Utilizing Feed Intake Data & Evaluating Feed Efficiency

Jim Barmore, M.Sc., PAS
Nutrition & Management Consulting
Verona, WI
jimbarmore@gpsdairy.com
Has the dairy industry made too much of feed efficiency relative to it’s true value as a performance metric?
With better data capture and understanding of the biological variables along with the economic considerations and implications feed efficiency is an excellent metric.
Feed Efficiency – As a Metric

Useful Purpose -

• How well is the environment and management of the dairy and cows supporting the ration being consumed?
  – Cow comfort?
  – Heat abatement?
  – Reproduction or days-in-milk?
  – Forage quality and consistency?
  – Feeding management consistency?

*Move beyond feed efficiency being just a ratio*
Milk Comes With Cow Friendly Management & Environment

So Does Better Feed Efficiency
Making $ense of Feed Efficiency
Feed Efficiency is A Key Metric!

Consider IOFC difference of two herds
Herd 1 – 94 lbs 3.5% milk on 59 lbs DMI = 1.59 FCMFE
Herd 2 – 86 lbs 3.5% milk on 57 lbs DMI = 1.51 FCMFE

Ration cost $0.14/ lb DM  Milk $19.00/cwt @ 3.5% fat
Herd 1 – IOFC = $9.60/cow/d
Herd 2 – IOFC = $8.36/cow/d

1200 cows milking - $543,120 IOFC ++ Herd 1
Of which $183,960 is value of better feed efficiency
Farm Level – Feed Efficiency

• Scaled in/out feed – not just dry matter intake
• All feed accounted for arriving to the dairy
• Includes all feed disappearance regardless of whether shrink, fermentation, throw away, intake, etc..
• All milk produced vs shipped only
• Components included – ECM
Large declines in rumen pH following feed consumption...

Data from Dohme et al. 2008 J. Dairy Sci. 91:3554-3567
Minimal declines in rumen pH following feed consumption…

Data from Dohme et al. 2008 J. Dairy Sci. 91:3554-3567
Feed Efficiency – Value As a Metric

• Data Recording and Interpretation
  – Actual feed intake by pen
  – Match time period looking at intake relative to milk
  – Moisture adjustments considered and recorded
  – Weighback adjusted intakes are a must
Haylage DM Changes

3 week gap from 2/24 to 3/16.
DMI: Fresh Cows

- Pen 12: 45 lbs DMI, 47.5 lbs DMI, 47 lbs DMI
- Pen 9: 45 lbs DMI, 47.5 lbs DMI, 47 lbs DMI
Intake Data & Feed Efficiency Considerations

- Cow Biological Level and Total Dairy Economics both important
- Ratio versus True Dollar Economics – metric value?
- Actual Milk Produced - Component Corrected
- Actual Intake – Moisture & WB adjusted
- How true is the data – verification through recording
- Understanding and teaching the variables which impact feed efficiency is key!