



Selection for residual feed intake in growing pigs: effects on sow performance in a tropical climate

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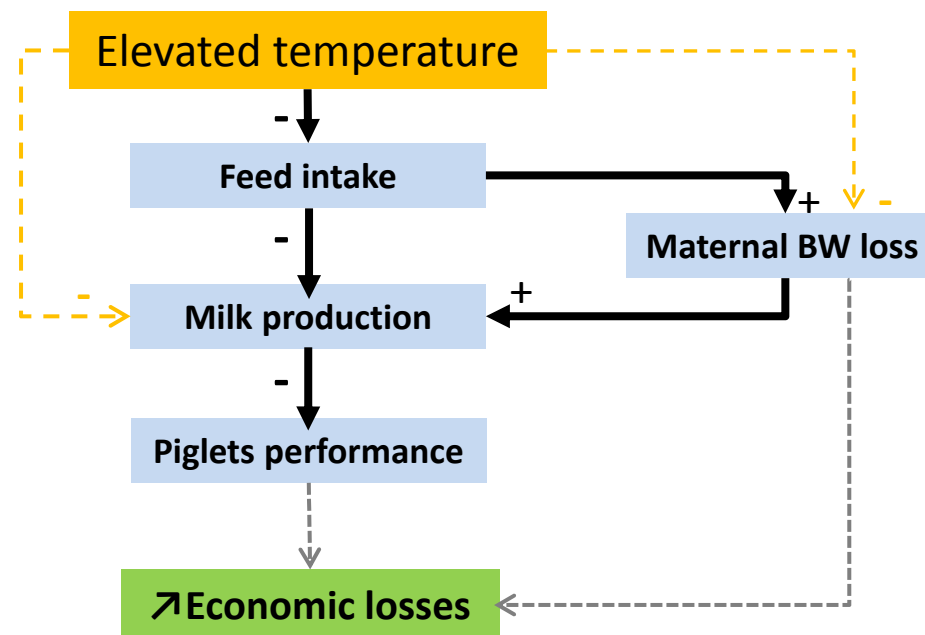
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 - Tropical & temperate regions
 - Concerns about the enhanced thermal susceptibility of “moderns” pigs
- Reduction in pig performance under thermal stress is directly/indirectly related to thermoregulation responses (for *e.g.* in lactating sows)




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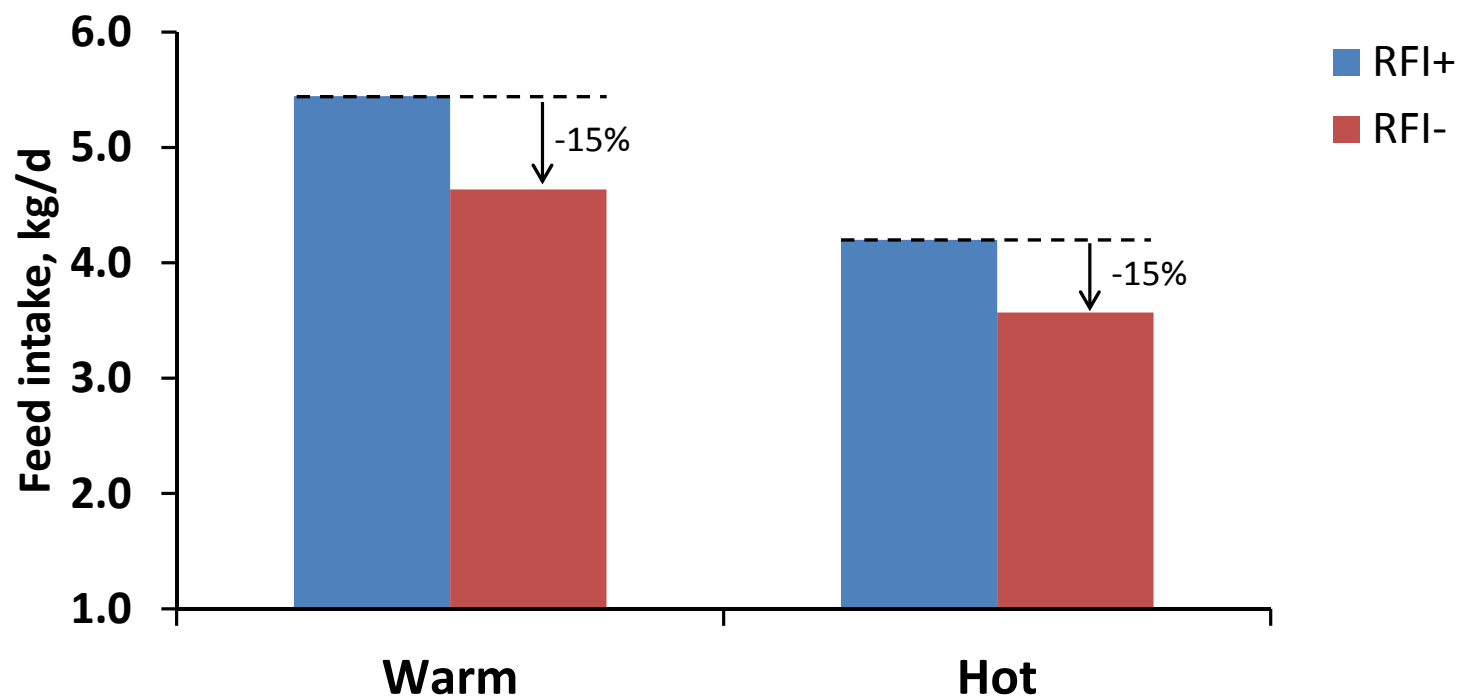


