



JTI – Swedish Institute of Agricultural and Environmental Engineering

# **Frequent delivery of straw for slaughter pigs – effect on behaviour, health and welfare**

**Lotten Wahlund**

*Ann-Kristina Lind*

*Cecilia Lindahl*

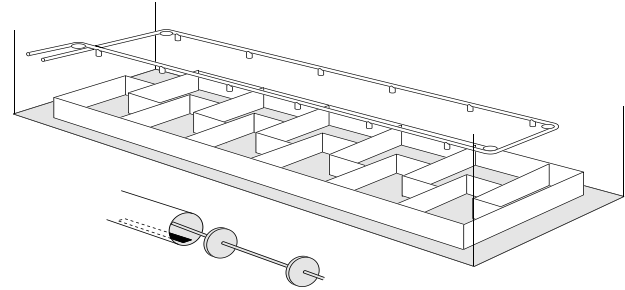
# Background

According to the Swedish law litter shall:

- be given in such quantity so the pigs employment and comfort needs are met
- contribute to a clean and dry lying area
- be of a good hygienic quality

Most common method - by hand once a day  
but it is laborious and dusty!

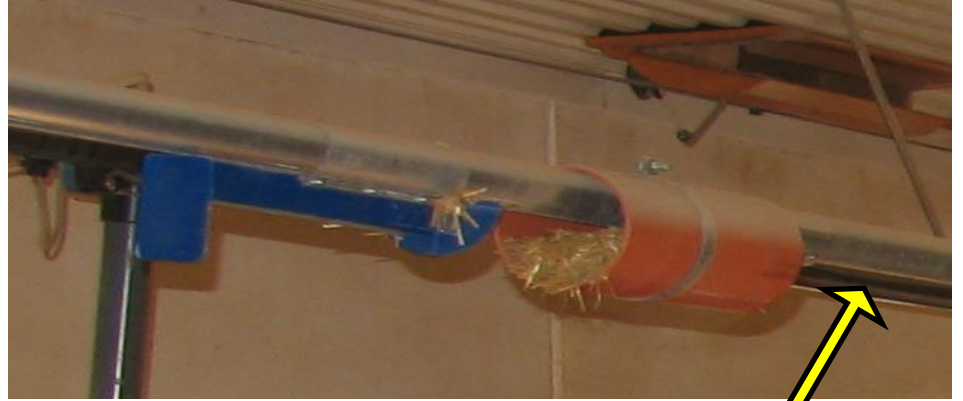
# What about an automatic system for delivery of straw?



## Advantages

- Straw every day
- Several deliveries per day
- Time adjusted delivery
- Save working hours

# Automatic Straw Delivery System



# Aim

The aim was to investigate if frequent deliver of straw had an effect on behaviour, health and welfare of slaughter pigs.

# Experimental design

## Conventional slaughter pig production

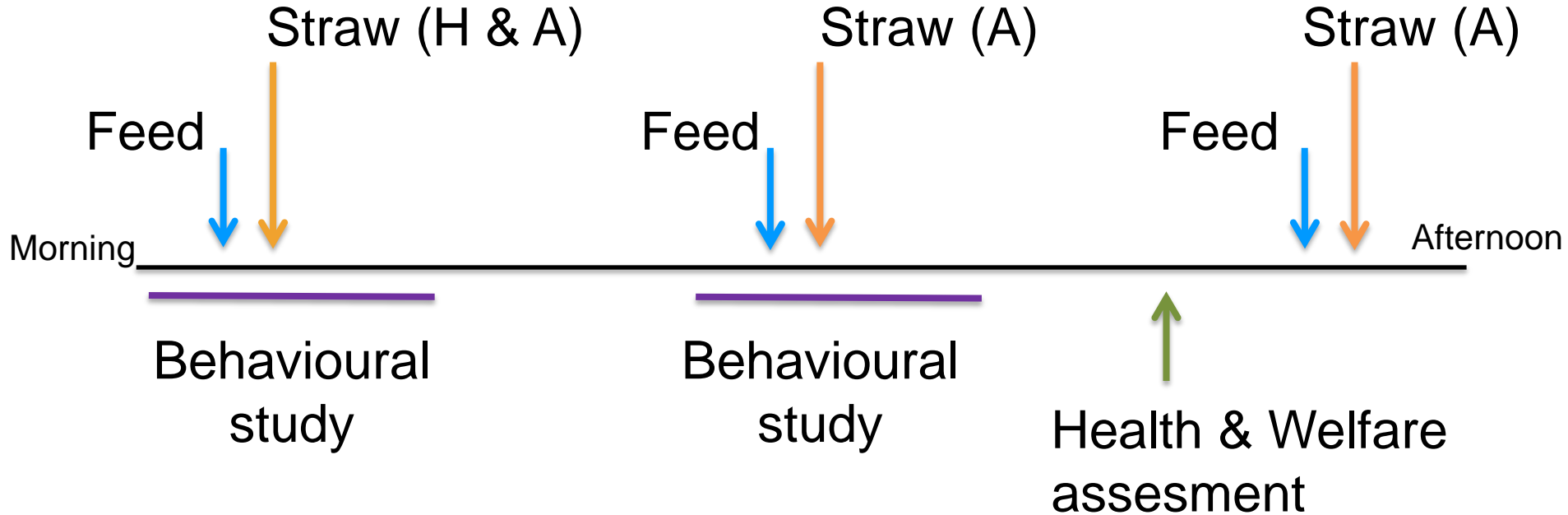
- Two sections - same size and design
- Two rearing periods
- 0.1 kg straw (shopped triticale) per pig and day

## Delivery of straw differed

- Section H (H): Delivery of straw by "**Hand**" once a day
- Section A (A): "**Automatic**" delivery of straw 3 times a day

# Recordings

H = by Hand  
A = Automatic



# Result – Behavioural study



Behaviour	H	A	p-value
Walk/run	6.51	8,56	<b>0.0474</b>
Lie	28,4	24,7	<b>0,0107</b>
Manipulate straw	2,00	4,10	<b>&lt;0,0001</b>
Manipulate box	0,54	0,67	0,4043
Manipulate other pig	1,61	1,82	0,7663
Social behaviour	1,45	1,72	0,4778
Aggressive behaviour	1,23	1,45	0,7564
Explorative behaviour	1,49	1,68	0,4264

H = by Hand  
A = Automatic



# Result – Health and Welfare



	Rearing period 1		Rearing period 2	
	H	A	H	A
Tail damage (%)	< 0.01	0.01	0.04	0.06
Wounds on body (%)	0.16	0.21	0.15	0.16
Lameness (%)	0.04	0.04	0.03	0.03
Body cleanliness (0-3)	0.92	1.53	1.48	1.95

H = by Hand

A = Automatic

# Summery

- The pigs became more active and spend more time manipulating straw when straw was given 3 times per day compared to once a day
- There were no significant differences on health and welfare between the two sections
- Frequent delivery of straw – positive effect on behaviour - busy themselves
- An automatic system for delivery of straw, enables that straw can be given once or several times per day without affecting the work time negatively

# Need for future research



The effect of the amount of straw and straw length on pigs behaviour and health when straw is delivered several times per day





# Thank you for your attention!



[lotten.wahlund@jti.se](mailto:lotten.wahlund@jti.se)

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