



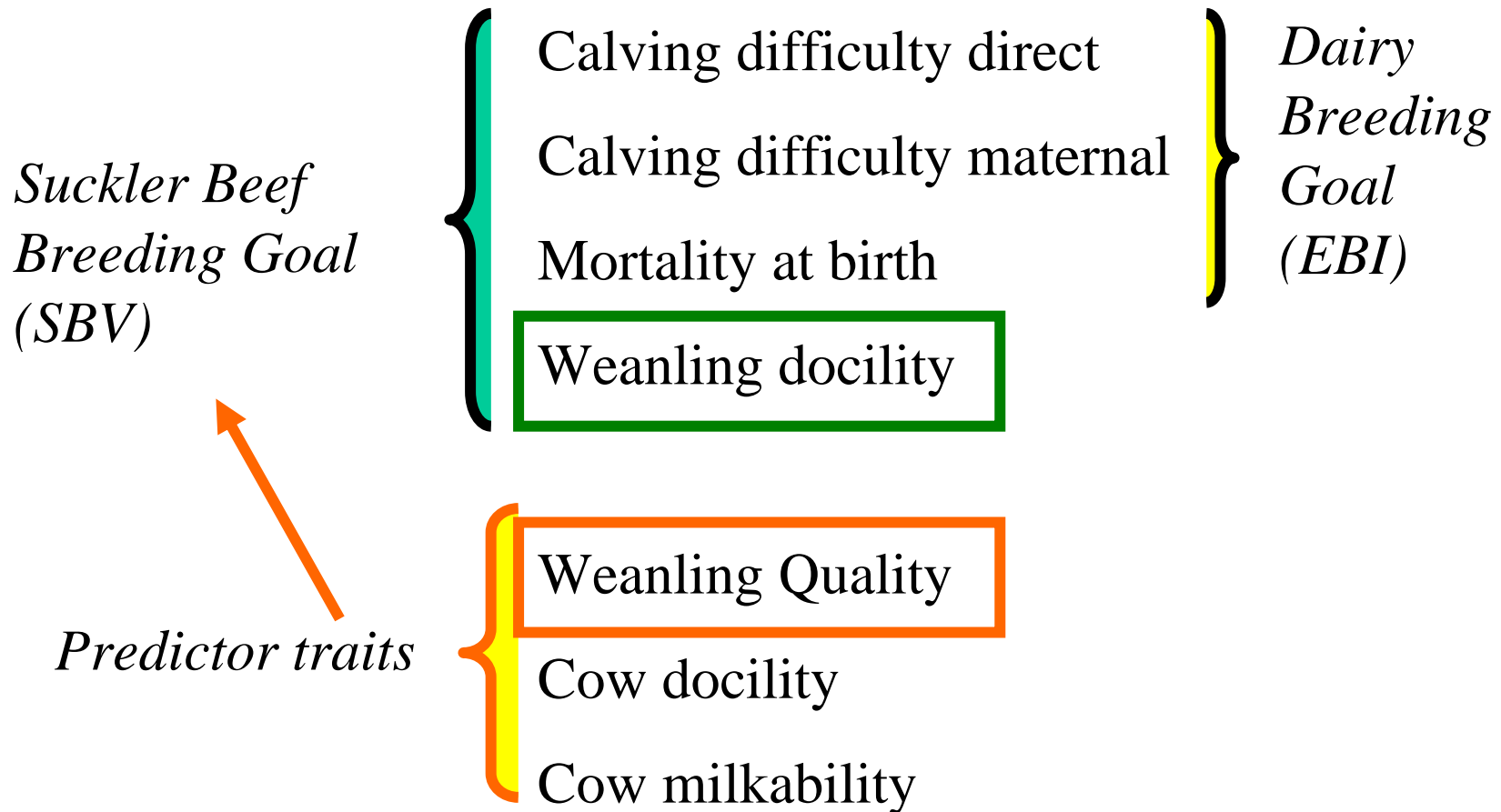
IRISH CATTLE BREEDING FEDERATION

# *Using farmer scored traits in beef genetic evaluations*

**Ross Evans**

# ICBF beef genetic evaluations

- ICBF evaluate 52 traits related to Irish beef production
- 6 of the 52 traits are farmer scored traits



# Origins of the recording of weanling quality and docility



- **The Irish Department of Agriculture launched a 5 year scheme for Suckler herds in 2008**
- **Animal welfare recording and breeding scheme (state aid N 140/2007)**
- **Adherence to animal welfare measures around disbudding, castration, weaning and sale**
- **Recording of sire, calving ease, disbudding, meal feeding, weaning, docility and calf quality**
- **~ 60,000 herds, voluntary sign-up, monetary payment**

