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

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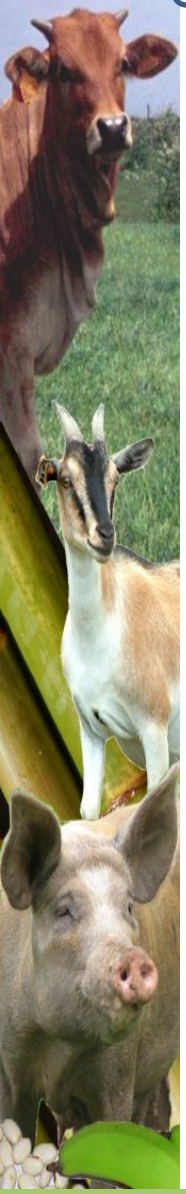

- Hot climate is a problem for pig production
  - Tropical & temperate regions
  - Concerns about the enhanced thermal susceptibility of "moderns" pigs

- Reduction in pig performance under thermal stress is directly/indirectly related to thermoregulation responses (for *e.g.* in lactating sows)

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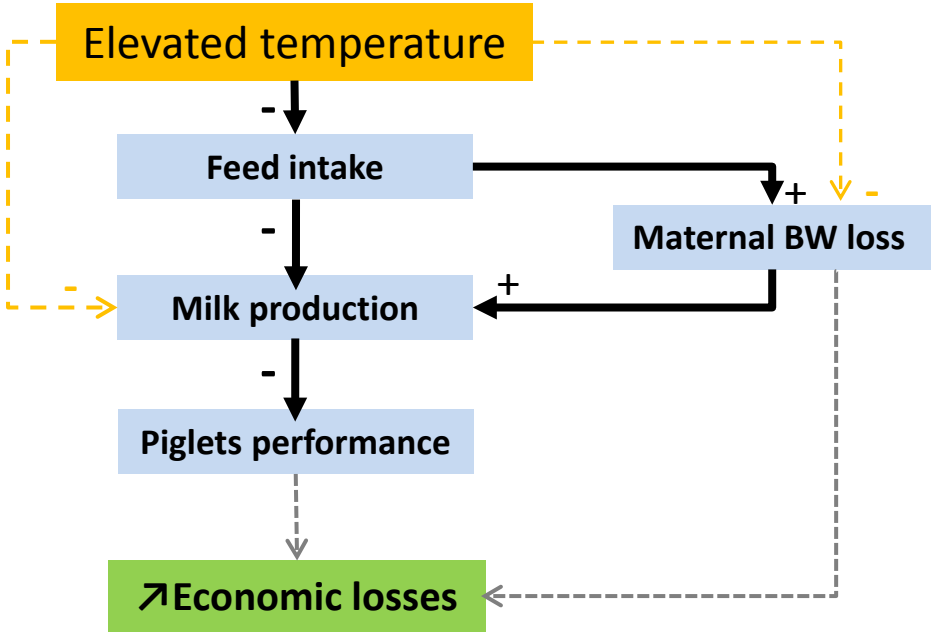

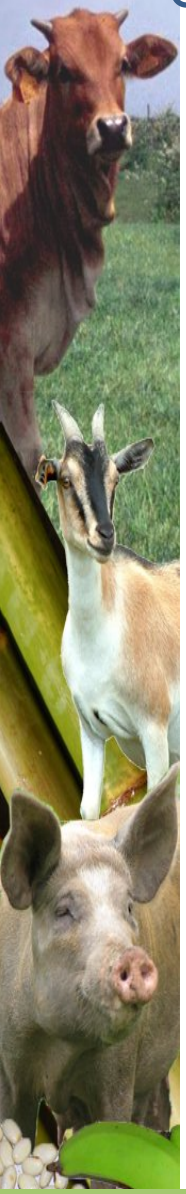

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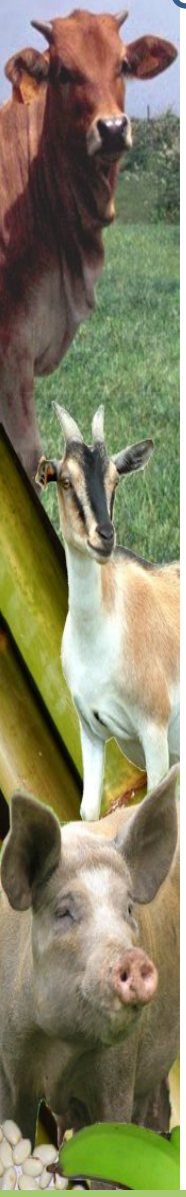

