

MYCOPLASMA REDUCTION PROGRAMME:

AVENUES FOR FUTURE RESEARCH

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It is a fact that, once a bird is infected with Mycoplasma, it is considered to be chronically infected for life and subsequent stress may cause disease. Research objectives should therefore focus on keeping flocks free of infection (difficult) and/or reducing the negative economic impact on South African poultry. Control strategies (Kleven, 2008) include: maintaining flocks free of infection (biosecurity and effective monitoring), medication (no elimination but prevent clinical signs and losses) and vaccination (long term solution, especially where cannot be kept free).

A short term objective is to obtain information on the Mycoplasma situation in South Africa. Short term activities would be to determine the prevalence and distribution in the breeder population and should include culture and identification of isolated mycoplasmas, confirmation of identity with species-specific PCR, prevalence of vertical transmission and serological monitoring of unvaccinated flocks. The isolation and characterisation of avian mycoplasmas or variants that are involved in field infections and aligning these to international strains are also important. The establishment of whether these mycoplasmas are responsible for clinical signs, decreased egg production or down-grading of meat-type birds also need attention.

Medium term objectives include the establishment of the efficacy of antibiotics against the species in South Africa and medium term activities include the susceptibility of the circulating mycoplasmas and the targeted use of antibiotics for a limited period. Overuse, with the subsequent development of resistance, residues especially in egg products and dose dependent embryo toxicity are important considerations.

A long term objective is to maintain flocks free of infection. Long term activities would be an integrated approach to include good biosecurity, replacements from free sources, single age, all-in, all-out management system and effective monitoring. Vaccination would be a suitable long-term tool to minimize infection, but will require challenge studies to evaluate the long-term efficacy of vaccines.

Future research will not be easy. Difficulties will be experienced and guidance from experts required. There will be costs involved and the involvement of the industry will be crucial. The goals will hopefully be achieved.