

BVPA March 2019

Coccidiosis Control – What is our Goal?

14.3.19

James Horner

MBA CertAVP(ESST) BVSc MRCVS

Elanco Technical Consultant – Poultry

Outline

- Sustainability
- Coccidiosis through the ages (abridged...!)
- The impact of coccidiosis?
- Sustainable decision making
- Summary

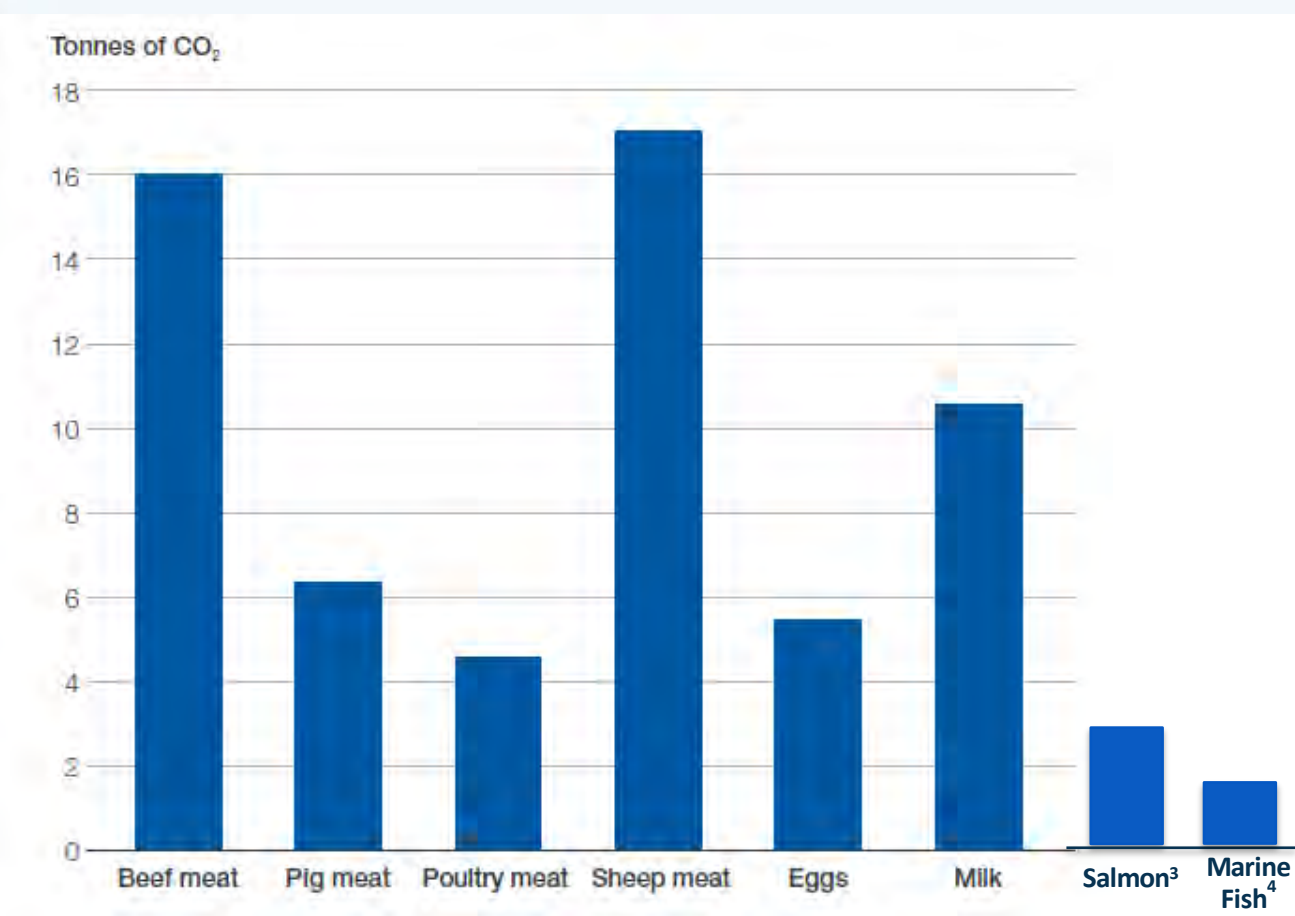
2019: Coccidiosis control and sustainability

“Meeting the needs of people today without compromising the ability of future generations to meet theirs”¹

