

# Association between Parity Proportion and Production in Landrace Sows

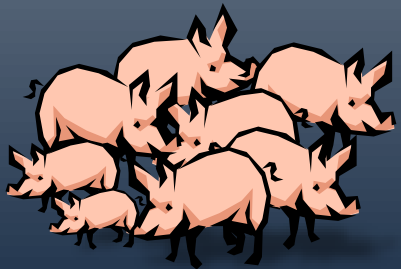


**Namtip Jirattikanpan**

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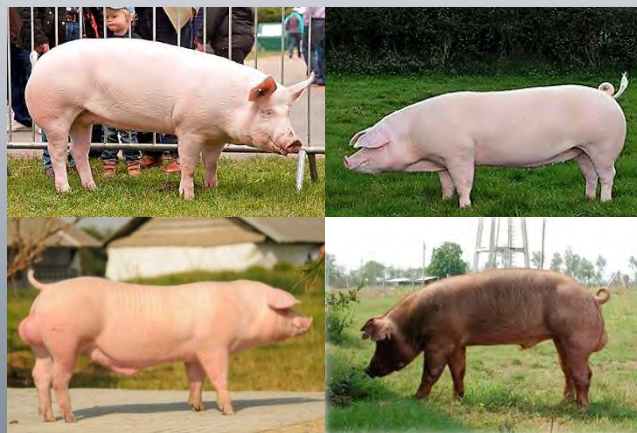
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# Swine production in Thailand



**978,032 Purebred pigs**



**5,916,596 fattening pigs**



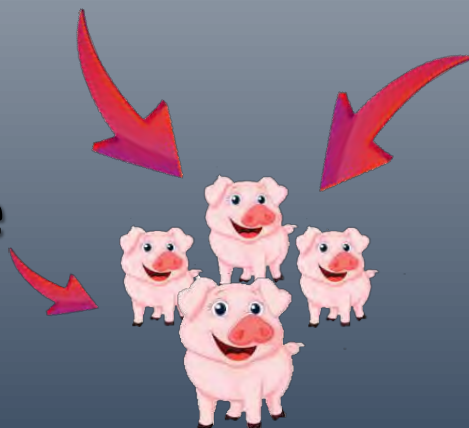


# Factors affecting sow production

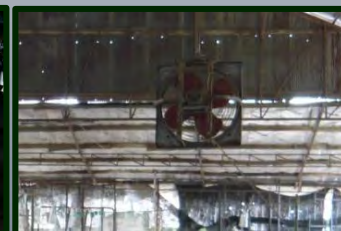
## Breed



## Age



## Management



## Production sows

(NTB and NBA)

NTB = number of total piglet born; NBA = Number of piglet born alive





# How important ?

## Parity proportion (PP)



Parity 1



Parity 2



Parity 3



Parity 4



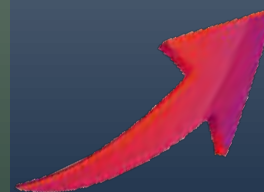
Parity 5



Parity 6



Parity 7





# Objective

To study association between **parity proportion** and **production** in Landrace sows





# Dataset and Management



- ❑ 1,699 animals (Landrace sows)
- ❑ 7,448 little record
  - number total piglet born (NTB)
  - number piglet born alive (NBA)
- ❑ 2004 to 2013
- ❑ Commercial farm (opened-house system)
- ❑ All gilts were receive similar feed
  - 16% to 18% crude protein (CP)



# What is Parity proportion ?

## Parity Proportion (PP)

The number of farrowing sows in each parity

Parity 1    Parity 2    Parity 3    Parity 4    Parity 5    Parity 6    Parity 7

Total sows

Parity proportion =  $\frac{\text{The number of farrowing sows in each parity}}{\text{Total sows}} \times 100$