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- ➔ Evaluate the consequences of selection for RFI in growing pigs on sows performance in tropical climate



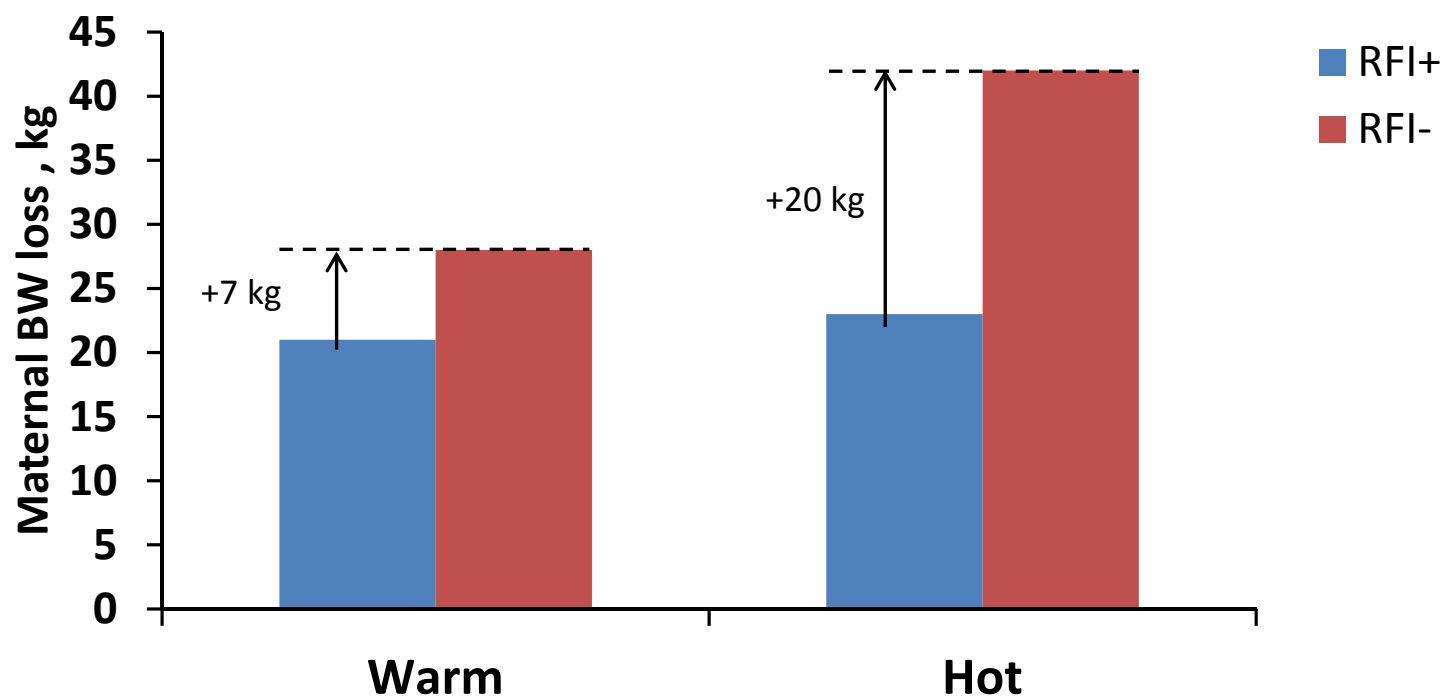
- 20 gilts (10/line) from the 7th generation of selection were imported from metropolitan France to Guadeloupe, FWI
- 2 to 6 litters produced/females (n=82 in total)
- 2 seasons: Warm (23.5°C) and Hot (25.7°C), high RH (95% on average).
- Measurements
 - Sows performance (ADFI, BW loss, reproduction)
 - Litter performance (size, growth)
 - Thermoregulation traits (rectal temperature, respiratory rate).