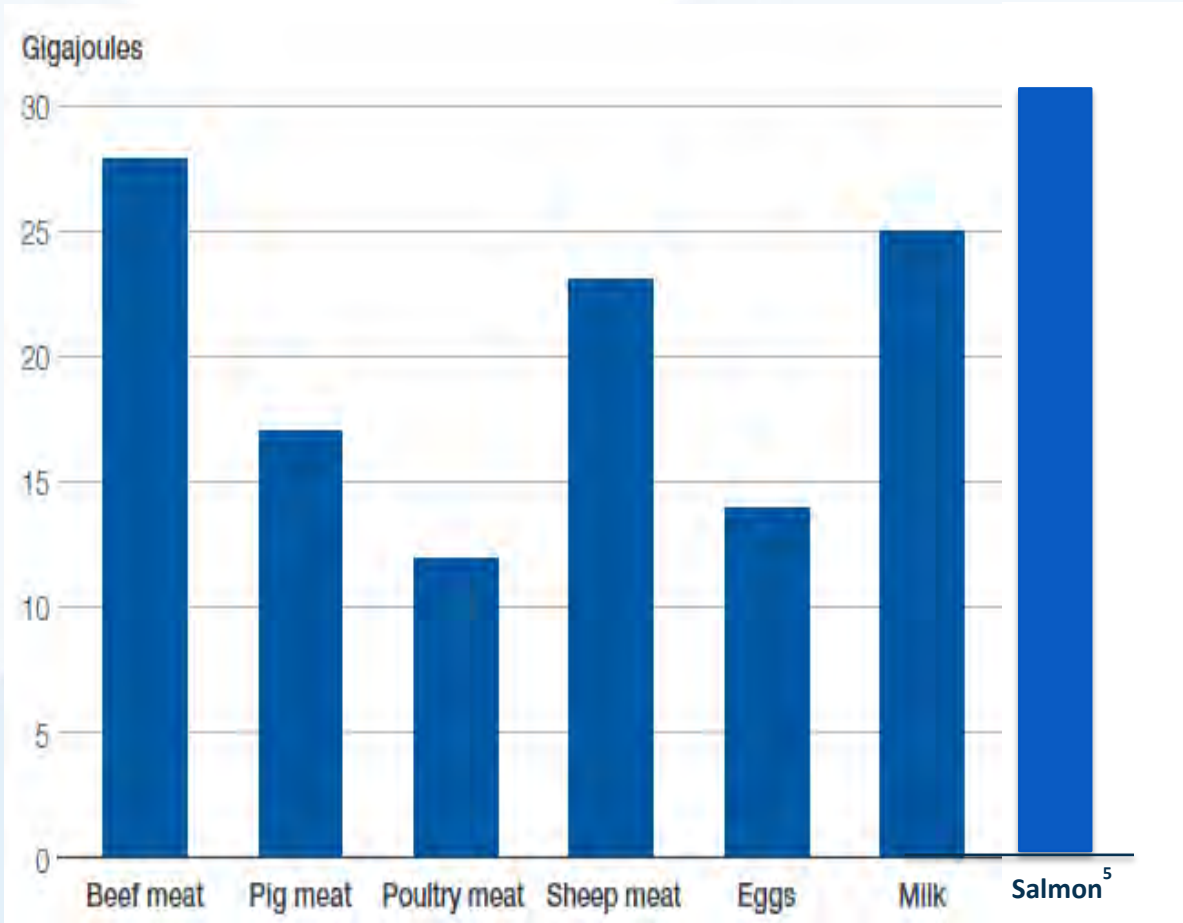


Sustainability of livestock protein production by species²

Global warming potential for meat products per tonne of carcass or 20,000 eggs

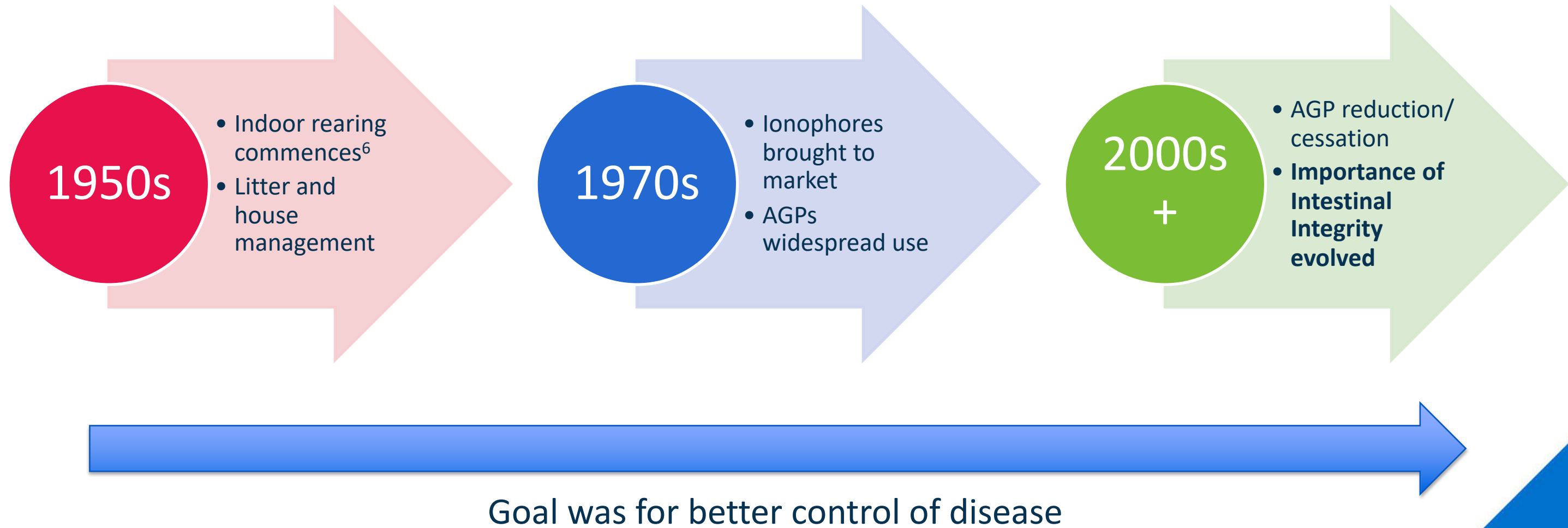


Energy used in production of different meat products against a tonne of carcass or 20,000 eggs



2. From economic impact of the British poultry meat industry report 2015
3. © 2016 Salmonfacts. NORGES SJØMATRÅD/SJØMAT NORGE
4. North Sea Foundation. The carbon footprint of fisheries
5. BC Salmon Farmers Association. Comparing the Environmental Footprint of B.C.'s Farm-Raised Salmon to Other Food Protein Sources Oct 2016

