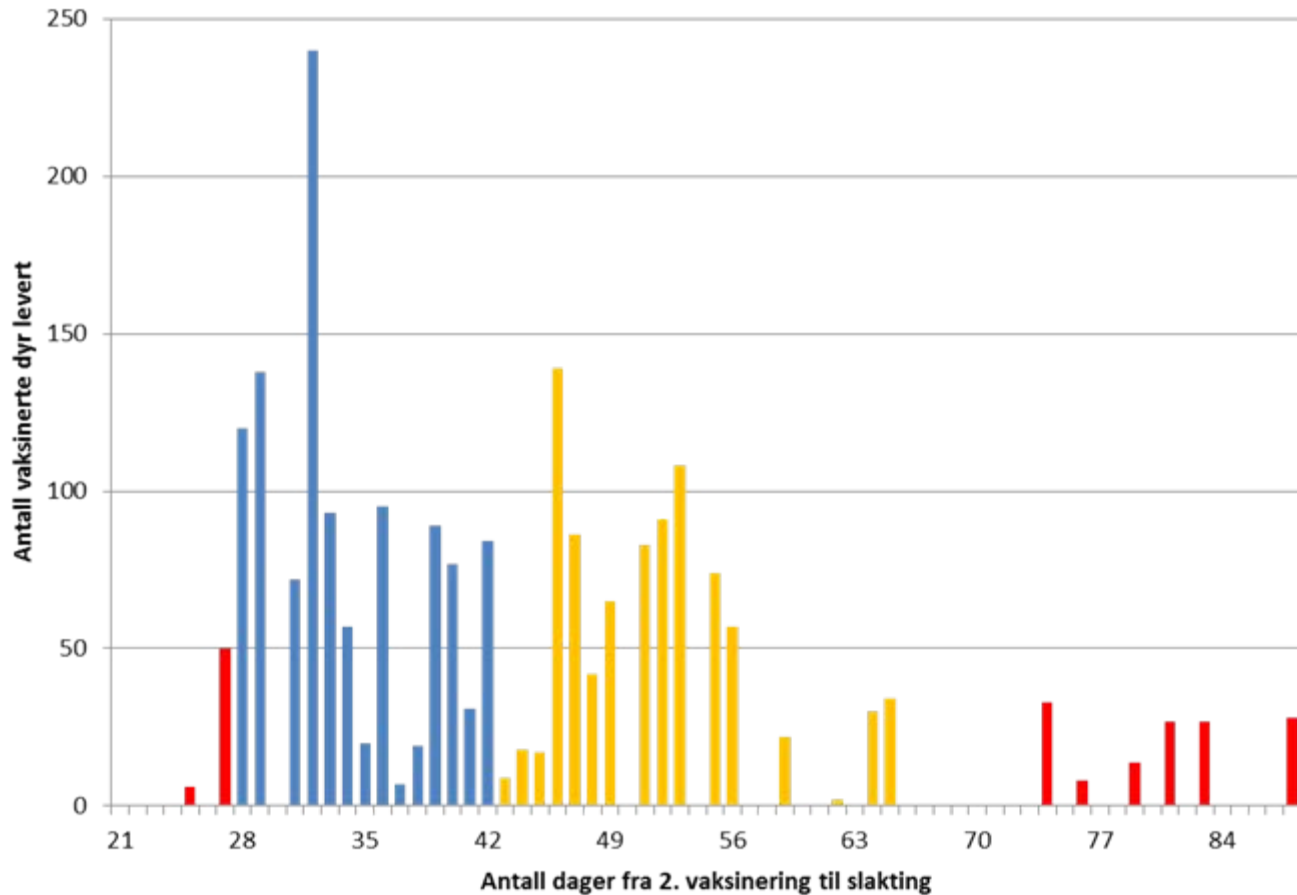
Phase 2 - overview

Slaughter house	Number of herds	Number of animals slaughtered (incl control animals)	Number of animals sampled (excl control animals)	Number of control animals identified and sampled
A	6	782	81	2
B	4	715	74	6
C	4	672	140	7
D	4	189	60	4
E	1	57	10	0
Total	19	2415	365 (15 %)	19

Percentage of animals with testis size >300g (solid) and 500g (stripes) per herd and slaughter house



Number of days from 2nd vaccination - slaughter



Results – androstenone og skatole

Herd	Androstenone/ Skatole	Testis weight	Carcass weight	Days from 2nd vacc - slaughter
A	4.07	415	87.6	79
B	3.96	335	82.7	33
C	2.45	310	84.1	51
A	2.38	380	78.5	83
B	2.07	950	83.8	33
D	1.91	540	73.9	45
D	1.85	670	75.0	55
A	1.67	385		83
E	1.21	861	90.7	32
A	1.13	435	86.8	83
B	1.13	435	80.4	29
F	0.25	480	79.3	29
G	0.20	320	78.2	53

Control animals

Number of ear tags distributed	44
Number of animals identified at the slaughter houses	19
Testis weight > 500g	13
Testis weight 300-500g	3 (16%)
Testis weight <300g	3 (16%)



Conclusions

- Good effect of vaccine - Few animals with high levels of androstenone or skatole
- Very hard to identify carcasses with boar taint without plenty of «false positives»
- Huge variation in testis size between herds
- Animals that have not received both vaccine doses but still have small testicles will not be identified
- Control of vaccine certificates should be emphasized

Thanks!

