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Utilizing Feed Intake Data & Evaluating Feed Efficiency

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Has the dairy industry made too much of feed efficiency relative to its 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?

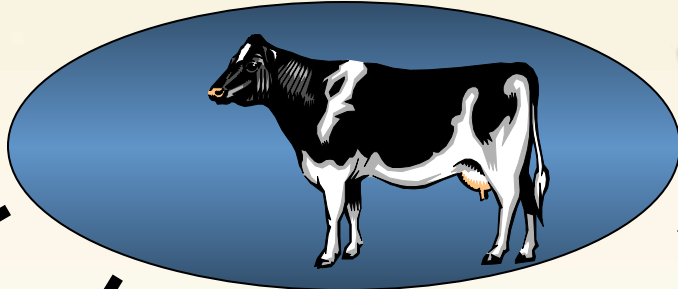
Move beyond feed efficiency being just a ratio



Maintenance
Req's

Pregnancy

Milk
Components



Feed Intake

Ability to
Milk

Parity

Days-in-Milk

Rumen Health

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

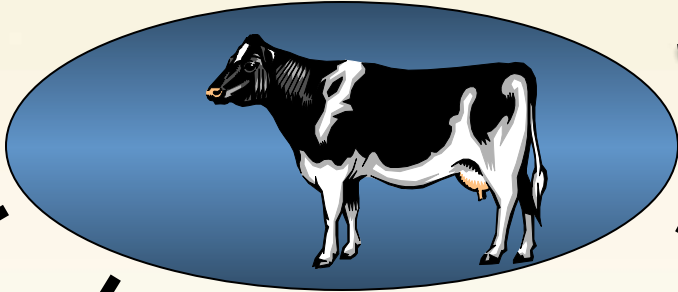
- Scaled in/out feed – not just dry matter intake
- All feed accounted for arriving to the dairy
- Includes all feed disappearance regardless of whether shrink, fermentation, throw away, intake, etc..
- All milk produced vs shipped only
- Components included – ECM



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Feed Intake

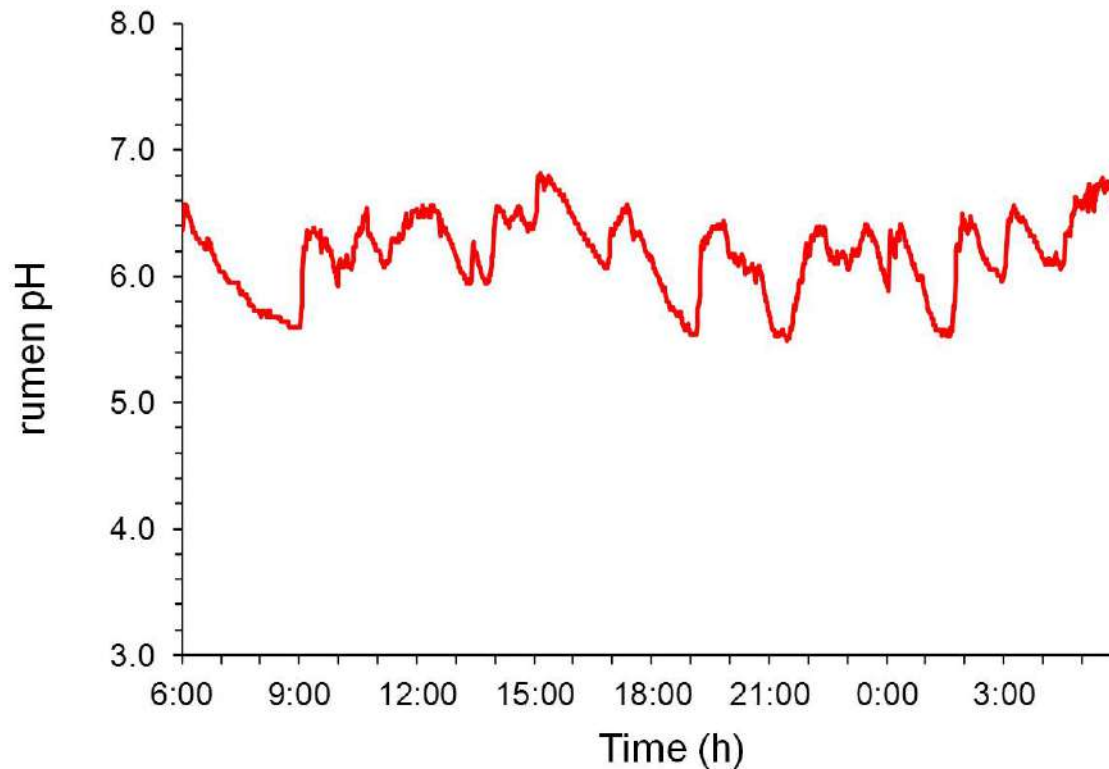
Ability to
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Days-in-Milk

