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A real world intervention strategy

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Intervention strategies in nursery/finishing populations are seemingly straightforward until you try to establish understandable, cost-effective intervention triggers.

I surveyed some of our colleagues to review what triggers intervention:

- herd knowledge
- morbidity
- mortality
- rectal temperature
- cough index
- dynamic signs
- barn spread
- age sequence
- acute
- chronic
- previous treatment success
- treatments
- individual:
- lameness
- cough
- diarrhea
- gaunt
- mass:
- pen (15-20% clinically affected)
- barn (20% clinically affected)
- treatment type:
- inject individually to stop acute death loss
- water
- >20% clinically affected
- feed bins full
- mill restriction
- feed
- preventive
- predictable

These are historical interventions that are more reliable for acute episodes but frequently are not predictably cost-effective in chronic cases. Costly subclinical respiratory and enteric cases most likely abound in the population before these interventions are triggered. Not only unskilled herdsmen but also skilled veterinarians have difficulty in determining interventions especially in respiratory syndromes (PRRS, SIV, mycoplasma).

Respiratory intervention triggers are modified by maternal antibody decay, which frequently slows movement of the agent. Particularly with mycoplasma, the time lag between infection and cough is the problem. Whereas treatment response to mycoplasma cough is very unrewarding, intervention 2–3 weeks pre-cough *is* satisfactory. Long infection duration and confounding agents make treatment of PRRS unrewarding in most chronic situations.

Enteric interventions are seemingly easier because of more direct gross clinical signs (ileitis, *Salmonella spp*, *E. coli*).

Average daily feed and water disappearance decline or plateau may be the best indicator in acute syndromes. Daily recording from water meters and feed auger run time are practical.

Veterinarians should often include a multi disciplinary team of advisors to develop a comprehensive action plan. This team should include an environmental engineer, nutritionist, geneticist, feed mill operator, population engineer, specific disease specialist, and analyzer.

Long-term intervention strategies must be based on "process control," detailed history, and routine profiling (serology, necropsies, veterinary clinical evaluations). Correlating serology with time of infection and implementing interventions is more cost-effective than relying on clinical symptoms alone.

Intervention strategies include:

- process charting
- training

- confounding factors
- segregated production
- vaccine
- strategic feed antibiotics
- strategic oral antibiotics
- individual antibiotics