



An Industry view on the future focus of feed use efficiency

EAAP, Belfast 2016: ECO-FCE

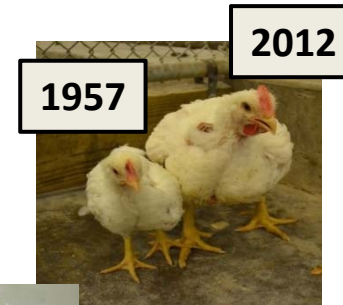
Randy Borg, Ph.D. European Director, R&D

Key Messages to Remember

- Commercial Feed utilizations is benchmarked on group performance
- Individual components of feed utilization are key
- Phenotypes that describe variation in digestibility, health & behavior are critical

Market Drivers of Feed Efficiency

- What measures efficient feed utilization?
- Individual Measures for Breeding Program
- Feed Input : Product Output (FCR)
- Faster to market (ADG, days to market point)
- More Protein (Carcass yield, Eggs)



Market Drivers of Feed Efficiency

- What measures efficient feed utilization?
- Industry Benchmark is based on group performance
- Feed in : Product out (scaled by time & livability)
 - EPEF% or EBI



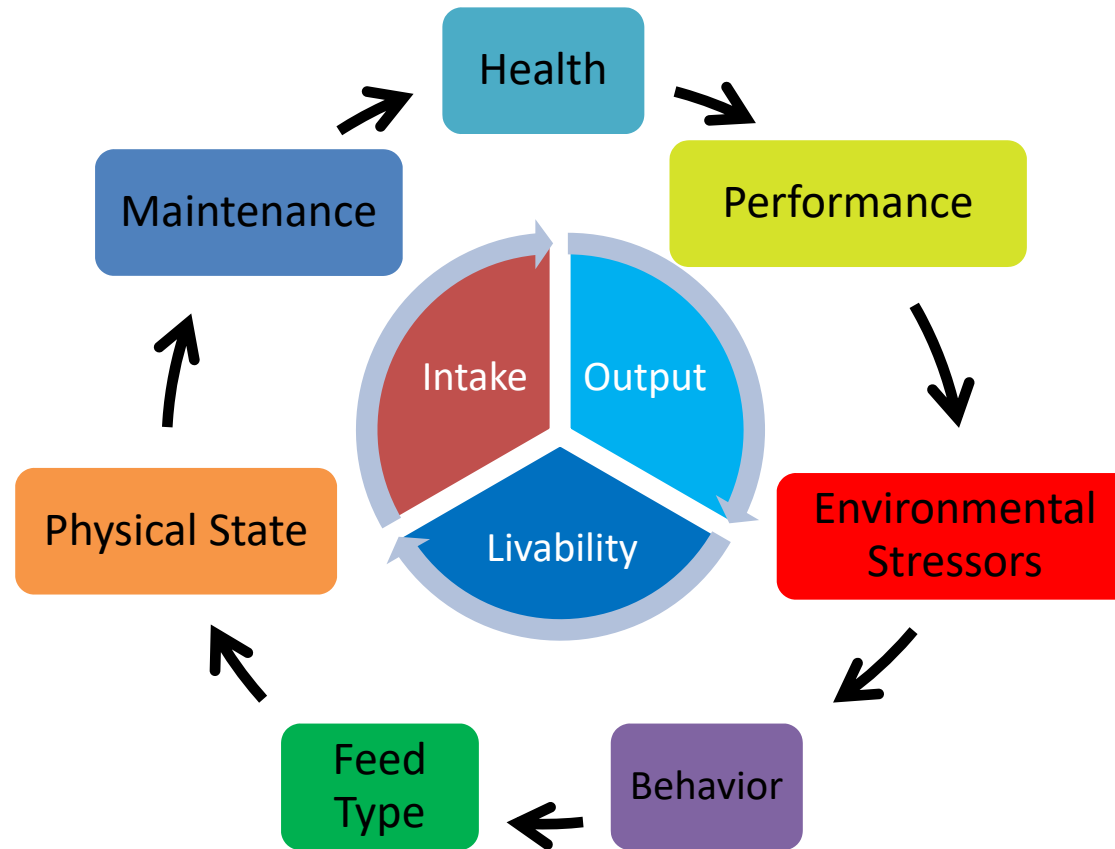
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Individual Performance ... within the production group dynamics