# Post weaning recording sheet for AWRBS scheme

## Suckler Cow Quality and Welfare Scheme Notification Form

Date: 30-Jun-2008

B.T.E. No: D1234567

N.B. The completed form must be returned within 28 days of weaning

Section D	Section E	Section F	Section G	
Date of Weaning	Calf Docility (near time of weaning)	Calf Quality (near time of weaning)	Animal Weight (if available)	
<p>Weaning must be completed at least 2 weeks before weanling can be sold</p>	<p>1 = Very Quiet 2 = Quiet 3 = Average 4 = Difficult 5 = Very Difficult (circle relevant number)</p>	<p>1 = Very Poor 2 = Below Average 3 = Average 4 = Very Good 5 = Exceptional (circle relevant number)</p>	<p>Do not attempt to guess the weights. Only complete this section if the scales are being used</p>	
Day/ Month (Weaning)			Day/ Month (Weighing)	Weight (KGs)
03/04	1 (2) 3 4 5	1 2 3 4 5	dd/mm	

83%  
paper/postal  
recording

17% internet  
recording

Move to  
internet  
based  
recording in  
later years

# Research questions

- **Are these traits heritable?**
- **If so are they genetically related to other traits of economic importance**
  - **Quality: relationship with existing weanling and carcass traits**
  - **Docility: relationship with existing docility scored by technicians**

# Data editing steps

**2,772,756 records in ICBF database**

- **No sire recorded (- 6%)**
- **Recorded after sale (- 14%)**
- **Recorded > 100 days after weaning (- 5%)**
- **Recorded outside 150-300 days (- 28%)**
- **Contemporary group <5 animals (4%)**
- **Herds with variation on day of scoring**
  - » **at least 2 scores where 5-14 animals**
  - » **at least 3 scores where >14 animals ( - 23%)**

**564,999 animals qualify (20%)**

**Subset to estimate heritability and genetic ties**

# Weanling quality



## Heritability

**Weanling Quality: 0.38**

**Linear scored traits: 0.28 – 0.28**

**Weaning weight: 0.35**

**Carcass weight: 0.48**

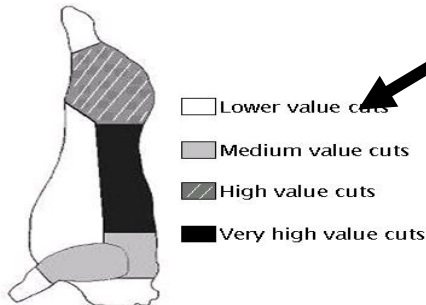
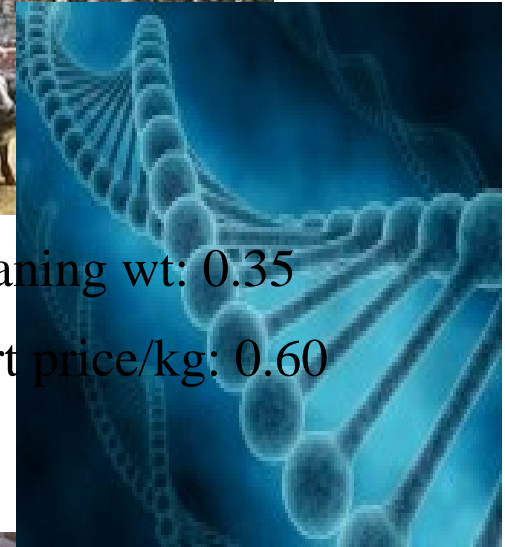
Muscle: 0.49 - 0.57

