

Disease prevention and **Competitive exclusion (CE)** - effective alternatives to antibiotics in the Swedish broiler production

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Aim

Assessing the current methods applied to maintain a high health standard and freedom from Salmonella with a minimized use of antimicrobials.

Materials and Methods

- The production followed the hygiene and management procedures as formulated in the EU and national legislation on control of Salmonella.
- Use of antimicrobials monitored since 1980 and antimicrobial growth promoters banned since 1986.
- During 1981-1990 CE-culture (**Broilact**[®]) was given in the drinking water to the day old chickens in 179 flocks (3.82 mill birds) on their arrival to units where preceding flocks had been Salmonella infected and during periods when the risk for Salmonella contamination of feed was considered to be increased.
- All flocks were bacteriologically tested 2 weeks before slaughter to detect a flock prevalence of Salmonella infected birds of > 5% and carcasses on a statistical basis after slaughter.



Results

- Only one of the 179 flocks given CE-culture was found to be Salmonella infected.
- The average annual incidence of Salmonella infected flocks was only 0.2% during the last 16 years and 0.03% of carcasses were Salmonella contaminated
- Only in 6 (0.02%) of 3185 commercial broiler flocks (approx. 70 mill. birds) was used antimicrobial apart from coccidiostats during 2011.

Discussion

- The CE-culture was a valuable tool for avoiding re-infection of Salmonella in previously infected units.
- The very rare use of antimicrobials and low incidence of Salmonella and is result of a long term efforts of disease prevention in particular in the absence of antimicrobial growth promoters
- During recent years the CE-culture has been sprayed directly after hatch and used to assess its effect for reducing the spread of Enterobacteriaceae with transmissible cephalosporins resistance.

Conclusion

Biosecurity, disease preventive management and use of CE-culture (**Broilact**[®]) have largely eliminated Salmonella and the use of antimicrobials.



References

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