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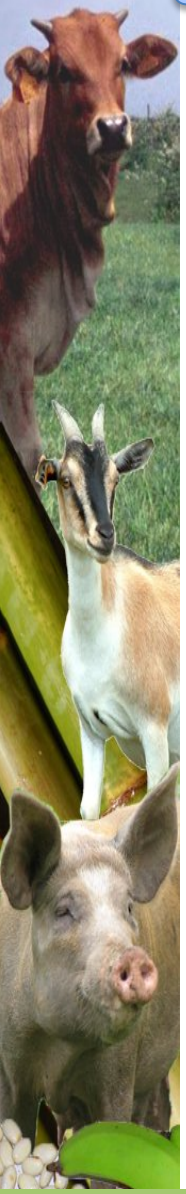
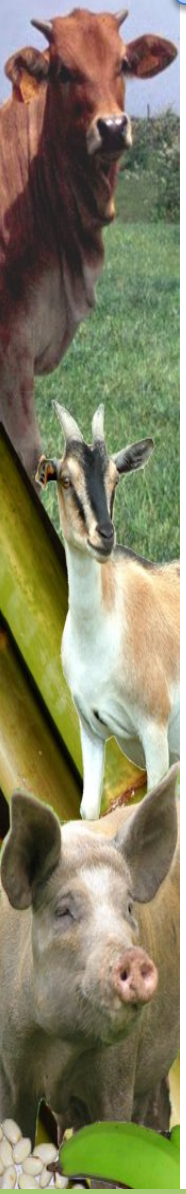
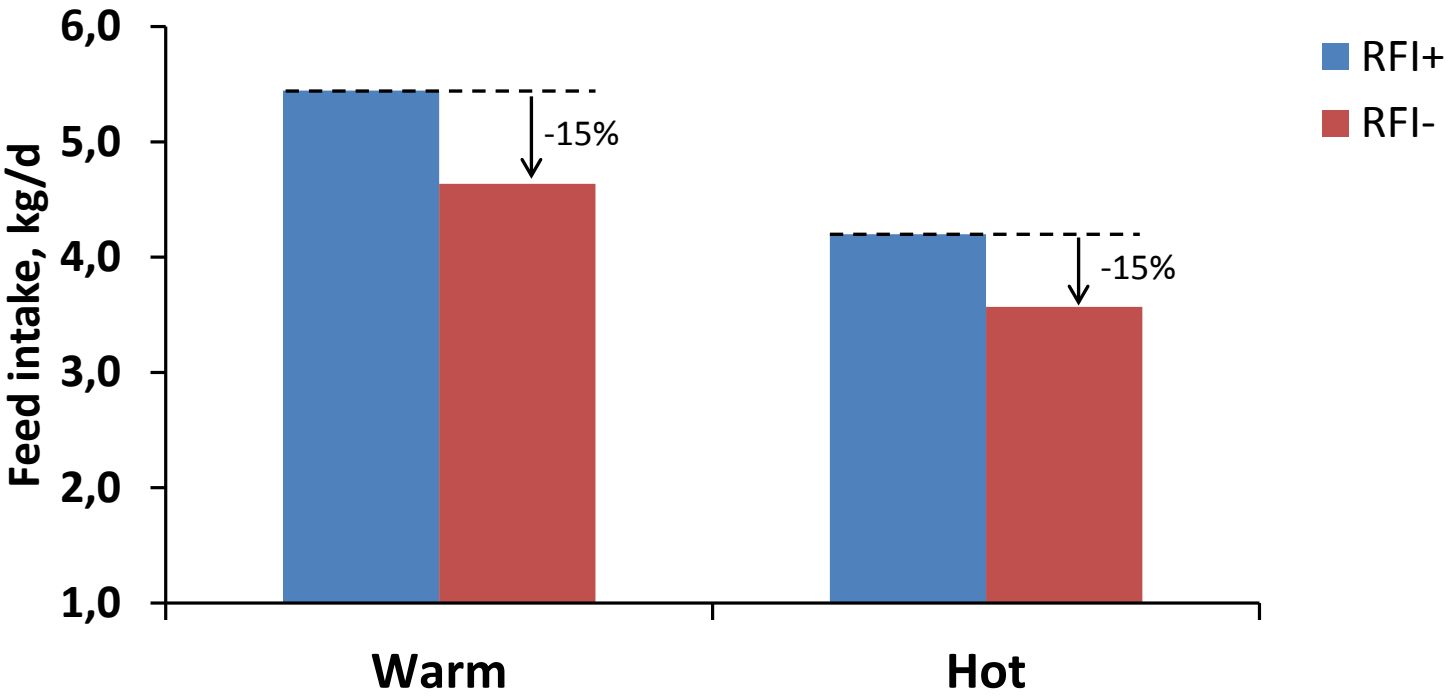
➔ Evaluate the consequences of selection for RFI in growing pigs on sows performance in tropical climate



