Dr Margaret Kelleher

ICBF & Sheep Ireland Genetics Conference 2018
Farmers feedback

“I use C.O.W. to identify cows to cull outside of the ‘usual suspects’”

“I use C.O.W. to identify cows to cull outside of the ‘usual suspects’”

“C.O.W. on HerdPlus helps increase my herd profitability”

“C.O.W is a great tool for identifying cows that are least likely to be profitable going forward”

My 12th lactation cow calves every year and provides the goods is only ranked in the bottom 20% .... [C.O.W. doesn’t work]
C.O.W. is a decision support tool that ranks dairy females on expected profit for the remainder of their lifetime.

- Designed to aid in making informed herd decisions by identifying the expected least profitable dairy females within the herd.
- Using multiple sources of the most up-to-date information to rank cows with herd.

Farmers feedback:
- Why has my best cow ranked poorly today when she was the best on the list yesterday?
C.O.W. = Cow’s Own Worth

Current Lactation
• Production
• Health (SCC)
• Fertility (calving date)

Future Lactations
• Production
• Health
• Beef
• Calving
• Management
• Maintenance
• Fertility
• Descendants

Net Replacement Cost
• Cull cow value
• Replacement cost

+ predictions on fertility, survival and SCC performance

Lifetime
• Production
• Health
• Beef
• Calving
• Management
• Maintenance
• Fertility
• Descendants

E.B.I. = Economic Breeding Index

Per Lactation
• Production
• Fertility
• Beef
• Calving
• Management
• Maintenance
• Health

Genetics
• Production
• Fertility
• Beef
• Calving
• Management
• Maintenance
• Health

Age

Calving date

Feb
Mar
Apr
May
Feedback

Frequency of hits on C.O.W. profile 2018

Month | Number of hits
--- | ---
May | 1059
June | 607
July | 1189
August | 1811
September | 2719
October | 2331
November | 1570
30% of herds used C.O.W.

- 1500+ herds
- 175,000+ cows ranked through C.O.W. since May 2018
Analysis on herds using C.O.W.

Production differences between top and bottom 20%

- 1133 kg less milk
- 71 kg less fat
- 53 kg less protein

€558 loss

€11,155 in a 100 cow herd
Analysis on herds using C.O.W.

SCC differences between top and bottom 20% by parity

Average SCC per C.O.W. stratification and parity

SCC (000 cells/ml)

Top 20%  Average 20%  Bottom 20%

C.O.W. stata

Parity 1  Parity 3  Parity 5+
Analysis on herds using C.O.W.

Calving pattern 2018 by month and C.O.W. strata

Month
- Jan: 368
  - Top 20%: 307
  - Average 20%: 229
  - Bottom 20%
- Feb: 1822
  - Top 20%: 1685
  - Average 20%: 1611
  - Bottom 20%
- Mar: 570
  - Top 20%: 621
  - Average 20%: 644
  - Bottom 20%
- Apr: 99
  - Top 20%: 158
  - Average 20%: 190
  - Bottom 20%
- May: 5
  - Top 20%: 17
  - Average 20%: 22
  - Bottom 20%
Analysis on herds using C.O.W.

Calving pattern 2018 by month and C.O.W. strata

Up-to-date data increases accuracy of C.O.W.

Predicted calving pattern by month and C.O.W. strata

Month

Jan  200  400  600  800  1000  1200  1400  1600  1800  2000
Feb  200  400  600  800  1000  1200  1400  1600  1800  2000
Mar  200  400  600  800  1000  1200  1400  1600  1800  2000
Apr  200  400  600  800  1000  1200  1400  1600  1800  2000
May  200  400  600  800  1000  1200  1400  1600  1800  2000

Frequency

0  200  400  600  800  1000  1200  1400  1600  1800  2000

Jan  368  307  229
Feb  1822  1685  1611
Mar  570  570  570
Apr  570  570  570
May  570  570  570

Top 20%
Average 20%
Bottom 20%
C.O.W. Beyond 1 dimension

Two cows TODAY

- Same details
- Same point in time today

As a herd manager, ask yourself?

❖ Do these cows have the same FUTURE?
❖ Can you remember if these cows had the same PAST?
How do we predict future performance?

- Fertility
- Survival
- SCC
How do we predict future performance?

Future fertility performance prediction

Calving month next year:
- January
- February
- March
- April
- May

Probability:
- High FEB
- Low FEB
- High MAR
- Low MAR

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How do we predict future performance?

Future fertility performance prediction

Calving month next year

January  | February | March   | April   | May     
---------|----------|---------|---------|---------
High FEB | Low FEB  | High MAR| Low MAR |
FUTURE PREDICTIONS

EBI REPORT

FERTILITY REPORT

MILK RECORDING REPORT

PAST REPORT

CALVING REPORT

HEALTH REPORT
C.O.W. profile in an instant!

C.O.W. (Cow’s Own Worth) Profile Click on an Animal Number or Jumbo to view more details.

**Record Events**
- Heat & AI Serve
- Birth
- Weaning
- Slaughter
- Mark For Culling

**Breed Information**
- Breed: Holstein
- Location: Brazil
- Country: Brazil
- Contact: icbf.com

**C.O.W. Components**
- Current Lactation
  - Production
  - Health (SCC)
  - Management
  - Maintenance
  - Fertility (calving date)
- Future Lactations
  - Production
  - Health (SCC)
  - Management
  - Maintenance
  - Fertility
- Net Replacement Cost
  - Replacement cost
  - Replacement cost

**EBI**
- Expected Breeding Index (EBI)
- Last Calving Date
- Prog Diag
- Expected Calving Date
- Marked For Culling
- SCC (0,000 cfm)

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<th>Jumbo</th>
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<th>Lact</th>
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<th>Current Lact Profit (C)</th>
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1. Implement new developments
   a) New traits
   b) New models
   c) New economic values
   d) Updated transition matrices

2. Non-seasonal C.O.W. profile version
   a) Research under-way
   b) Pilot herds needed for validation

3. Rank heifers
   a) Planned as a future improvement

4. Customisation of C.O.W. profile??
Our Farmer & Government Representation

Department of Agriculture, Food and the Marine
An Pháirtí Talmhaíochta, Bla agus Mara

IFA

Our AI & Milk Recording Organisations

Dovea GENETICS
Munster Cattle Breeding Group
Progressive Genetics
Tipperary Coop

Our Herdbooks

AYRSHIRES
THE ABERDEEN-ANGUS CATTLE SOCIETY
IBBCS
EASBB
IRISH AUBRAC
BLONDE D'AQUITAINE
Irish Charolais Cattle Society
Irish Hereford
IHFA

Acknowledging Our Members