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Control of Avian Mycoplasma Infections by Live Vaccines Allows Elimination of Routine Antibiotic Administration

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Abstract — Routine antibiotic administration in broilers is often at one day of age or in the first week and again at 18 to 22 days. In layers and breeders antibiotics are often given every 4 to 6 weeks during production. The aim of these antibiotic programmes are to guarantee production, prevent mortality and maintain the health of the birds. The mechanism for such a response is dampening down avian mycoplasma infections - MG and MS. We have recently demonstrated that vaccination of breeders at 4 to 6 weeks of age with the live mycoplasma vaccine MG ts-11 and MS MS-H obliviates the necessity of these routine antibiotic programmes in the breeders and broiler progeny for the whole productive life of the breeders. Where the breeders may be already infected we have had similar success by giving an antibiotic treatment before vaccination. Any remaining bacterial problems can be targeted by specific strategies. For example Brachyspira problems can be prevented by water acidification. Clinicians confirm that with the effective mycoplasma control provided by the vaccines that other viral and bacterial infections have less effects on the birds further reducing the need for antibiotics. Having both vaccines means both infections can be controlled with the same strategy. Conversely only having a live MG vaccine often means MS field infections mut be controlled by antibiotics which can diminish the effectiveness of the MG live vaccine making mycoplasma control dependant on antibiotics. The problem here is the development of antibiotic resistance limits the longterm usefulness of this approach. In summary, MG and MS control by live vaccines that are apathogenic and not vertically transmitted is the best way to control these infections where airborne introduction of field strains is possible.