



# Genetic disposition for infectious arthritis in piglet

## INTRODUCTION

About 10% of the piglets are treated for arthritis during suckling, but "only" every second litter is affected. There can thus be a genetic predisposition for development of arthritis.

## MATERIALS & METHODS

During two and a half year, all pigs born at Lövsta research station, Swedish University of Agricultural Sciences with 110 sows were studied. Each pig had an identity and an individual record.  
The occurrence of arthritis was registered from birth to 5 weeks of age.

- 6,787 liveborn piglets
- 52 boars with at least 4 litters (1 Duroc; 23 Hampshire; 6 Landrace; 22 Yorkshire)
- 92 sows with at least 2 litters (86 Y, 6 Y x L)

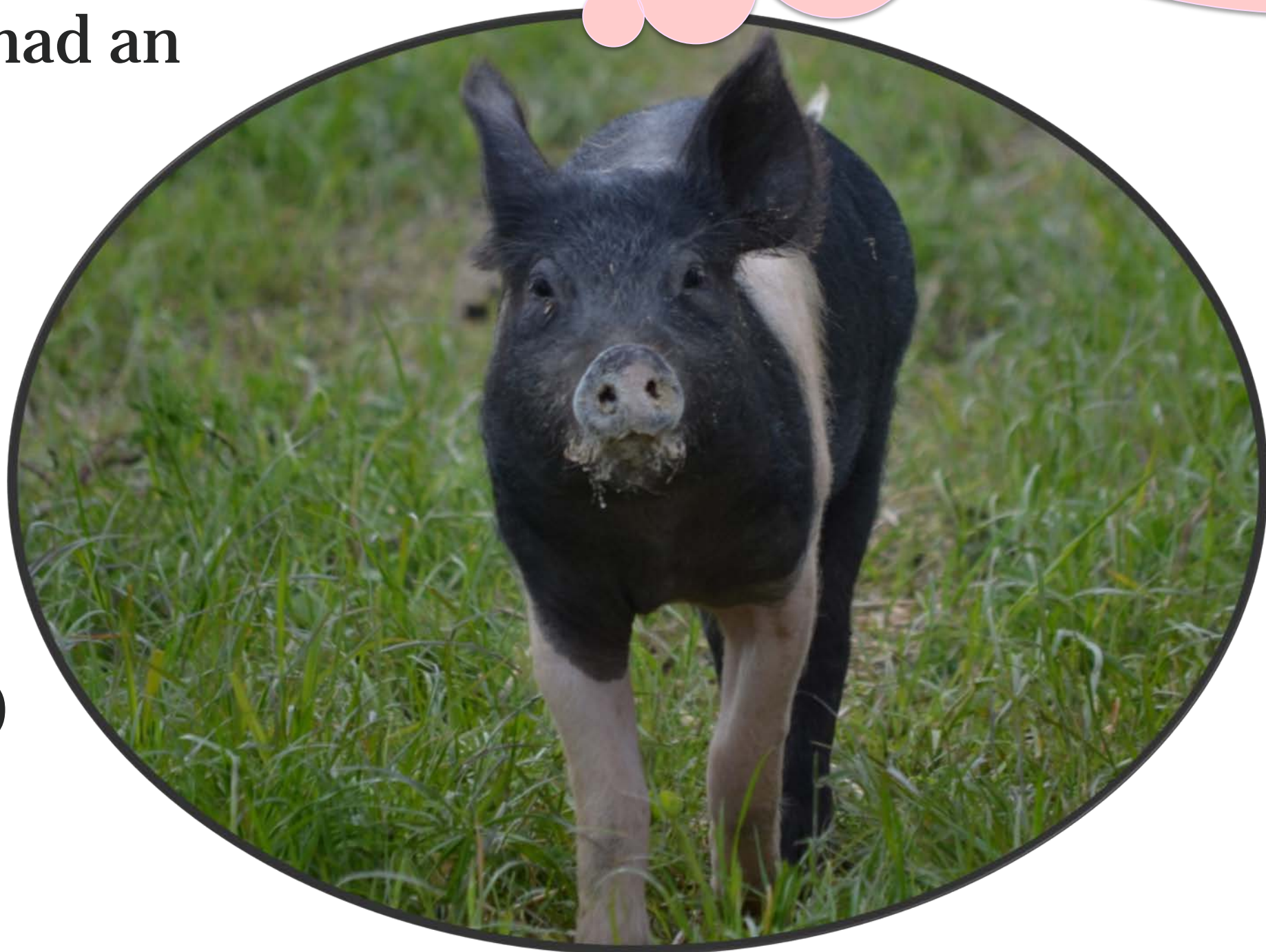


Photo: Maria Persson/SVA

## CONCLUSION

Breeding have focused on production traits, which may have unfavorable genetic correlations with the traits.

Leg conformation and locomotion traits are heritable, and the results obtained indicate that these traits can be improved by selection.

## RESULTS

In total 415 of 6,787 liveborn piglets were diagnosed with arthritis (6.1%), whereof 86% took place during the first 3 weeks of life.

In offsprings to **H-boars** and **Y-boars**, the arthritis in piglets were related to a larger litter size ( $P < 0.01$ ). Depending on breed, the incidence of litters with arthritis ranged from 38 to 49%.

**Table 1.** The mean prevalence of arthritis for different breed; Boars

Boars	Range Mean (sd) of arthritis (%)
22 Y-Boars	1.4±3.4 - 16.8±16.7
23 H-Boars	1.0±2.7 - 11.5±16.5
6 L-Boras	3.2±4.1 - 6.6±6.2

Also in **Y-litters** with more than one arthritis, the litter size was larger ( $P < 0.001$ ) than in litters with 0-1 arthritis (14.6±2.9 vs 12.7±2.9), but there were large litters without arthritis.

**Table 2.** Relationship with arthritis at piglets of the litter and the mean prevalence of arthritis for different parity and breed; Sows

86 Y-Sows Parity	Litters with arthritis (%)	Range Mean (sd) of arthritis (%)	6 YL-Sows Parity	Range Mean (sd) of arthritis (%)
1	45			
2	42	3.1±4.4 - 22.9±14.7		
3	70	2.1±3.6 - 22.4±19.6	3 - 4	2.1±3.6 - 4.6±4.1
4	81	1.7±3.3 - 18.1±16.1		
5	100	1.2±2.6 - 25.3±20.6		
6	100	1.0±2.6 - 11.4±10.4		

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