

Methane – animal breeding and genetics tools

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HOST INSTITUTION



PARTNER INSTITUTIONS

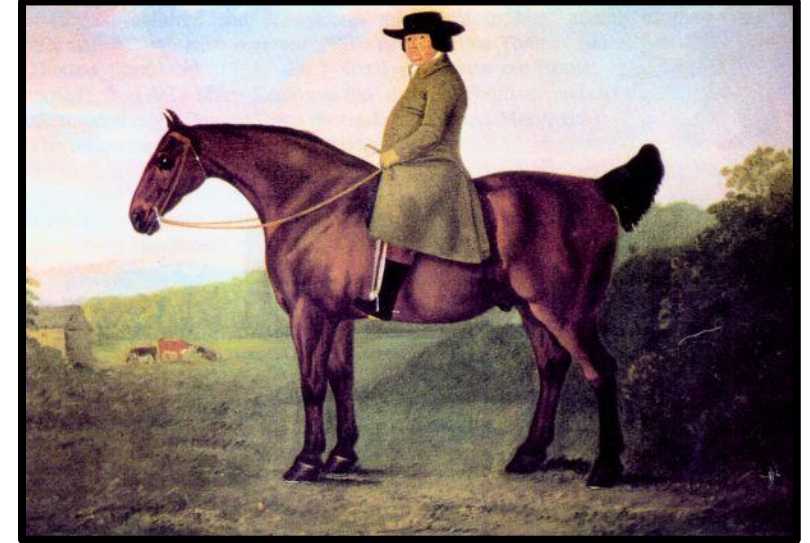


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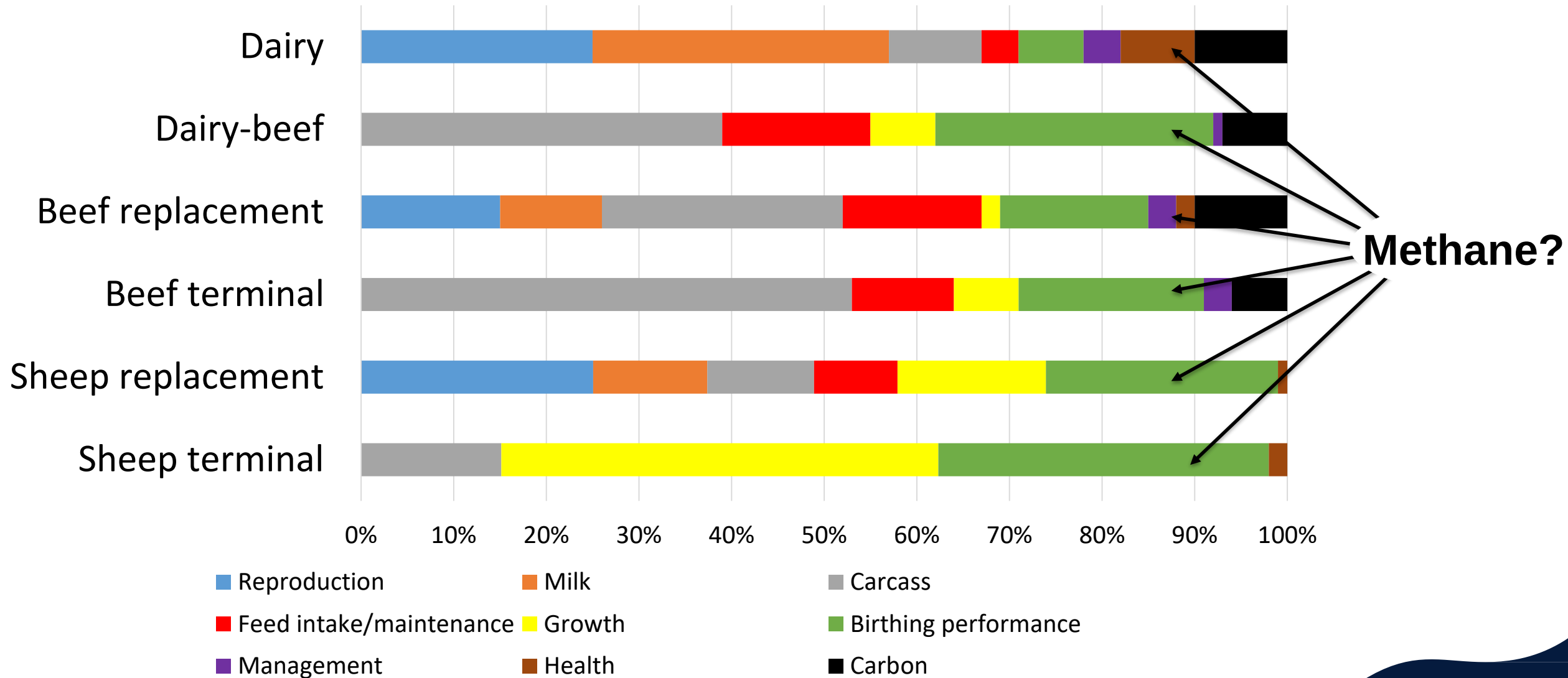


Why breeding?

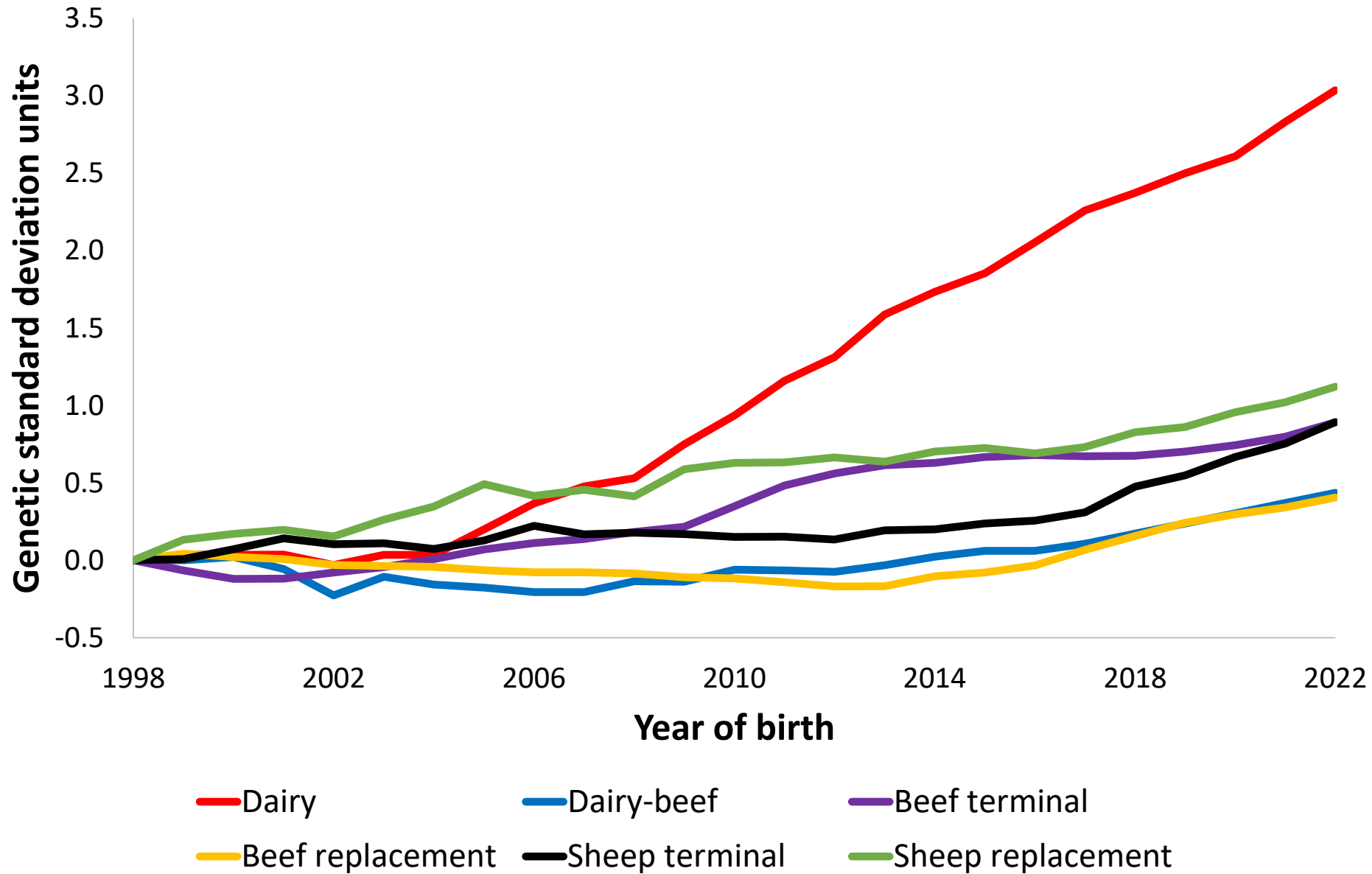
1. Close to complete adoption rate – framework already in place
 2. Proven to deliver (across species)
 3. Gains build over time
 4. Gains can be permanent
 5. No needed change in farm management
 6. No direct additional costs to producers
 7. Sustainable
 8. Can improve many traits concurrently
- complementary to advances in management**