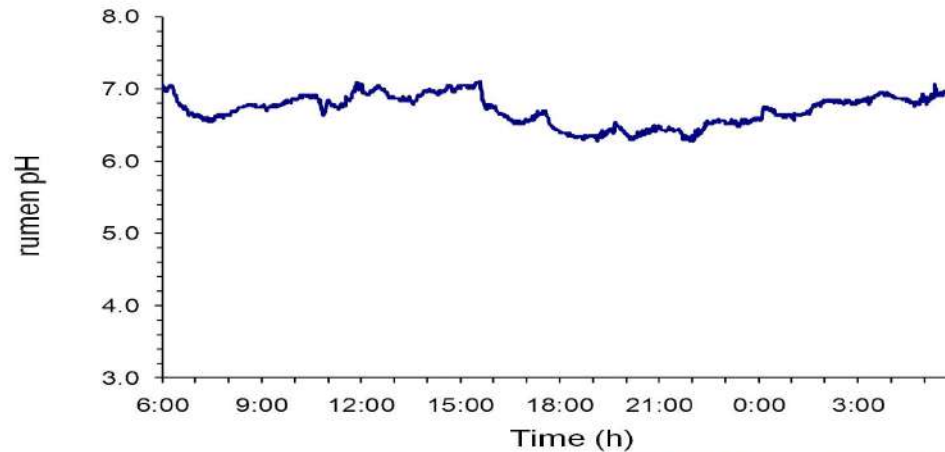
Rumen Health

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

Ingredient: Haylage B4

Create a new DM change

Date: 3/13/2013

Hour: 0 Minute: 0

Time: 0:00

Dry Matter value:

Create New DM Cancel

Existing Dm Changes

Start Date: 3/ 1/2013

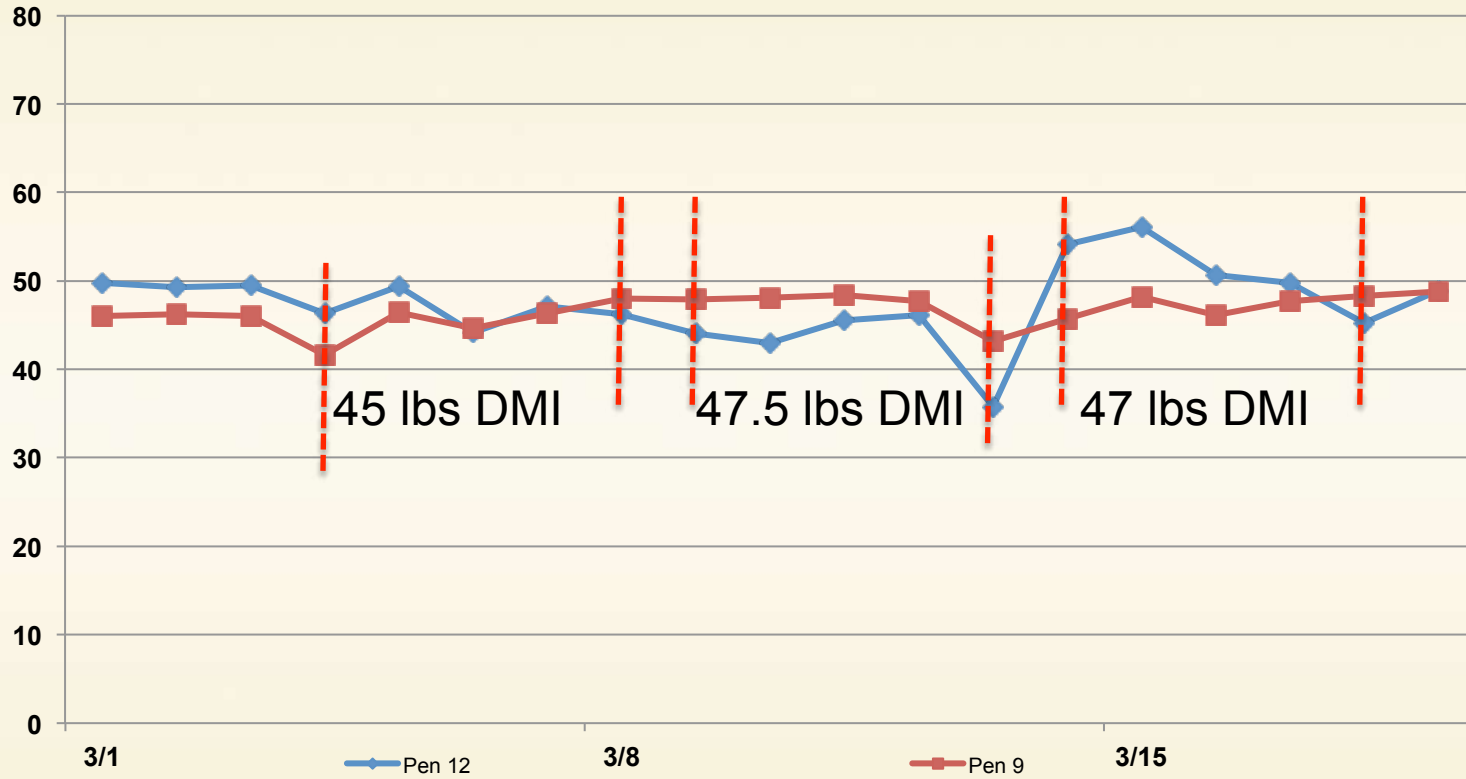
End Date: 3/19/2013

Date/Time	dm %
3/19/2013 4:50 AM	39.0 %
3/17/2013 5:02 AM	40.0 %
3/17/2013 5:02 AM	39.0 %
3/16/2013 4:30 AM	38.0 %
3/16/2013 4:30 AM	39.0 %
2/24/2013 6:19 AM	40.0 %

Close

3 week gap from 2/24 to 3/16.

DMI: Fresh Cows



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!