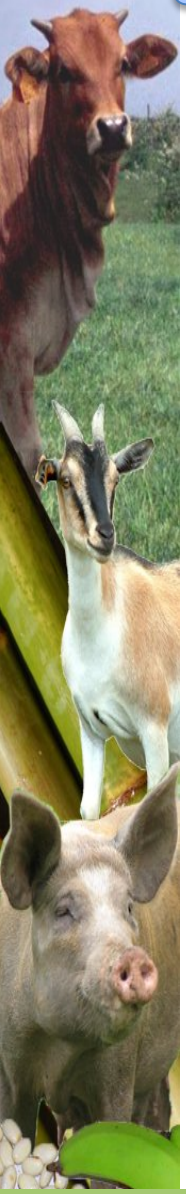
- 20 gilts (10/line) from the 7th generation of selection were imported from metropolitan France to Guadeloupe, FWI
- 2 to 6 litters produced/females (n=82 in total)
- 2 seasons: Warm (23.5°C) and Hot (25.7°C), high RH (95% on average).
- Measurements
  - Sows performance (ADFI, BW loss, reproduction)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



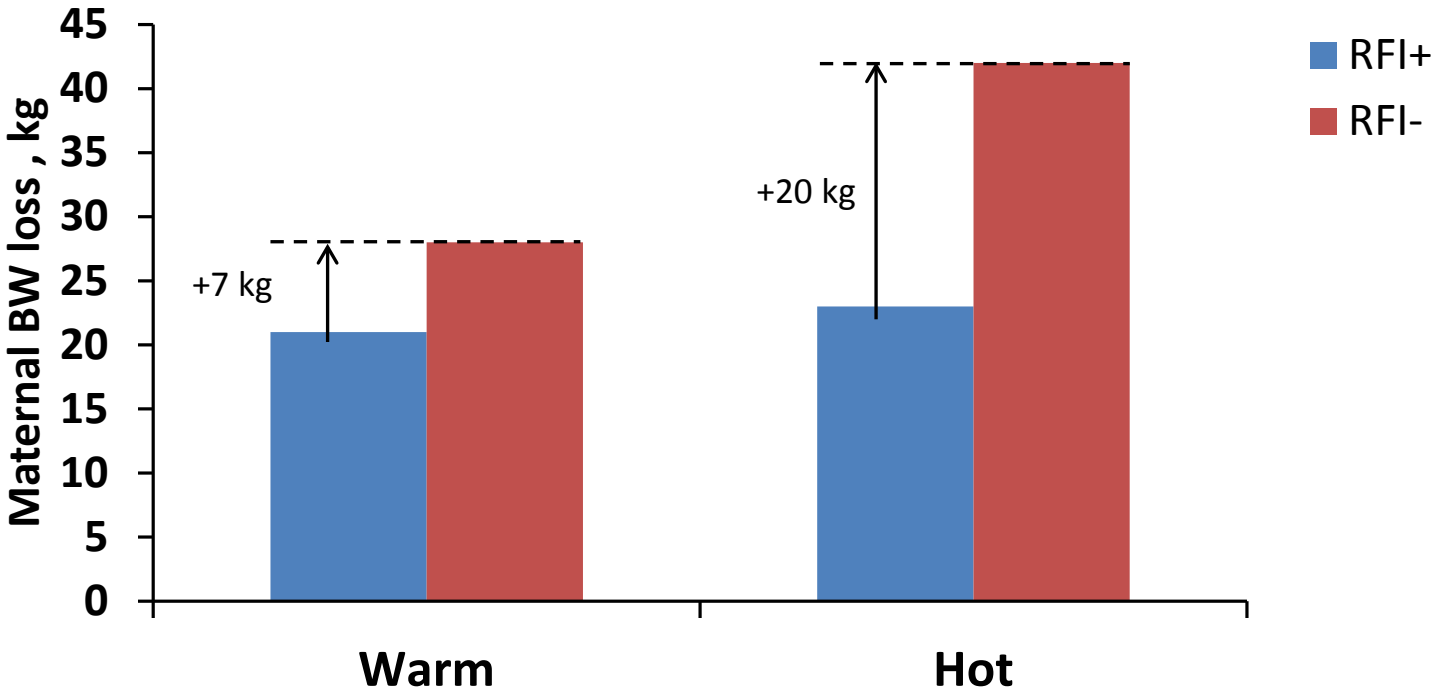
Voluntary feed intake



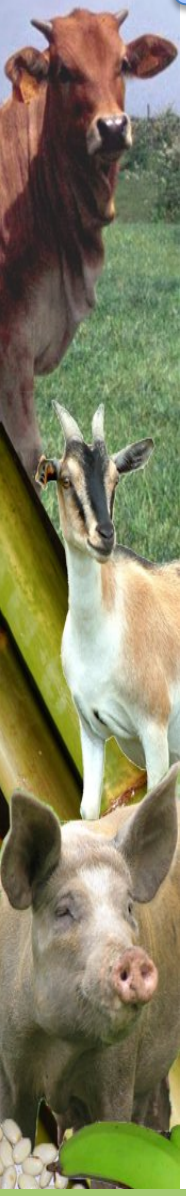
Statistics: season (*P<0.01*: -25%); line (*P<0.01*); season × line (*NS*)



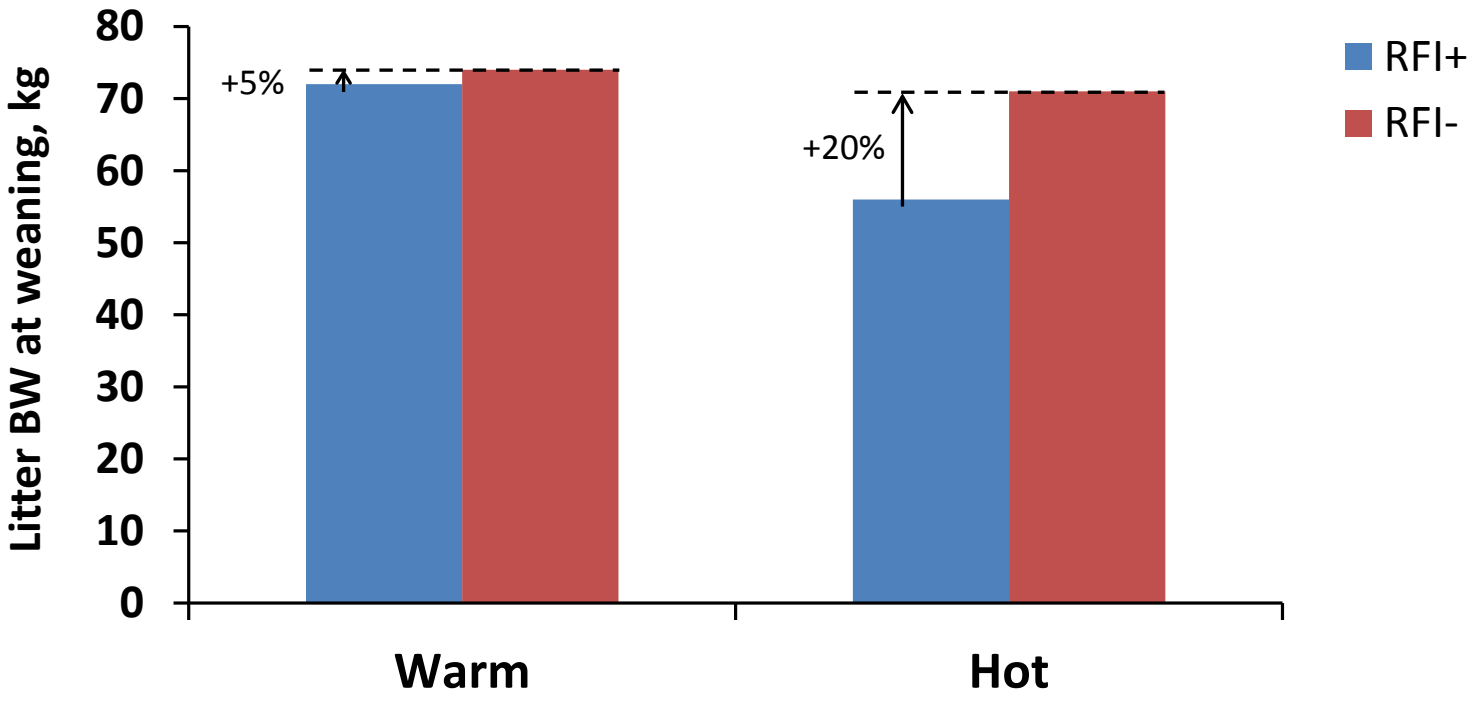
Maternal BW loss during lactation



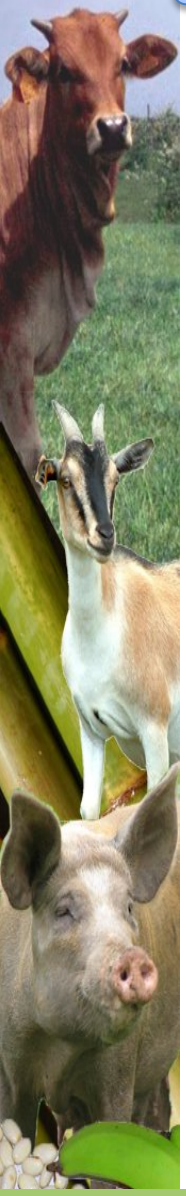
Statistics: season (*P=0.02*: =+8 kg); line (*P<0.01*); season × line (*P=0.04*)