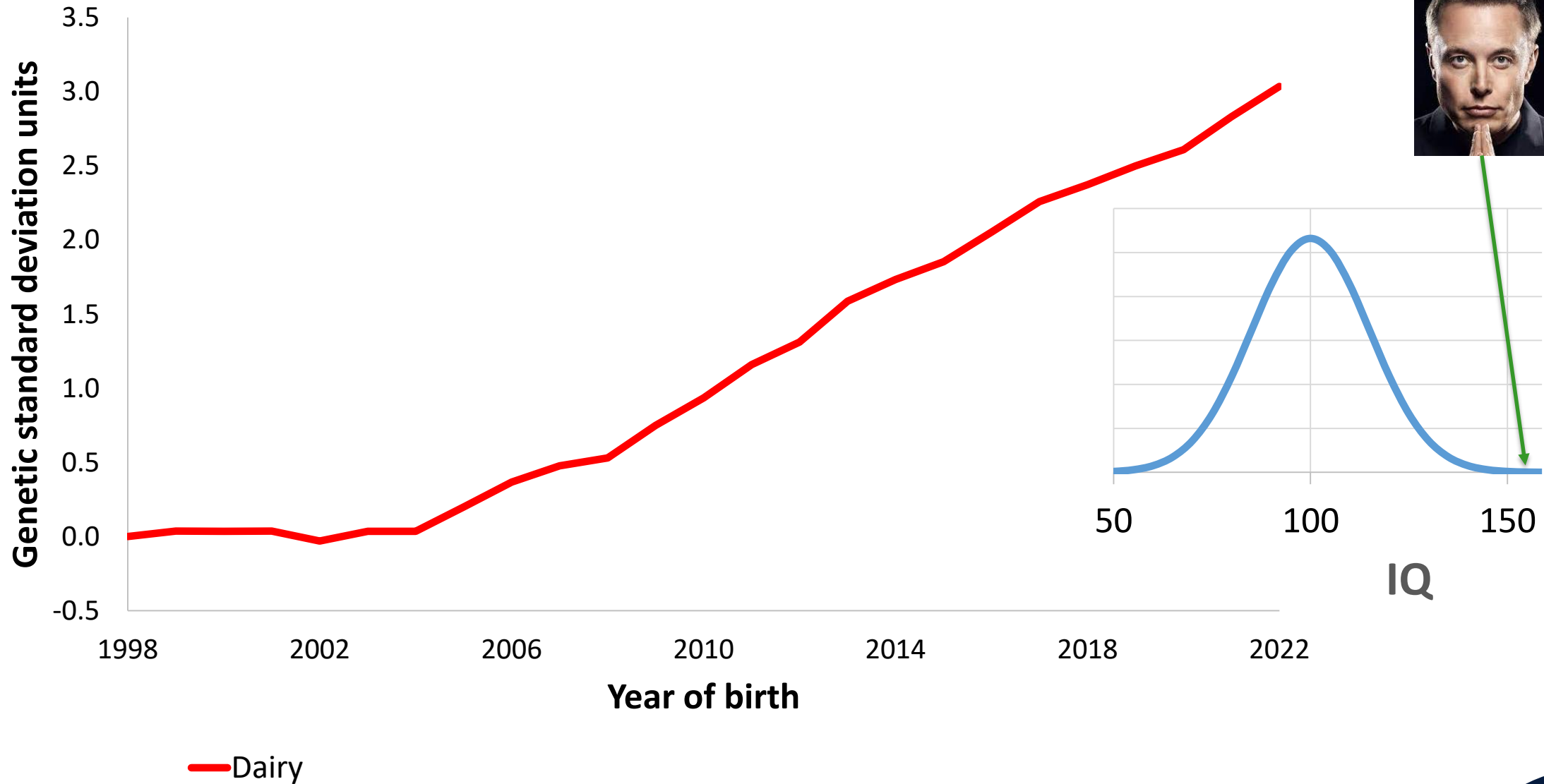
1. Deployment framework



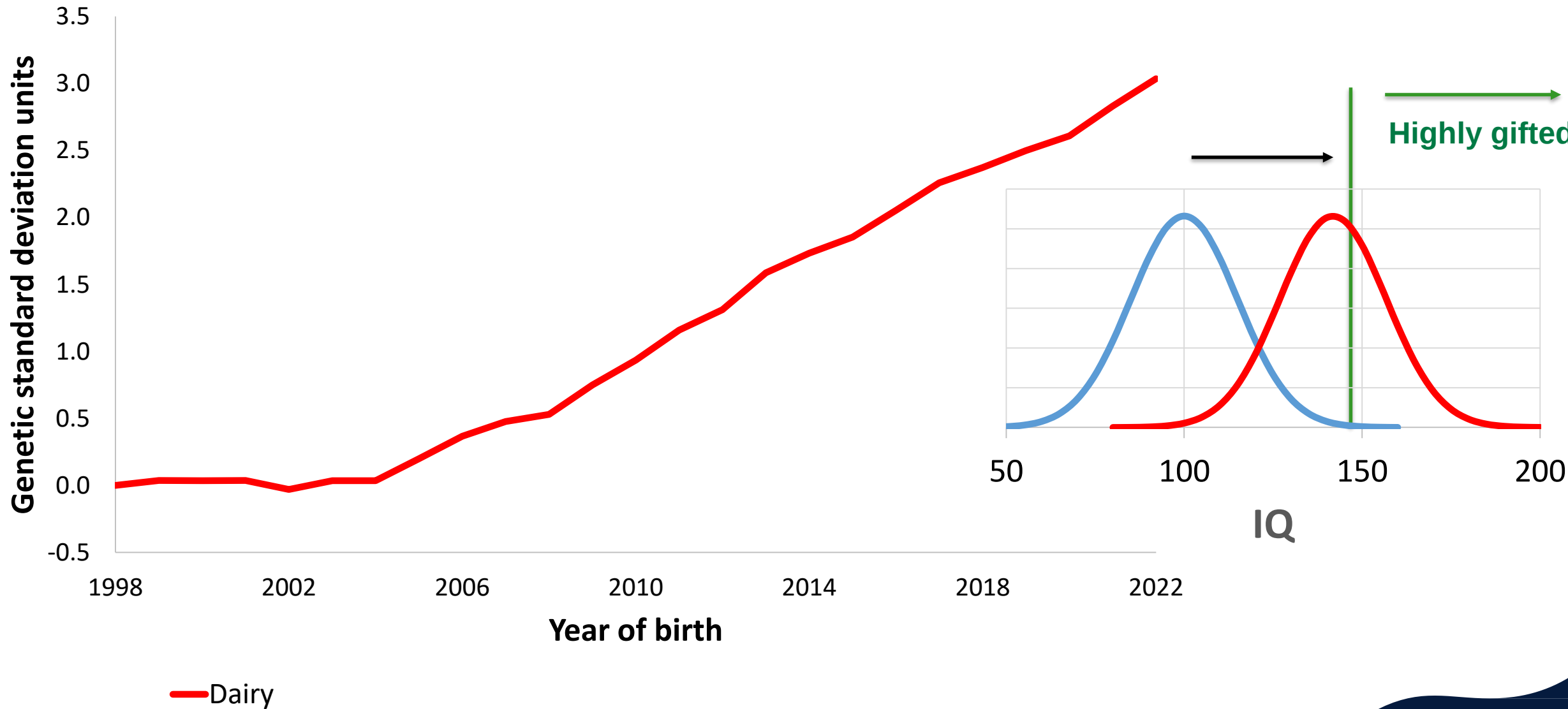
