24h yield calculation in Polish recorded herds according to milk recording methods

ICAR 2019 Prague
Danuta Radzio
The dairy sector in Poland – FIGURES IN TOTAL

243,559 farms
2,214,092 dairy cows
9.1 cows / farm

1-9 cows/ herd
71% farms
17% cows

10-49 cows/ herd
27% farms
61% cows

+ 50 cows/ herd
2% farms
22% cows

1,385,592 non-recorded cows
828,500 recorded cows

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22% cows
The milk recording – FIGURES IN AVERAGE

- **828,500** recorded cows (mostly HO+RW = 89%)
- **20,000** farms
- **8,298 kg** of milk
- **334 kg** of fat
- **281 kg** of protein
- **37% MR cows produce 57% of milk**

**Performance**

- **4.03%**
- **3.39%**

Polish Federation of Cattle Breeders and Dairy Farmers
Herd size in recorded population

- **828,500** recorded cows
- **20,000** farms

- **1-9 cows/herd**: 4% herds, 0.7% cows
- **10-49 cows/herd**: 76% herds, 50% cows
- **+ 50 cows/herd**: 20% herds, 49% cows

40 cows/farm
Milk recording methods distribution (cows) 2019

- 20,000 farms
- 828,500 recorded cows

**Milk recording methods**

- A4: 19.6%
- AT4: 75.1%
- A8: 0.3%
- AR4: 0.5%
- AR8: 2.2%
- AZ4: 2.3%

Polish Federation of Cattle Breeders and Dairy Farmers

www.pfhb.pl
Milk recording methods distribution (cows) 2009

- 18,345 farms
- 582,067 recorded cows

Milk recording methods distribution:
- A4: 29,14
- AT4: 63,92
- A8: 7,94

Polish Federation of Cattle Breeders and Dairy Farmers
Milk recording methods (herds %) 2019

- AT4: 85.44%
- A4: 10.59%
- A8: 2.92%
- AR4: 0.95%
- AR8: 0.07%
- AZ4: 0.03%

Polish Federation of Cattle Breeders and Dairy Farmers

www.pfhb.pl
24h calculation – A4 / A8

- Milk yield recorded from each milking on the test day (2 or 3)

- 24h milk kg = a simple sum from all milkings

- Samples taken in equal amount form each milking to one vial = one analysis.

- 24h milk components yields = % * 24h milk yield
24h calculation – AT4

- One milk yield recorded alternately (AM/PM)

- 24h milk kg = calculated using Delorenzo&Wiggans original factors.

- One sample taken alternately from the same milking

- 24h fat % and fat yield calculated using Delorenzo&Wiggans original factors. Protein % accepted as analysed.

Milking interval = always milking beginning for the whole herd.
24h calculation – AZ4

- Milk yield electronically captured from each milking within 24h prior to sampling (including sampling milking).

- 24h milk kg = a simple sum from all milkings form the last 24h

- One sample taken alternately (AM/PM)

- 24h fat % and fat yield calculated using Delorenzo&Wiggans original factors. Protein % accepted as analysed.

Milking interval = exact milking time for each cow individually
Milk yield electronically captured for each cow from the last ~ 72h prior to sampling (including sampling milking).

24h milk kg = calculation of exact production within 48h and then for 24h
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48 h = 2880 Min.

Time missing to full 48 h:
(2880 – 2202 = 678 Min.).

⇒ 19,2 Mkg / 877 Min. × 678 Min. = 14,8 Mkg

⇒ (10,5 kg + 15,3 kg + 18,9 kg + 15,1 kg + 14,8 kg) / 48 h * 24 h

⇒ 37,3 Mkg produced exactly during the last 24 h
24h calculation – AR4 / AR8

- One sample taken during sampling period (12-16h)
  - condition 1 sample per a cow!

- 24h fat % and yield calculated using Peeters and Galesloot, 2002 method; for 24-hour fat % in AM/PM milk recording scheme, renewed in 2006.

Protein % accepted as analysed.

The method was created by: R.M.G. Roelofs*, G. de Jong and A.P.W. de Roos; NRS, P.O. Box 454, 6800 AL Arnhem, The Netherlands.
Shortcomings:

- AT, AZ, factors + formula available in ICAR Guidelines, need updating and should be calculated for a specific cows’ population.
- AT – time of current/previous milking – beginning of milking a herd.
- Robots: formula + factors calculated for Dutch cows’ population, bought directly.
- Any attempt to update the factors demands a huge bunch of data + human resources to calculate them appropriately.
THANK YOU FOR YOUR ATTENTION

d.radzio@pfhb.pl