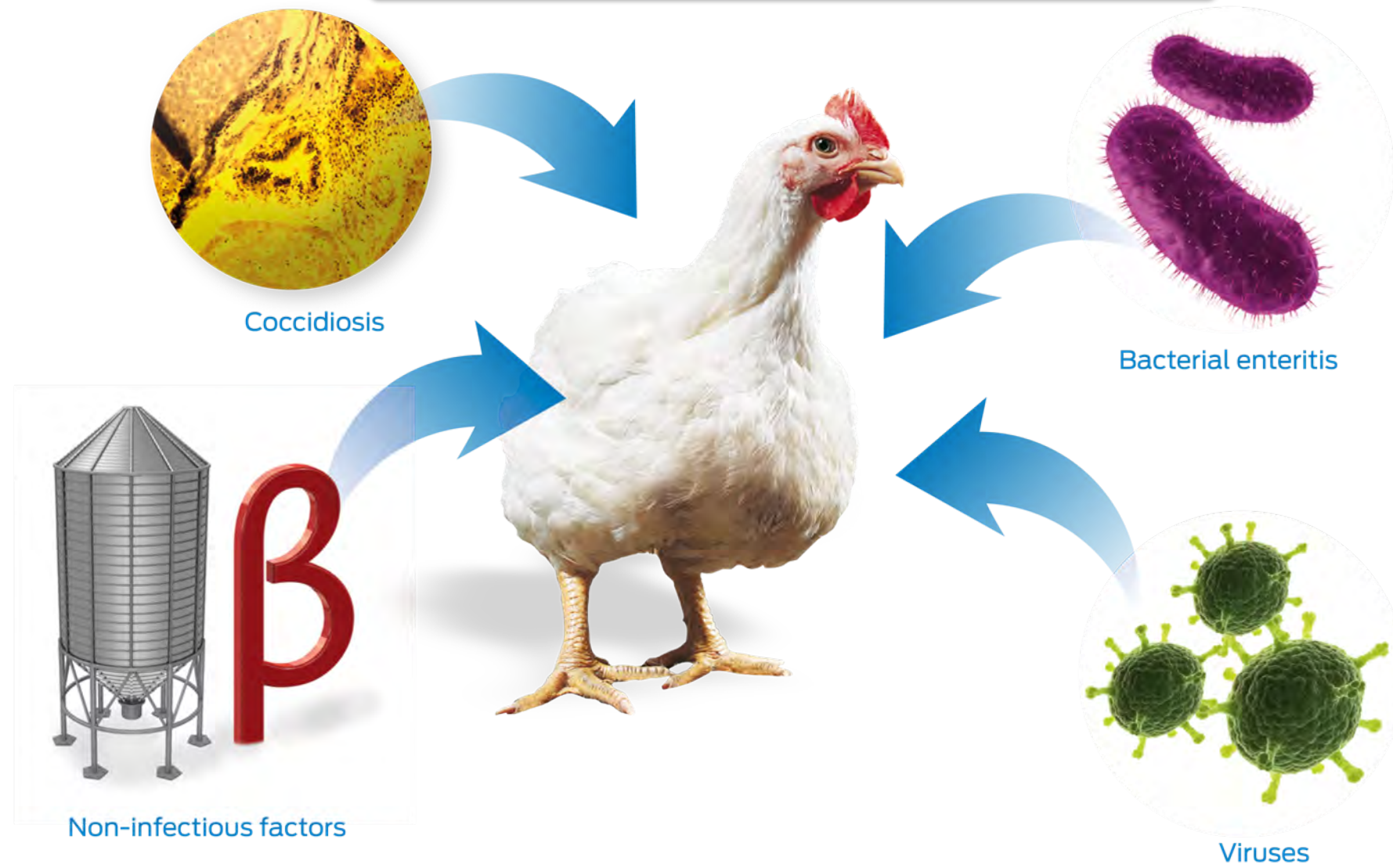
Coccidiosis through the ages



6. Birley H, Lister S (2016) Commemorating and EPIC 