Voluntary feed intake



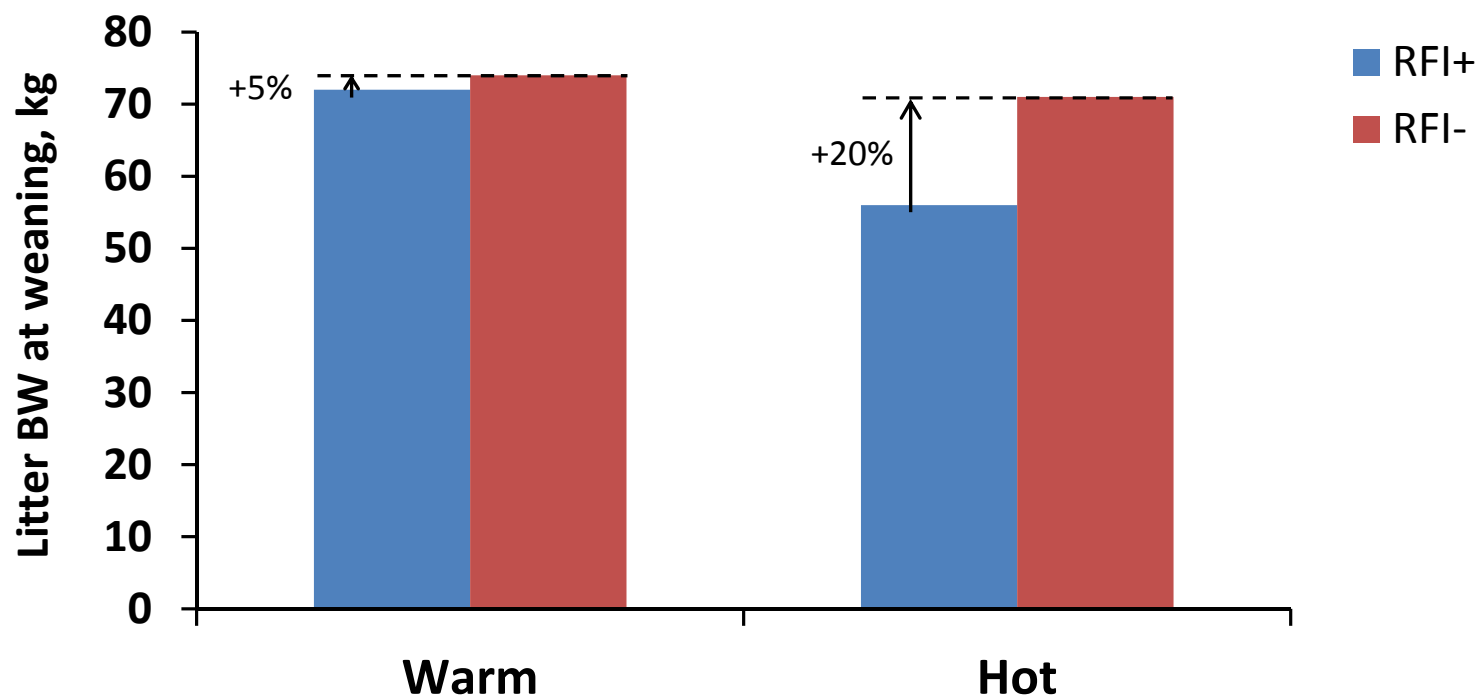
Statistics: season ($P < 0.01$: -25%); line ($P < 0.01$); season \times line (*NS*)