2. Proven to deliver



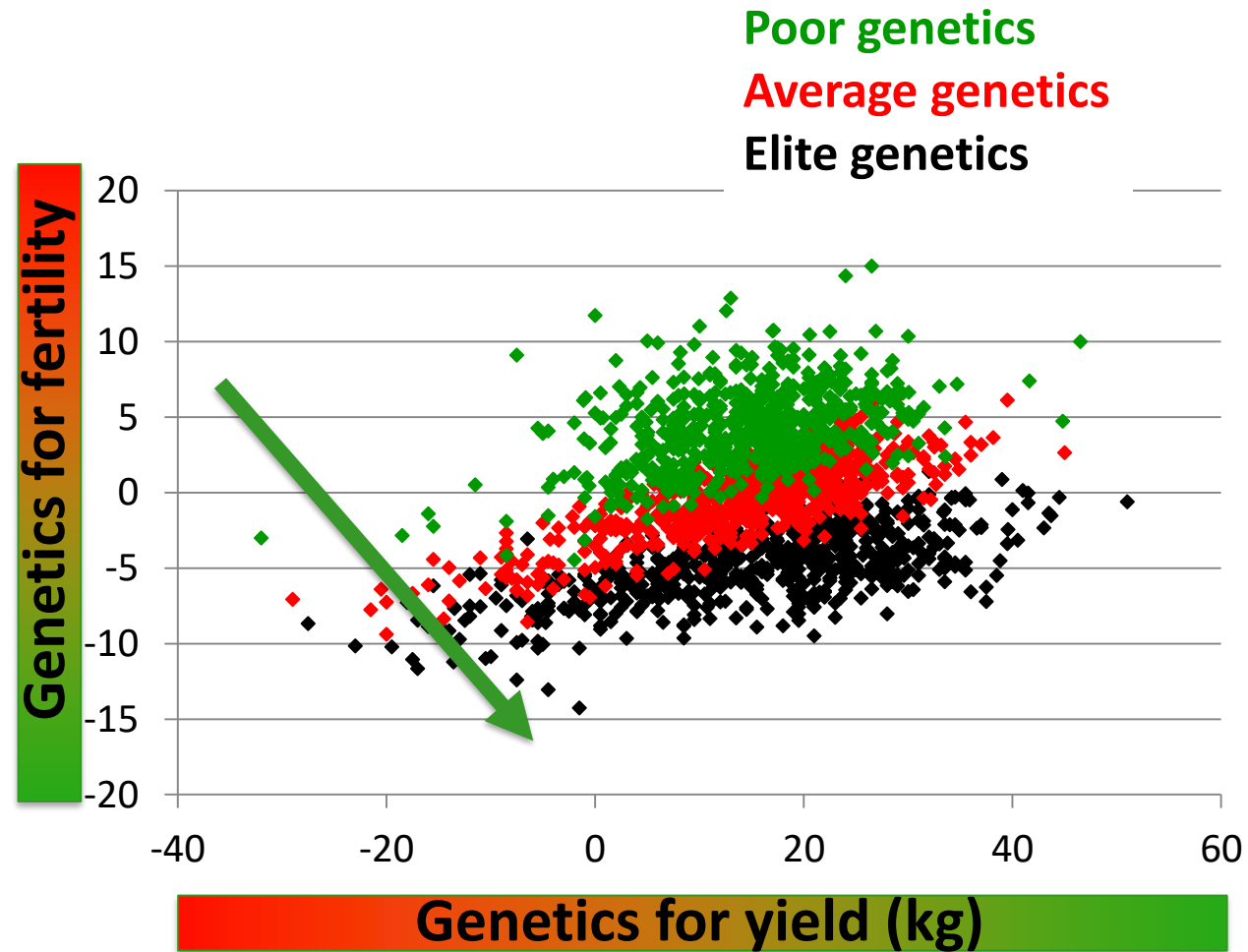
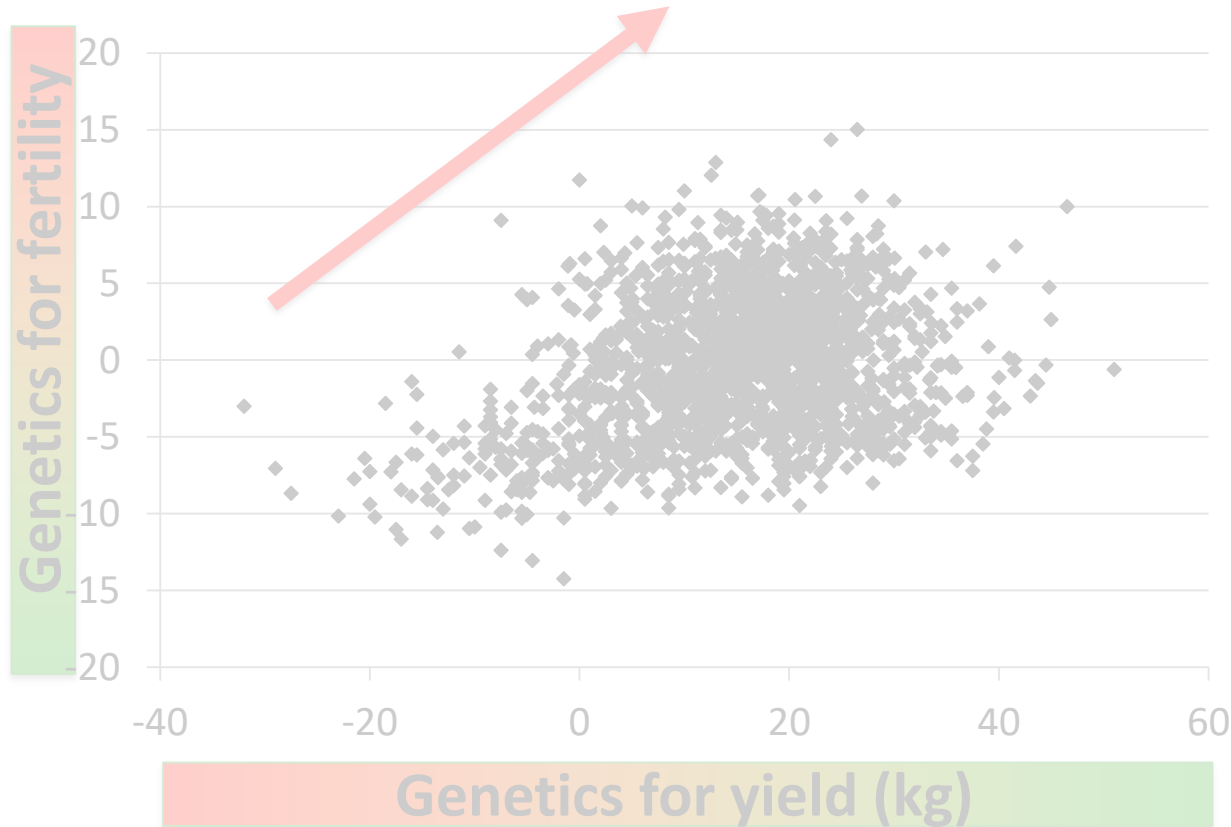
2. Proven to deliver