50 years. EPIC conference 2016 pp11 – 29

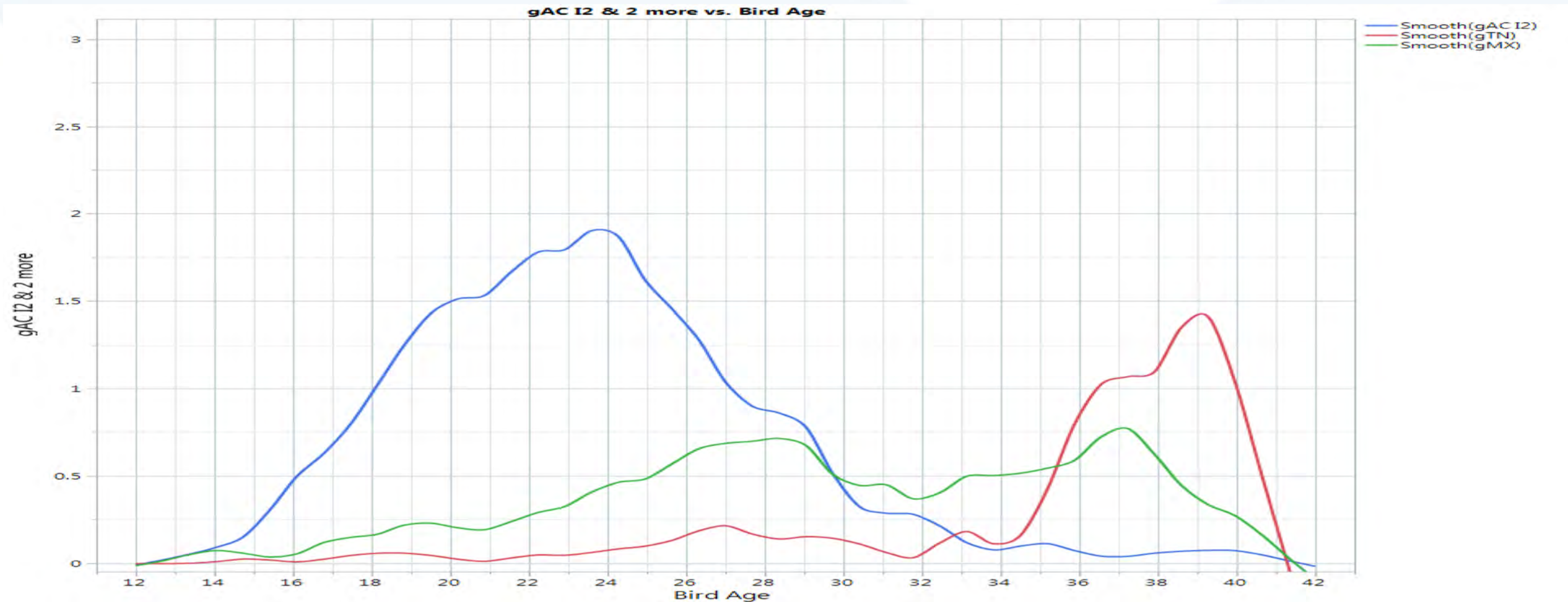
Intestinal Integrity an example of Health