Maternal BW loss during lactation



Statistics: season ($P=0.02$: $=+8$ kg); line ($P<0.01$); season \times line ($P=0.04$)

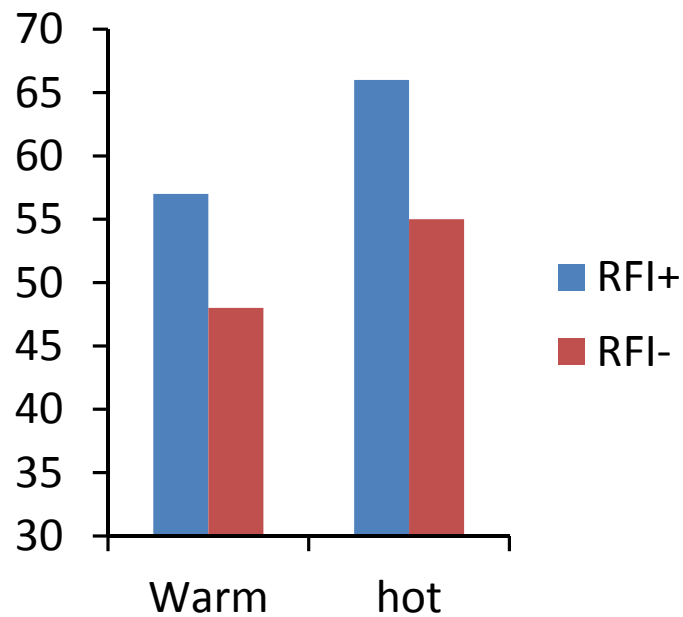
Litter BW at weaning



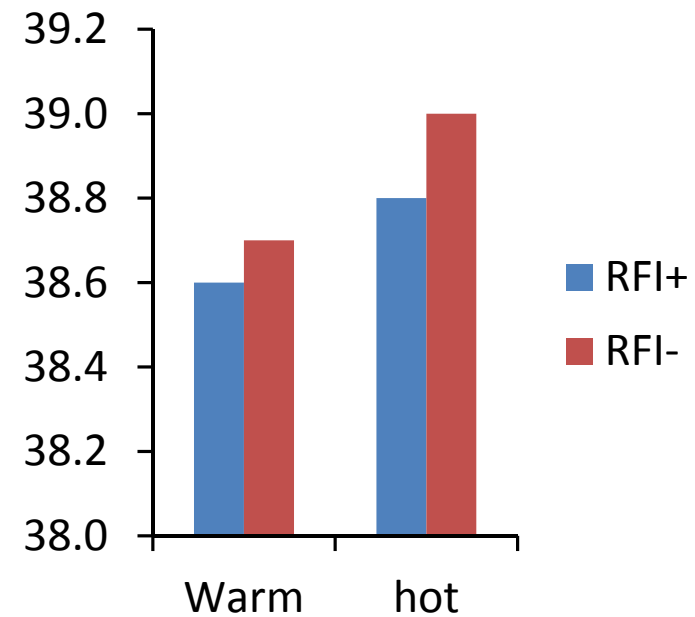
Statistics: season ($P=0.04$: -10%); line ($P=0.03$); season \times line ($P=0.10$)

Thermoregulation traits

Respiratory rate



Rectal temperature



Statistics: season ($P < 0.05$); line ($P < 0.05$); season \times line ($P > 0.10$)



- Effects of seasonal variations of tropical climate have strong effects on sow and litter performances
- Effects of selection for a low RFI on sow performance:
 - ↳ feed intake (-15 kg)
 - ↗ litter BW at weaning (+2/+16 kg) } ↗ lactation feed efficiency
- Selection for a low RFI in temperate conditions did not influence lactation (improve ?) performance in HS lactating SOWS

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