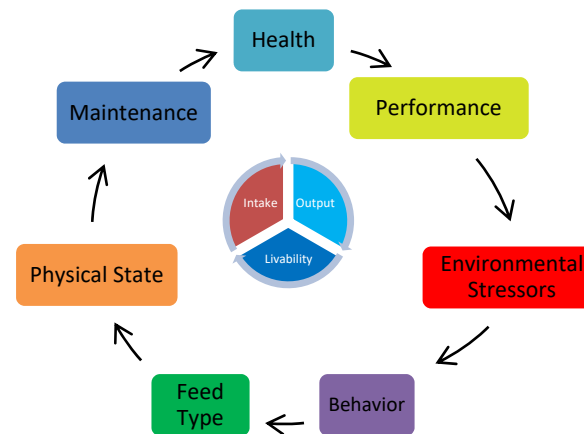
FCR: Feed Input vs. Product vs. Livability

Components of Feed Efficiency

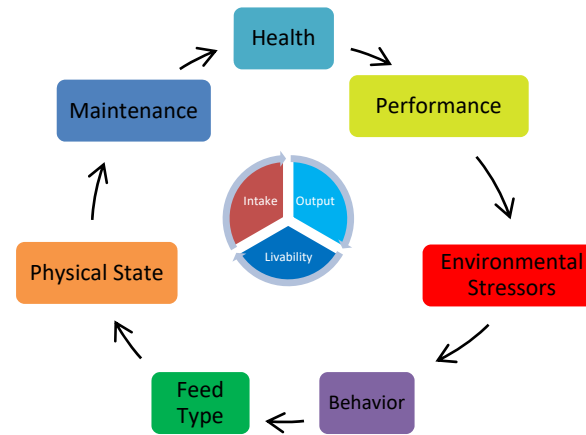


Feed Efficiency: Variation

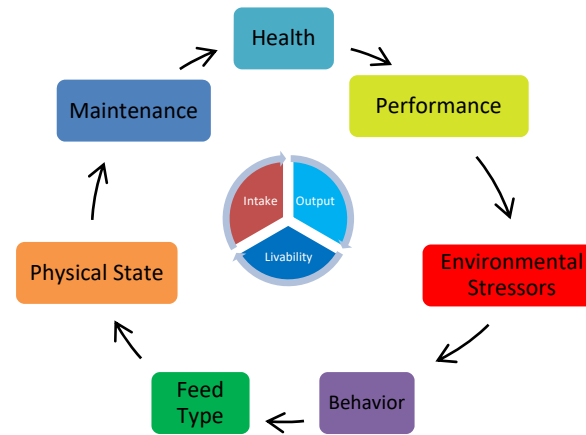
- Performance
- Health
 - Gut Health (digestibility)
 - Disease (clinical vs. sub-clinical)
- Maintenance efficiency
- Behavior
 - Feeding, activity, competition
- Environmental Stressors
- Physical State
 - Growth curve, reproduction
- Feed Type



Feed Efficiency: Recording Performance



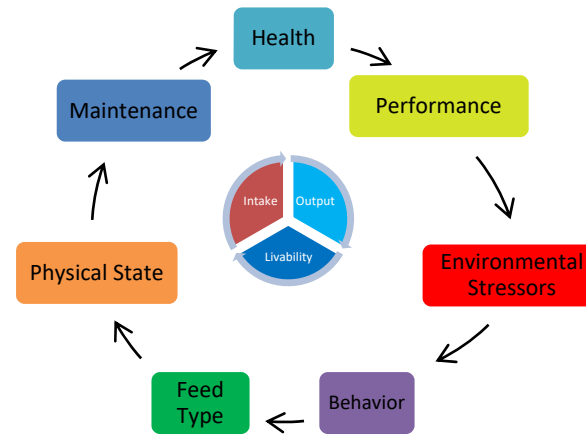
Feed Efficiency: Recording Health



Feed Efficiency: Using Technology



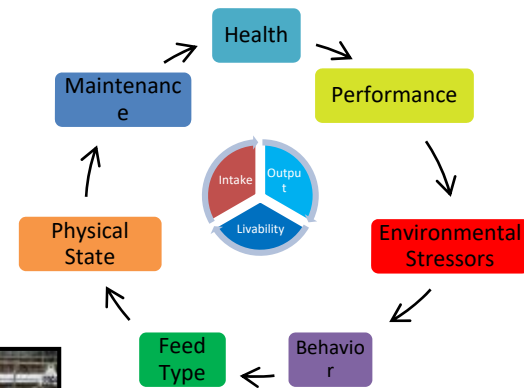
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Selection for New Traits

- Old phenotype, new environment
- Health related phenotypes
 - Relationships between gut health and FCR
 - Changing nutritional programs and nutrient absorption
 - Microbial Genomics – selection environments
- New phenotypes
 - Behavior
 - Activity
 - Biological indicators

Feed Efficiency: Summary



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Commercial feed utilization tradeoffs

- Balanced Genetic Improvements
 - Growth, Health, Welfare, Maintenance efficiency
- Breeding program investments vs commercial response
- Commercial feedback: aligning balanced breeding objectives with commercial expectations

Thank You!!