4 Key Factors Which Impact Intestinal Integrity



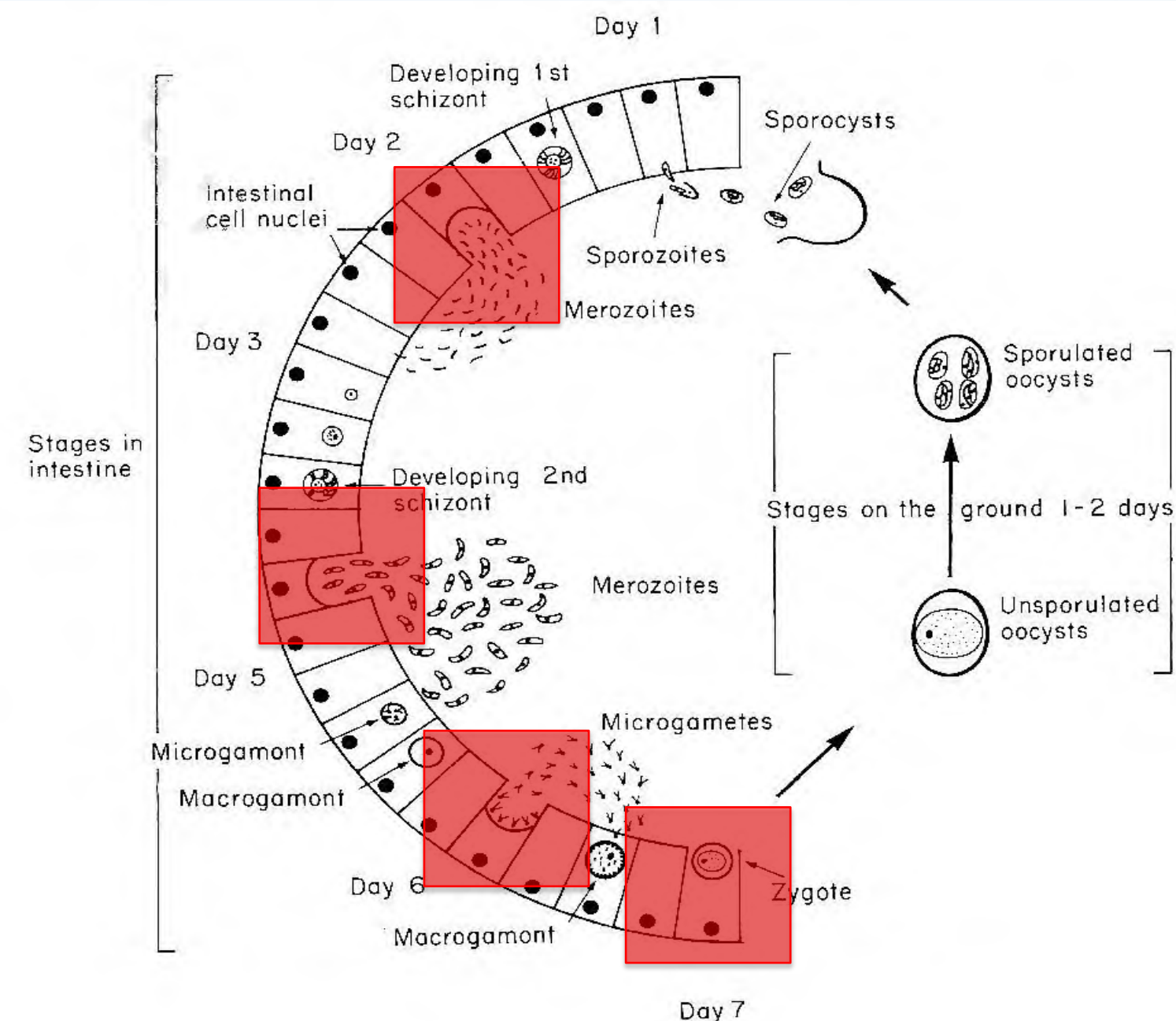
Coccidiosis is a threat for the life of the broiler bird