Skeletal: 0.13 - 0.21



Weaning wt: 0.35

Mart price/kg: 0.60



Carcass wt: 0.34

Carcass conf: 0.48

Carcass cuts: 0.12 - 0.49

# Weanling docility

## Heritability

**Weanling docility: 0.30**

**Technician docility: 0.22**

**Farmer has longer to assess animal ??**

Genetic correlation of 0.78  
between two traits

FARMER

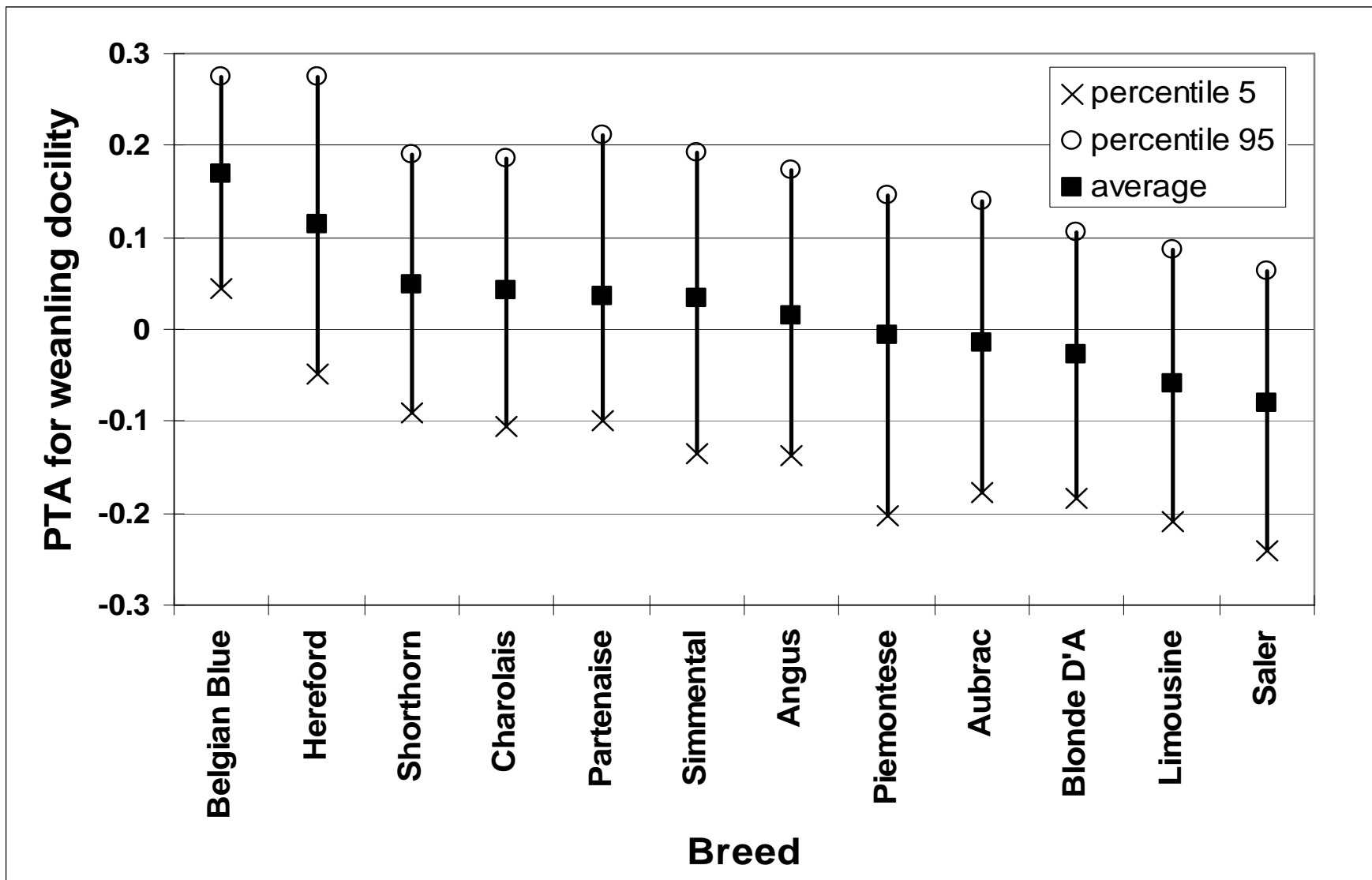
TECHNICIAN

Farmer scored Weanling docility		
Score	Animals	% of Total
Very Quiet (1)	66,144	12.2
Quiet (2)	219,502	40.5
Average (3)	226,709	41.8
Difficult (4)	28,337	5.2
Very Difficult (5)	1,553	0.3

Technician scored Weanling docility		
Score	Animals	% of Total
Docile (9 & 10)	15,287	13.9
Restless (7 & 8)	73,835	67.3
Nervous (5 & 6)	18,880	17.2
Flighty/Wild (3 & 4)	1,503	1.4
Agressive (1 & 2)	144	0.1



# Genetic merit for farmer scored docility



# Problems with farmer scoring

- Ambiguity around validity/credibility between certain scoring patterns i.e. no variation in docility score (all scored very quiet)
  - Genuine case or indifference to scoring the animals properly?
  - Monetary payment can lead to latter
  - Cow docility score has higher heritability
- Lack of recording of hard calving scores in some pedigree herds
- Schemes will end i.e. AWRBS scheme finish

# Summary

- Farmer scored traits have an integral role in ICBF genetic improvement programme
- Quick and inexpensive to record: a necessity for commercial herds
- Strong genetic ties with economically important expensively collected traits
- Education is important to convey the importance of recording post end of scheme

**Thanks for  
listening!**