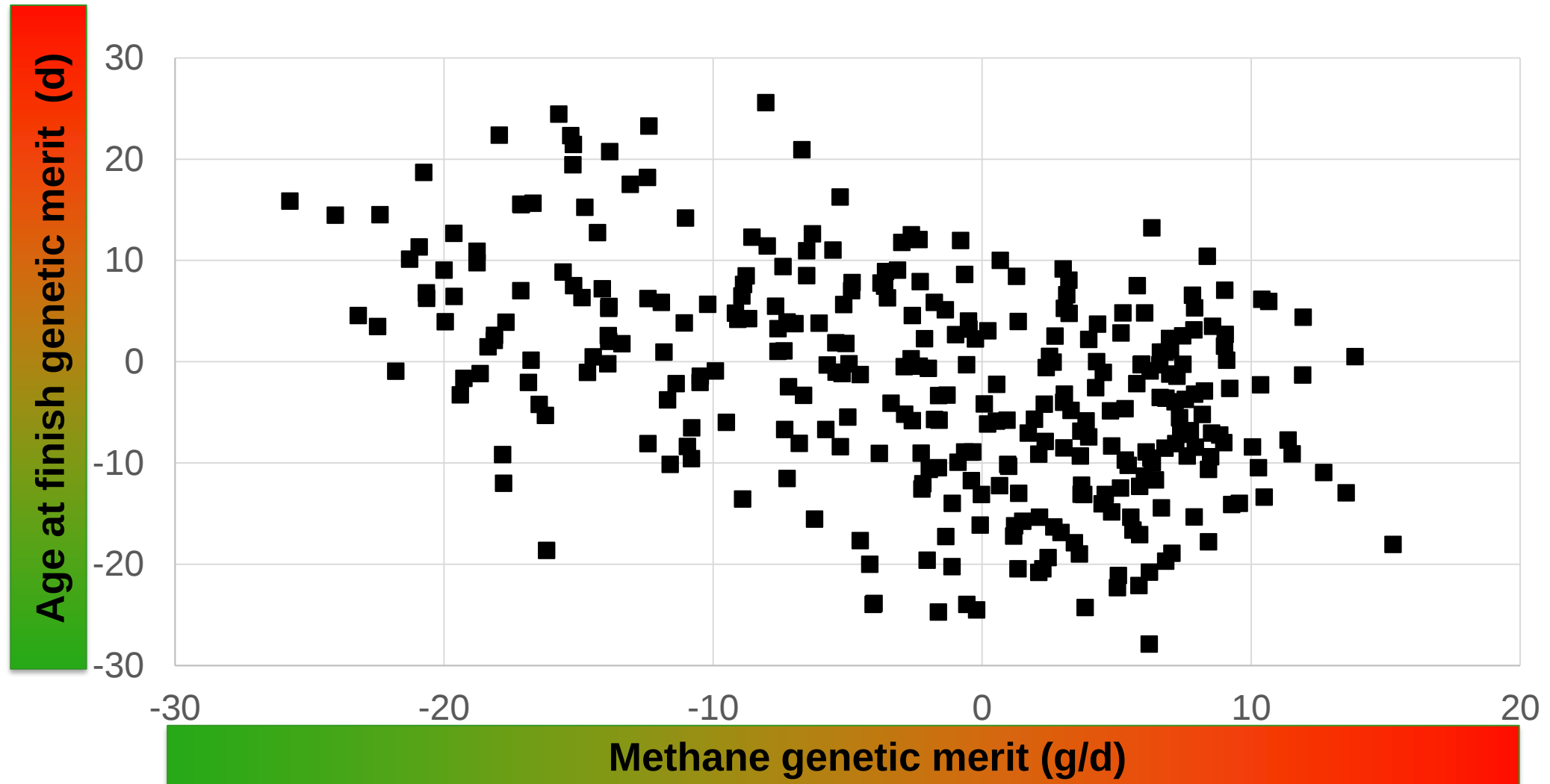
2. Proven to deliver



3. Concurrent improvement



Concurrent improvement

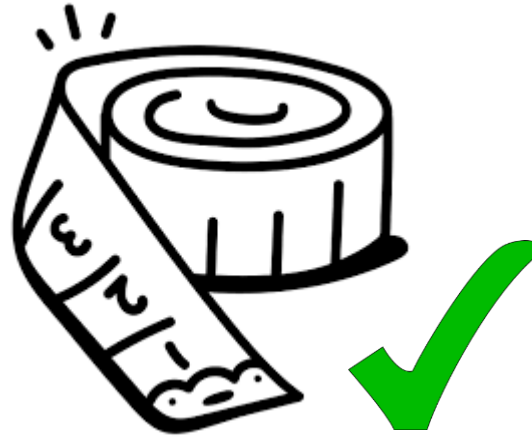


Can we breed for less methane?