- management should be for the life of the bird



HTSi 2018 data on file

Lifecycle of Coccidia



- The Coccidian lifecycle damages intestinal cells to progress

50 non-medicated broilers were placed on **new litter** and given only **100 *Eimeria acervulina*** oocysts per bird at 21 days of age.⁷

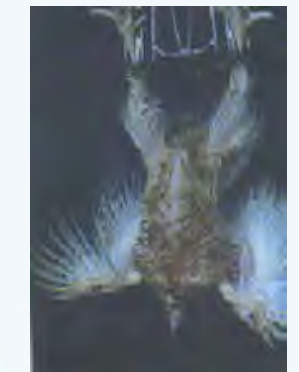
Litter oocyst count per gram litter	Day 21	Day 28	Day 35
	0	1,700	37,725

If a broiler occupies ~ 1kg of litter, at 35 days of age, it would be facing a challenge of more than 37 M oocysts if unprotected from coccidiosis after ingesting only 100 oocysts 14 days earlier.

7. Hernandez-Velasco, X., et al. 2014. Absorption and deposition of xanthophylls in broilers challenged with three dosages of *Eimeria acervulina* oocysts. British Poultry Science. 55: 167-175.

Coccidiosis – welfare and food safety

- Good welfare is related to animal health
- Enteritis contributes to wet litter⁸
- Wet litter compromises bird welfare⁹
 - Pododermatitis
 - Hock burn
 - Breast blister
 - The potential for corneal burns and airsacculitis when anticoccidials are not used
- Wet litter impacts broiler cleanliness at plant arrival
- Cleanliness of broilers at plant arrival has an impact on food safety



8. Dunlop MW, Moss AF, Groves PJ, Wilkinson SJ, Stuetz RM, Selle PH. The multidimensional causal factors of “wet litter” in chicken-meat production. Sci Total Environ 2016; 562:766–76.

9. Salois M, Watkins K, Baker K, Karavolias J. The impact of antibiotic-free production on broiler health. Abstr. 2017 Int. Poult. Sci. Forum, Atlanta, Georgia:2017.