Litter BW at weaning

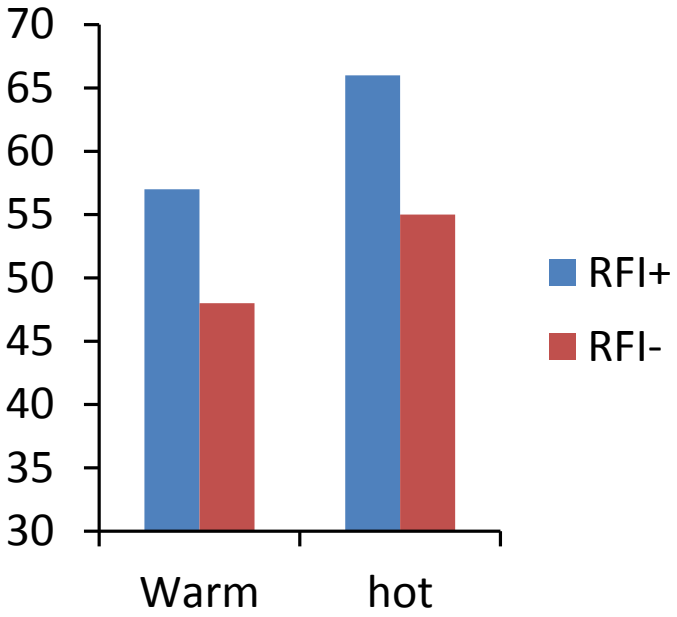


Statistics: season (*P=0.04*: -10%); line (*P=0.03*); season × line (*P=0.10*)

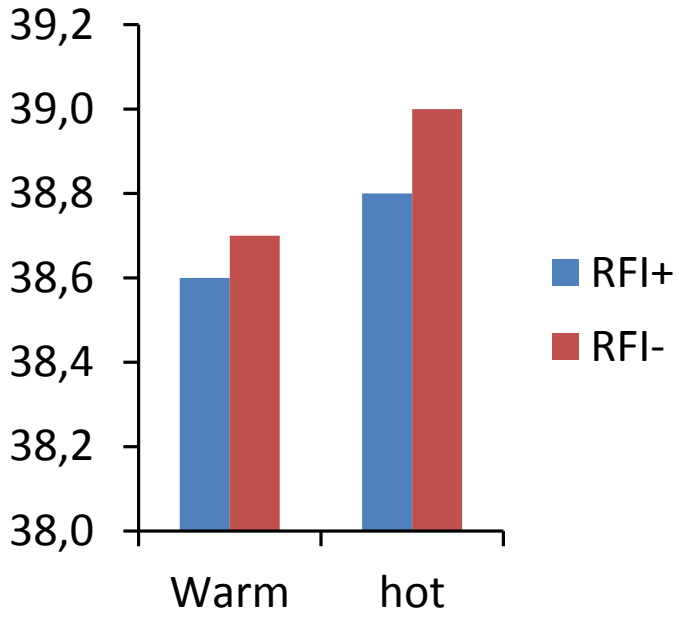


Thermoregulation traits

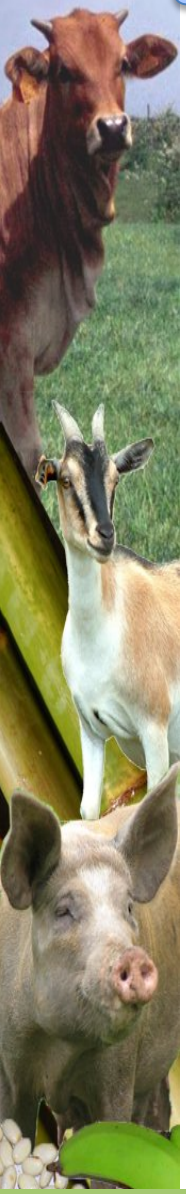
Respiratory rate



Rectal temperature



Statistics: season (*P<0.05*); line (*P<0.05*); season × 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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