Pre-requisites for breeding



Important

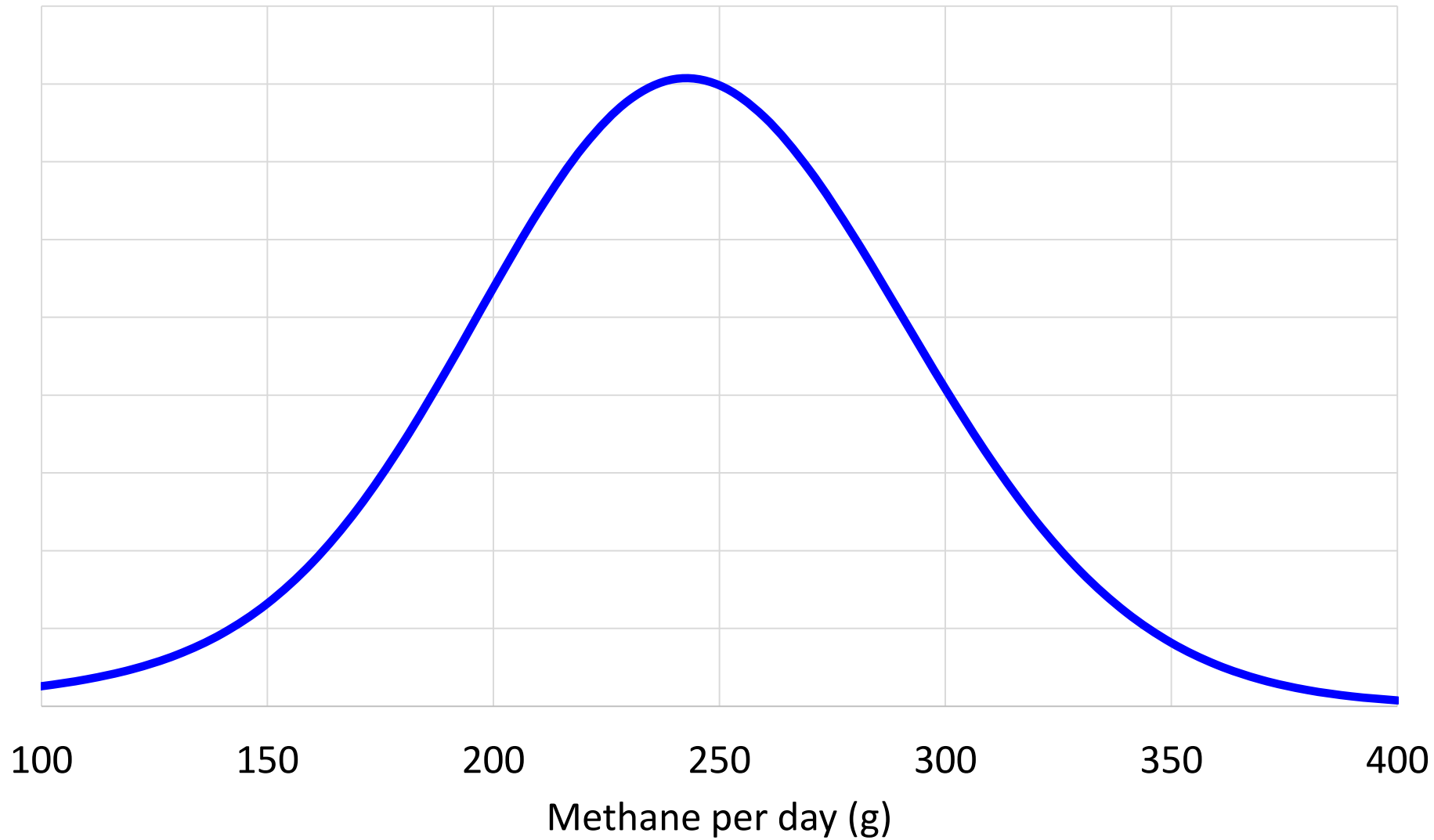


Measureable

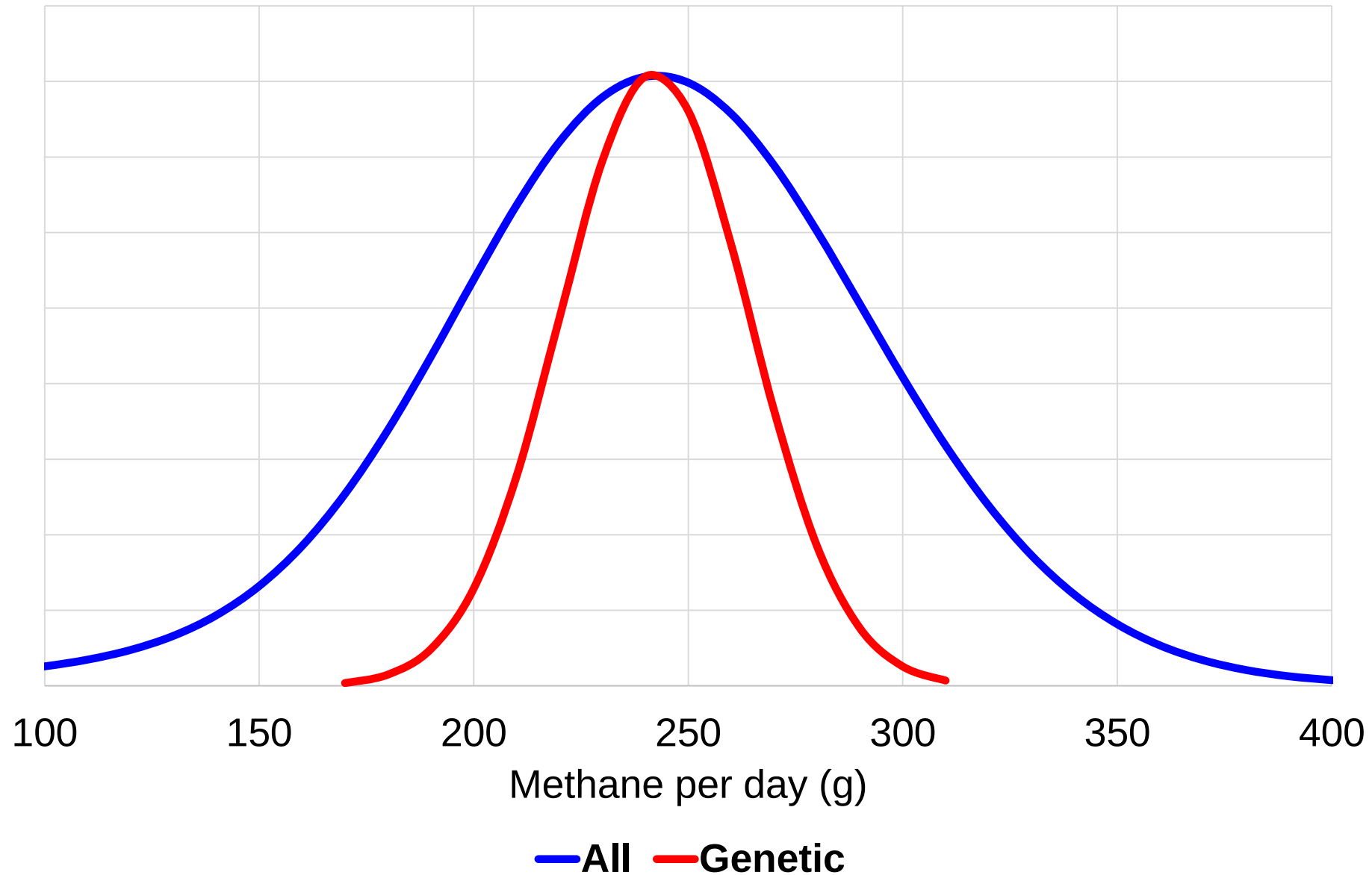


Genetic variability

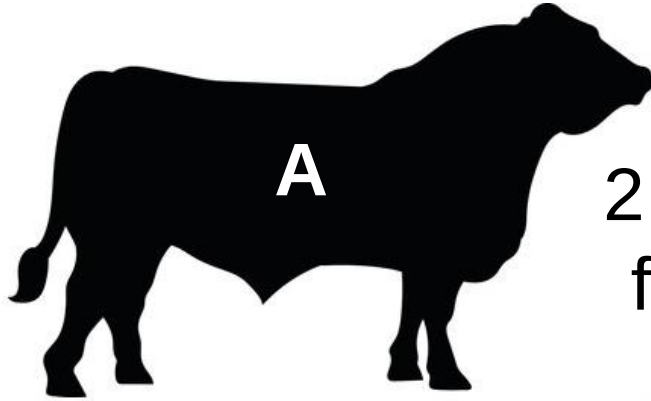
Enteric methane – growing cattle (actual data)