Coccidiosis, Enteritis and Antibiotics

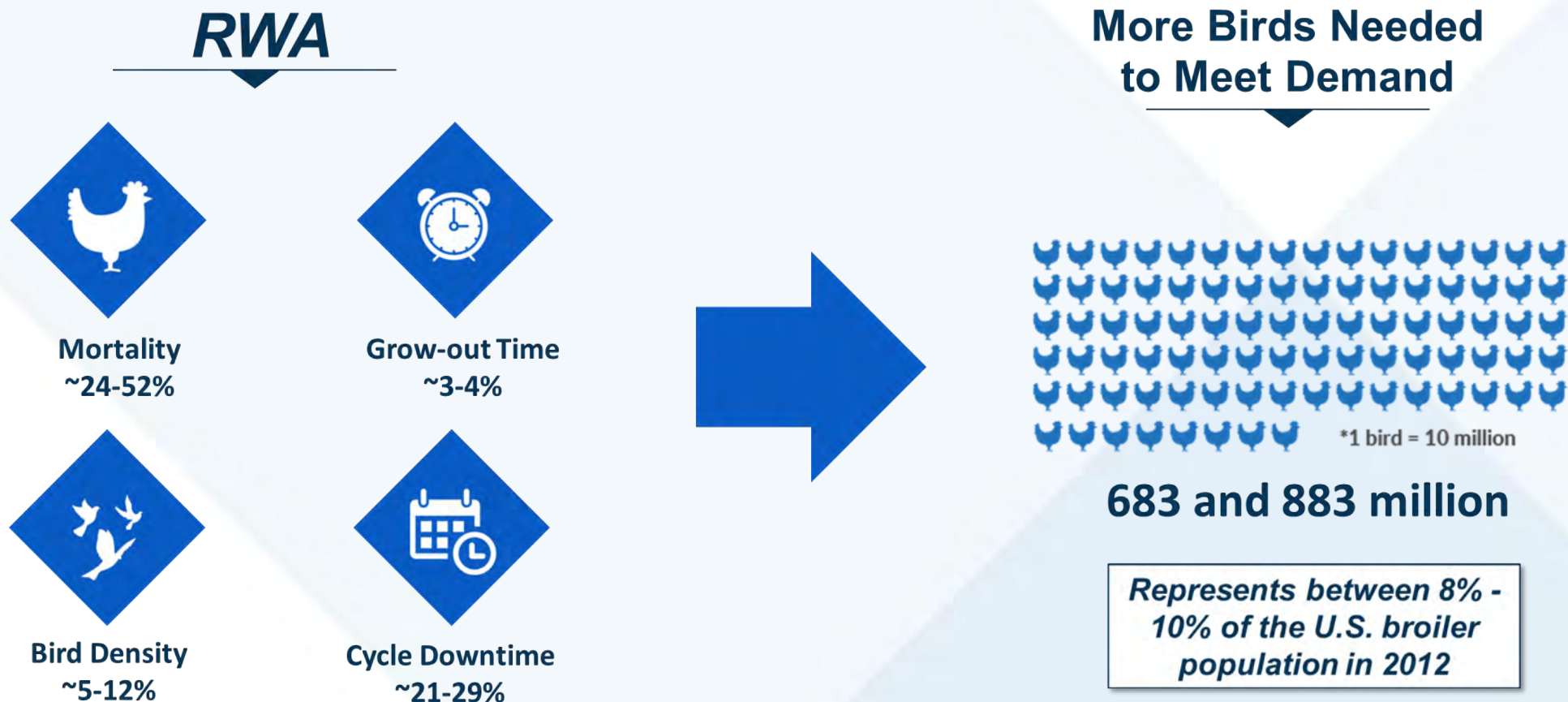
- A 2010 European market research showed that:
- 2010 EU study: 43% of broiler flocks had enteritis, wet litter or coccidiosis concerns in the late phase (post 28 days of age)¹⁰
- > 50% of the cases birds were treated with antibiotics¹⁰
- Presence of wet litter in a flock increases the use of digestive antibiotics by 61% (+0.75 treatments)¹¹
- Salois and Heskett (2017)¹² Modelled RWA will lead to 5 x more CIA than those raised without antibiotics but with ionophores
- Protecting Intestinal Integrity reduces the enteritis risk and subsequently can reduce the number of antibiotic treatments

10. BEGIA Study, 2010.

11. Saggiorato M. et al. Can we predict early the performance of a broiler flock? Experience from Clostridium FirstTest – XIIIth European Poultry Conference – Tours, 2010.

12. Salois, 2017

Raised without Antibiotics – US experience



Source: Salois et al. 2016

Production defined as RWA if no antibiotics or ionophores were used at any point during production - Chemical anticoccidials and/or vaccines allowed