Proportion  
1

Proportion  
2

Proportion  
3

Proportion  
4

Proportion  
5

Proportion  
6

Proportion  
7



Parity proportion

Classification

PP1

PP2

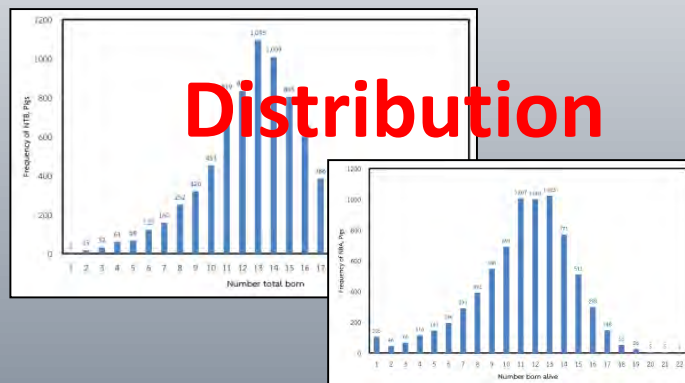
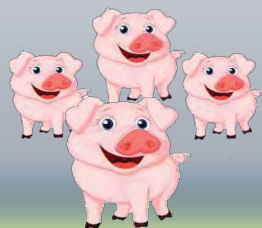
PP3

PP4





# Materials and Methods



Correlation  
of sow  
production

- ❑ 1,699 animals
- ❑ during 2004 to 2013
- ❑ Classification (PP1, PP2, PP3 and PP4)

Data analysis

Number of total piglet born (NTB)  
Number of piglet born alive (NBA)