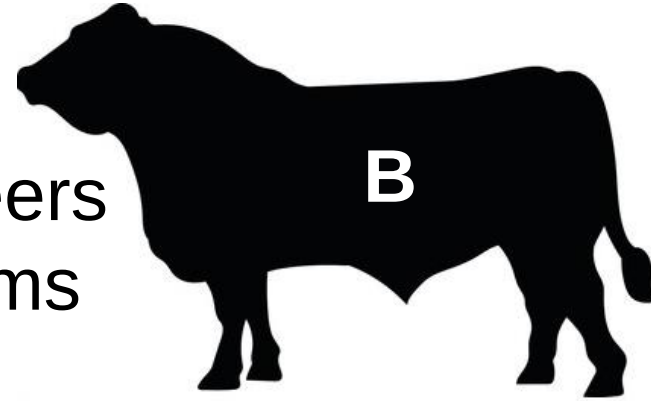
Enteric methane – genetic differences



Example



2 Charolais steers
from Saller dams



Age: 591 days
Weight: 814 kg
Growth: 1.53 kg/day
Feed: 13.98 kg DM

Methane: 205 grams/d
465 kg carcass

Age: 590 days
Weight: 834 kg
Growth: 1.52 kg/day
Feed: 14.52 kg DM

Methane: 278 grams/d
446 kg carcass

Global first methane genetic evaluations

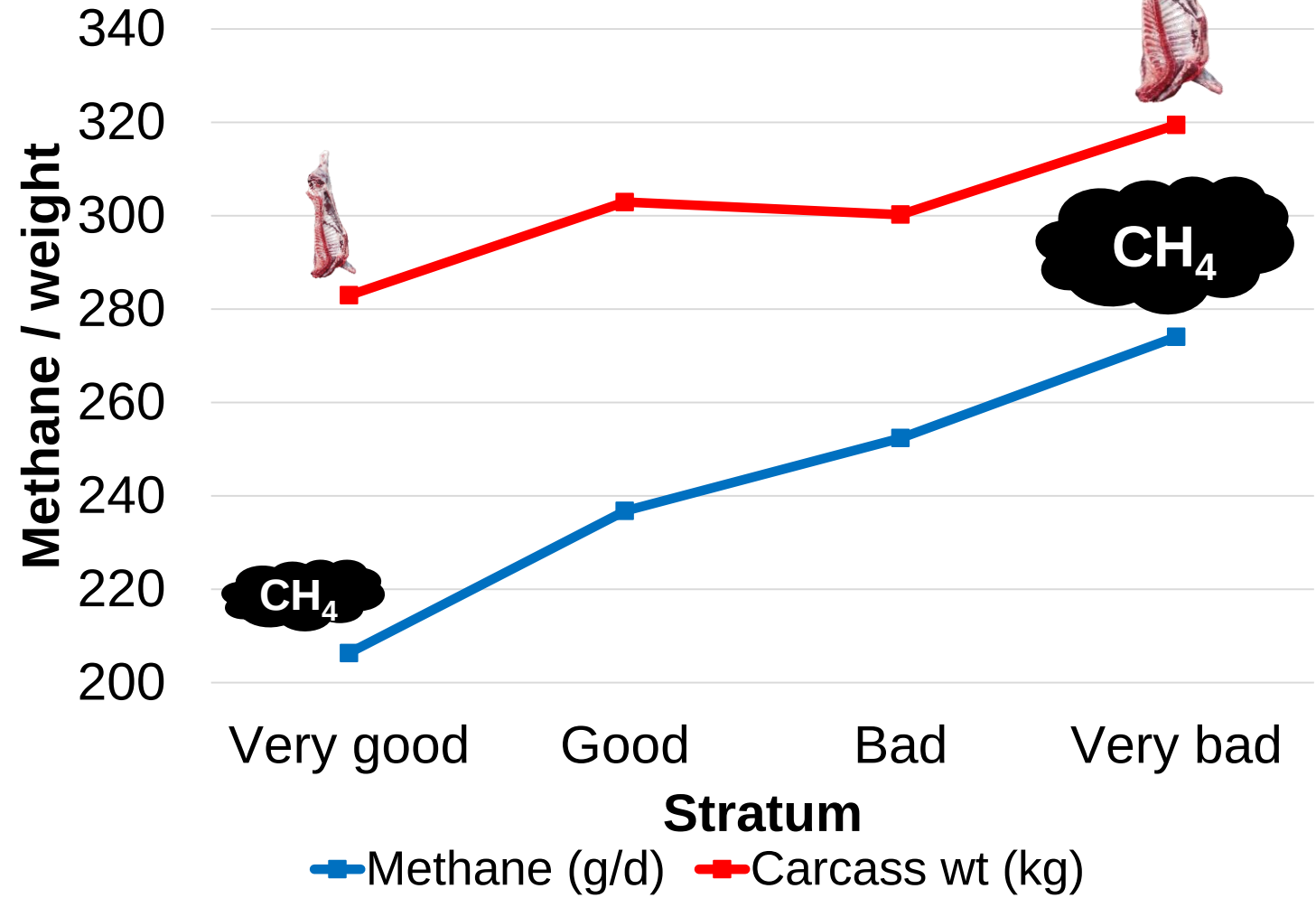
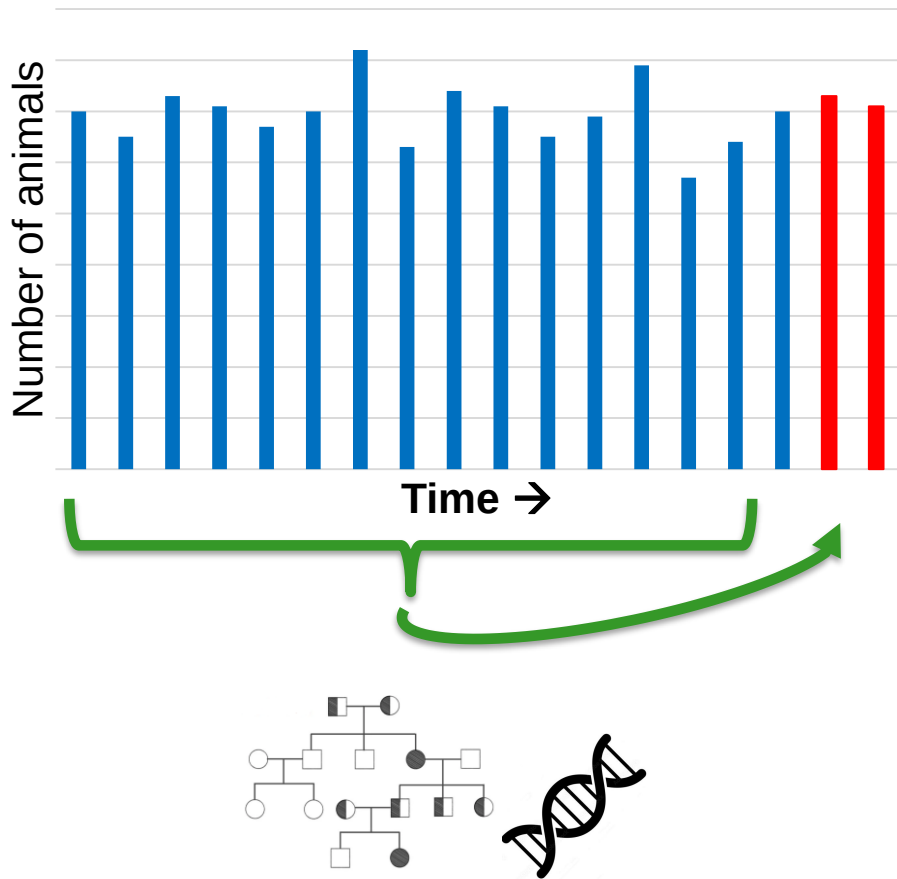