Eliminating Ionophores Impacts Sustainability

Sustainability Impact



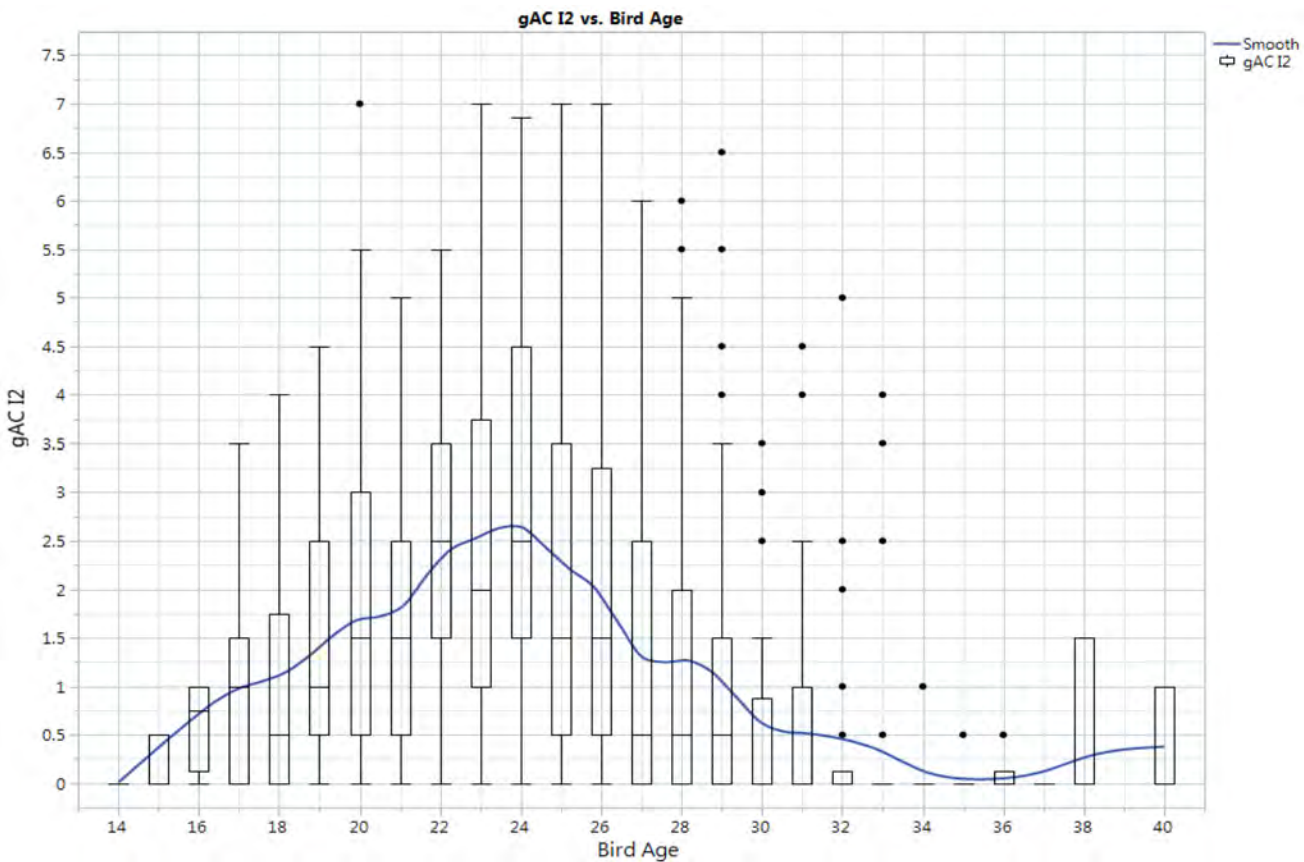
Sustainability starts at the farm level



Farm

Regional

National



HTSi 2018 data on file

2019: Coccidiosis control and sustainability



BVPA March 2019

Coccidiosis Control – What is our Goal?



14.3.19

James Horner

MBA CertAVP(ESST) BVSc MRCVS

Elanco Technical Consultant – Poultry

References

1. U.N. Brundtland Commission, 1987
2. From economic impact of the British poultry meat industry report 2015
3. © 2016 Salmonfacts. NORGES SJØMATRÅD/SJØMAT NORGE
4. North Sea Foundation. The carbon footprint of fisheries
5. BC Salmon Farmers Association. Comparing the Environmental Footprint of B.C.'s Farm-Raised Salmon to Other Food Protein Sources Oct 2016
6. Birley H, Lister S (2016) Commemorating and EPIC 50 years. EPIC conference 2016 pp11 – 29
7. Hernandez-Velasco, X., et al. 2014. Absorption and deposition of xanthophylls in broilers challenged with three dosages of Eimeria acervulina oocysts. British Poult. Sci. 55: 167-175.
8. Dunlop MW, Moss AF, Groves PJ, Wilkinson SJ, Stuetz RM, Selle PH. The multidimensional causal factors of “wet litter” in chicken-meat production. Sci Total Environ 2016; 562:766–76.
9. Salois M, Watkins K, Baker K, Karavolias J. The impact of antibiotic-free production on broiler health. Abstr. 2017 Int. Poult. Sci. Forum, Atlanta, Georgia: 2017.
10. BEGIA Study, 2010.
11. Saggiorato M. et al. Can we predict early the performance of a broiler flock? Experience from Clostridium FirstTest – XIIIth European Poultry Conference – Tours, 2010.
12. Salois M, Heskett E (2017) Raised without antibiotics can lead to more use of medically important antibiotics. [Abstract]