# Results and Discussion

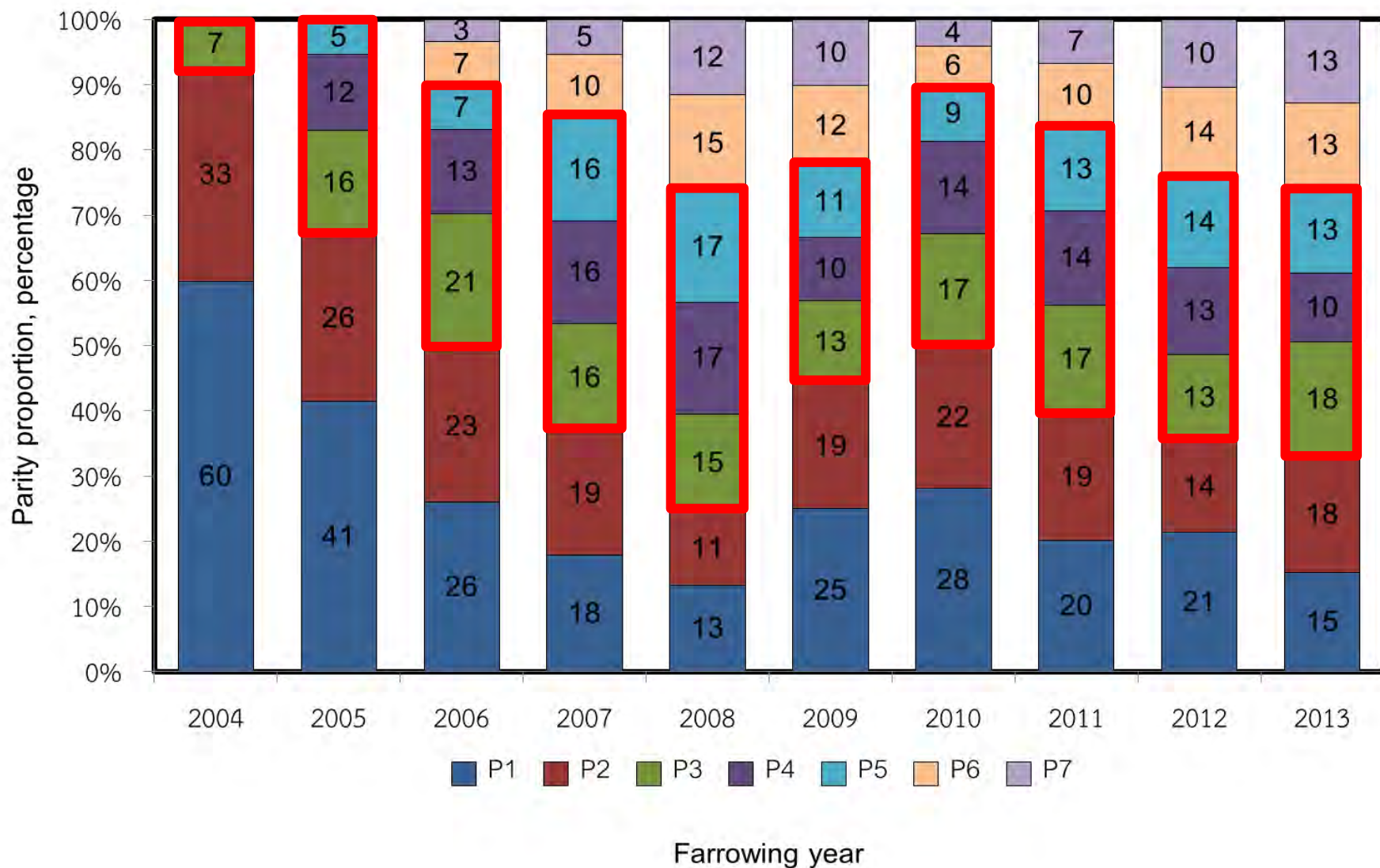


# Classification of swine

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>Sows (heads)</b>	202	500	823	923	733	763	929	1,121	1,156	297
<b>Primiparous (litter)</b>	121	207	213	160	96	182	249	216	217	38
<b>Multiparous (litter)</b>	81	293	610	763	637	581	680	905	939	259
<b>NTB (piglets)</b>	2,139	5,845	9,636	11,031	8,542	9,414	11,167	13,557	13,118	3,439
<b>NBA (piglets)</b>	1,848	5,028	8,453	9,547	7,574	8,001	9,487	11,799	11,495	2,894