Name	Methane genetic merit (gr/day)	Methane Reliability %
DESPOTE DE L'EAU D'EPPE	-9.7	28
BROOKMILL VINDICATOR (ET)	-7.03	42
DERROUGH SAMUAL	9.42	48
LANIGAN RED BLAZE ET	-8.07	39
ARITA - BEN	-12.02	47
BOLIDE	-11.66	37
ROUNDHILL DARA 1069	-13.97	39
BISON	-9.56	43
MILBROOK DARTANGAN ET	-13.09	55
LANIGAN RED DEEP CANYON ET	18.23	77

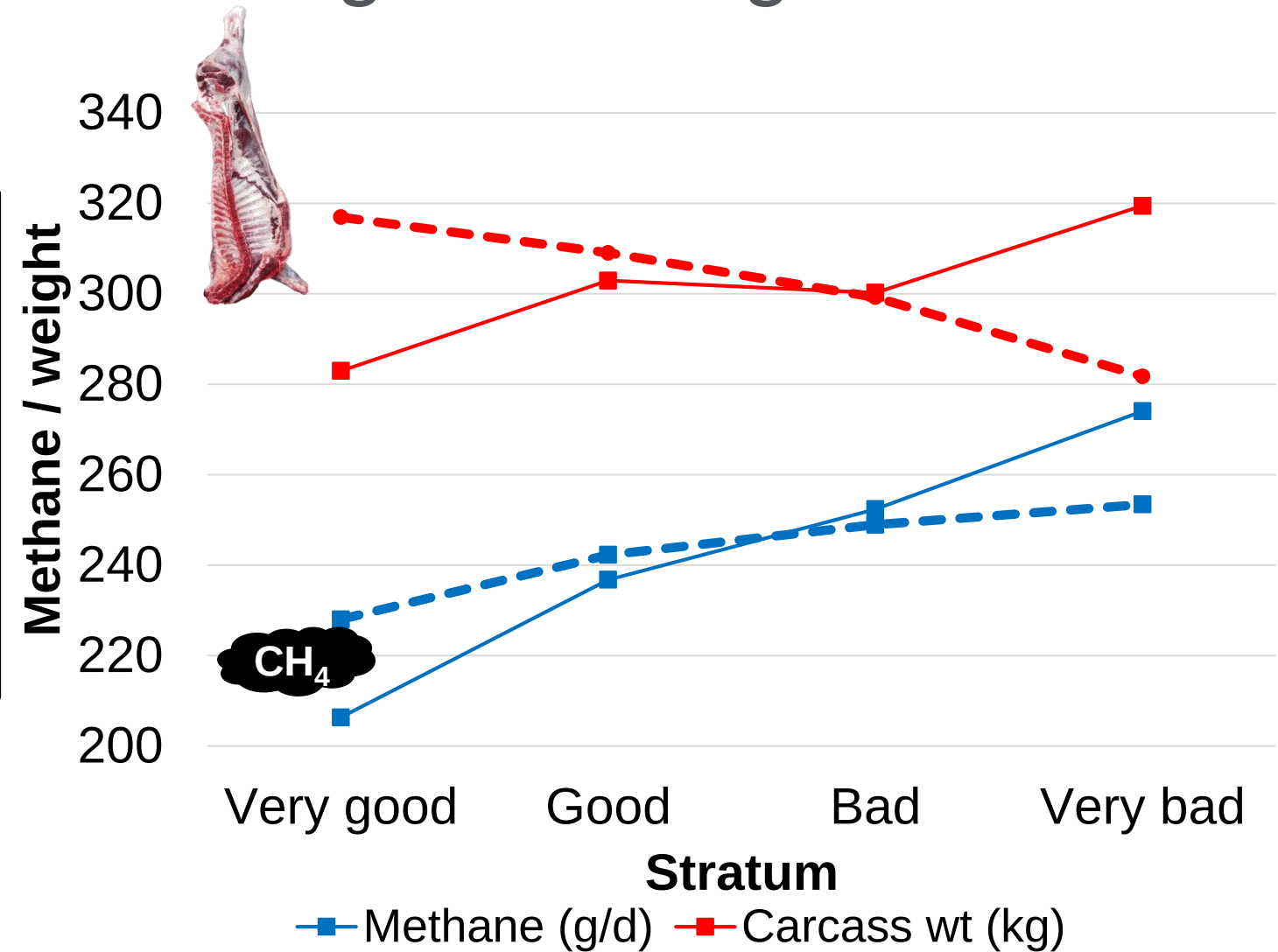
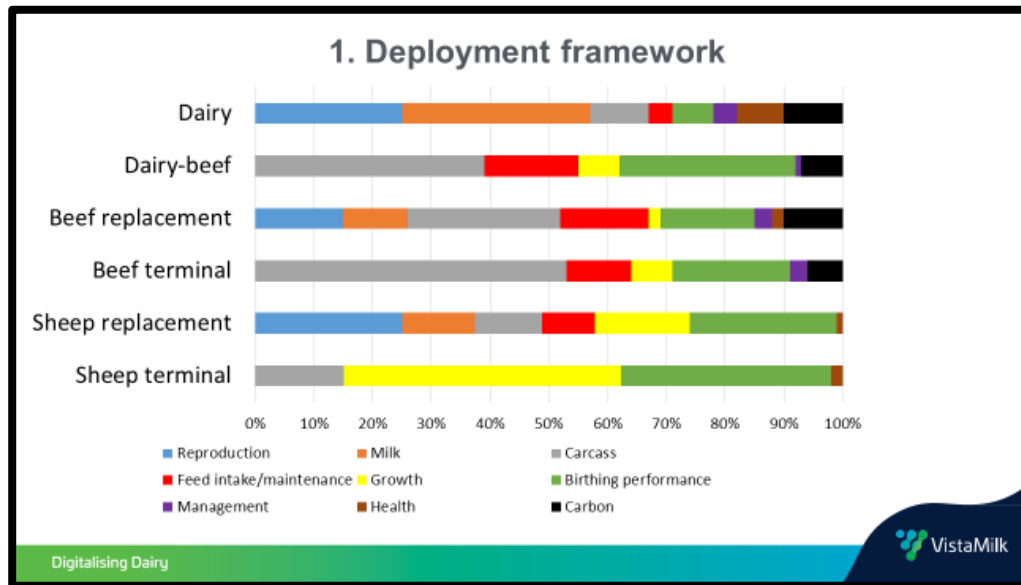
www.icbf.com

So does it work?

Validation – selection for lower methane



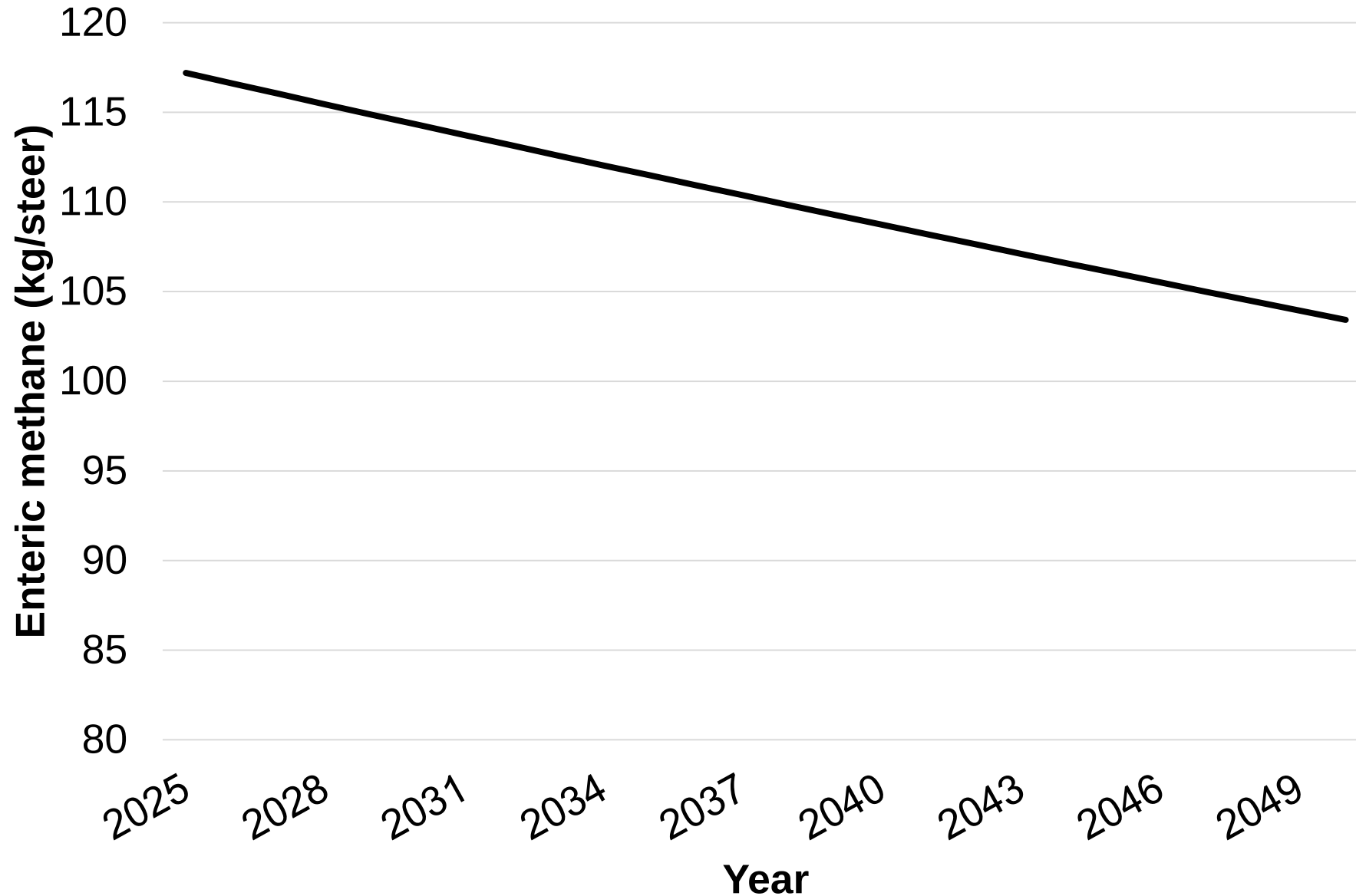
Validation – selection for higher breeding index



What can be achieved?

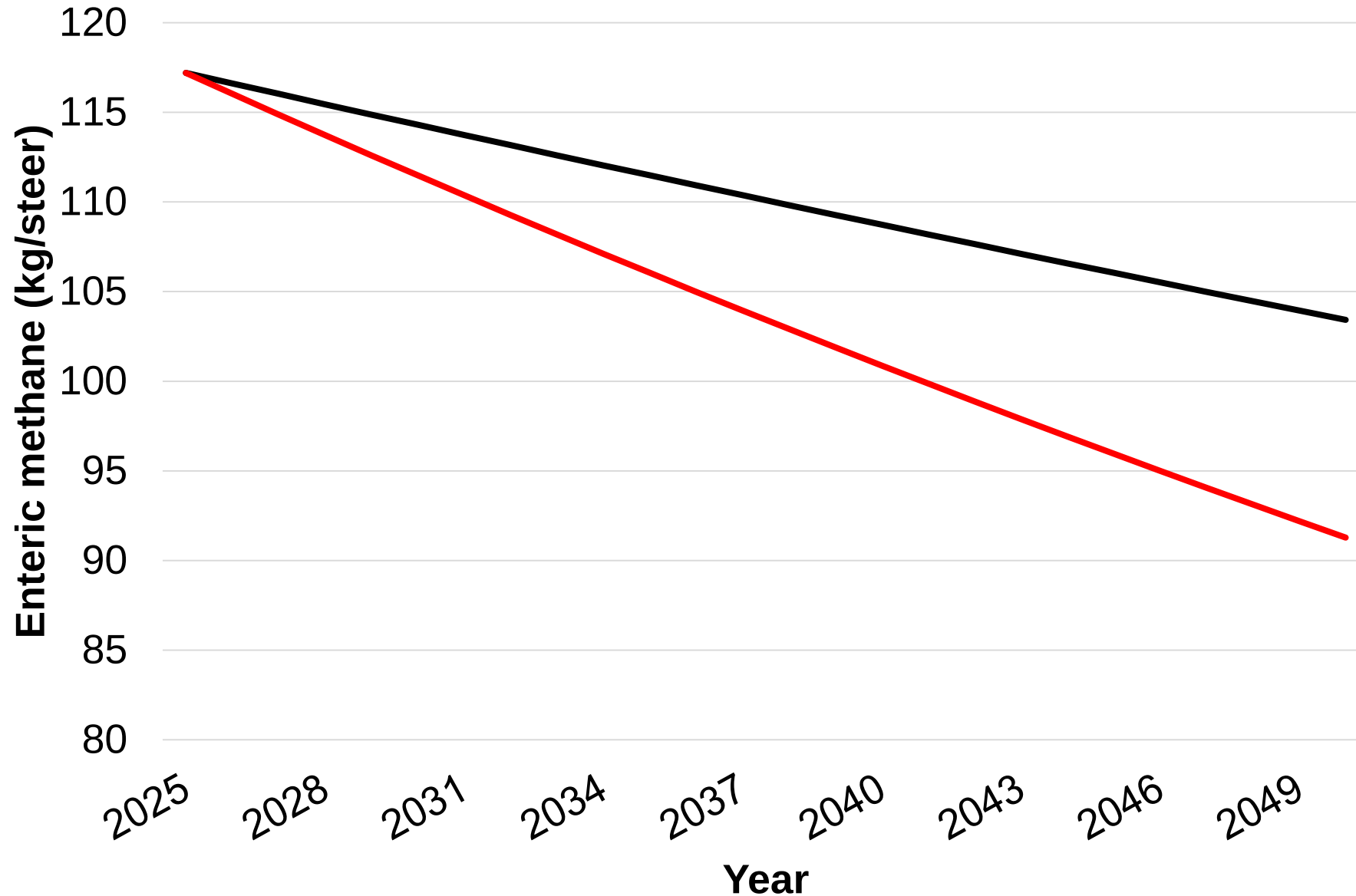
Daily methane emissions + age at slaughter

Gains achievable



Age at slaughter
or
daily methane

Gains achievable



Age at slaughter
and
daily methane

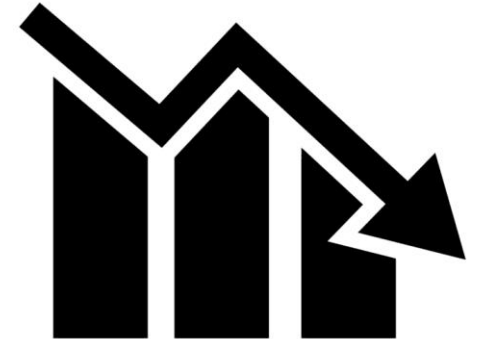
Take home messages



Proven



Toolkit



Adoption



Funded by:



An Roinn Talmhaíochta,
Bia agus Mara
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Food and the Marine

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