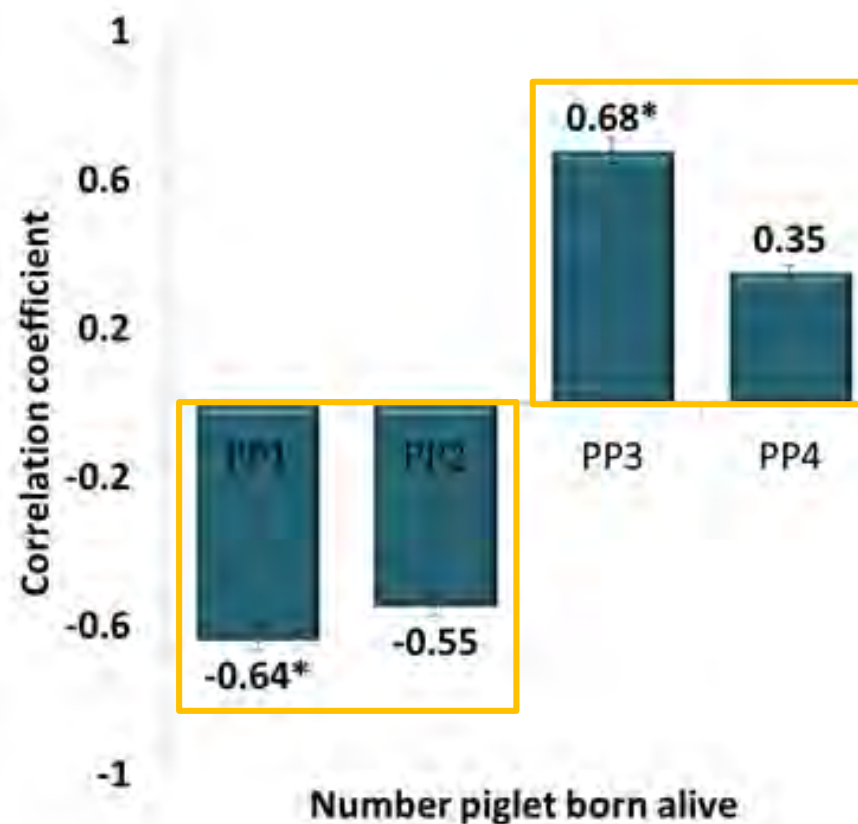
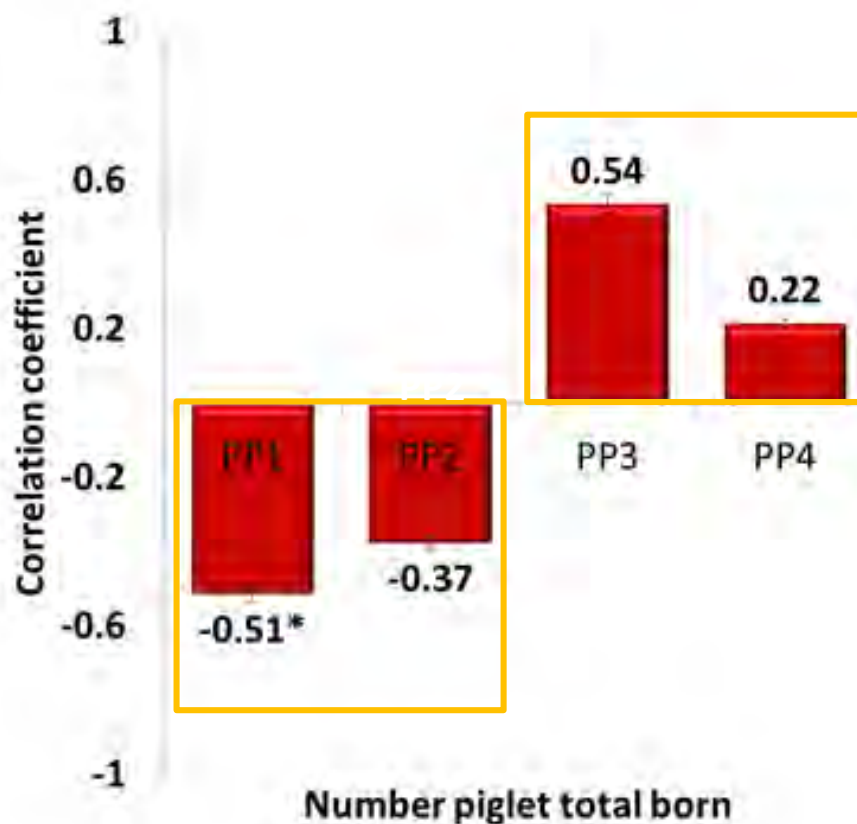


# Parity proportion of swine





# Correlation of NTB and NBA







# Conclusion

**NTB** and **NBA** were negatively correlated with PP1 and PP2 (range = -0.37 to -0.64), and positively correlated with PP3 and PP4 (range = 0.22 to 0.68)





# Implication

**Maintaining a suitable proportion of parities of sows in the production herd should be designed in order to keep a desirable annual piglet production for the commercial swine operation**

**Larger proportion of the 3<sup>rd</sup> to the 5<sup>th</sup> parities (> 40 percent) should be considered**



# Acknowledgements



**Commercial Swine Farm**



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Faculty of Agriculture, Kasetsart University,  
Bangkok, Thailand**



**Tropical Animal Genetic Unit (TAGU)**



**Department of Animal Sciences, University of  
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A photograph of two pink piglets standing in a grassy field. In the background, there are rolling hills and a dramatic sky with dark, heavy clouds and a bright light source. A large, dark green speech bubble is overlaid on the image, containing the text "Thank you for your attention".

**Thank you for  
your attention**