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A preliminary assessment of the current state of resistance/susceptibility to the active compounds used in acaricides for poultry red mite, *Dermanyssus gallinae*, in the United Kingdom

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Dermanyssus gallinae, the poultry red mite (PRM), is a haematogous, ectoparasitic pest which presents a significant threat to British poultry production both for animal welfare and economic reasons, in the latter case due to heavy production losses through the downgrading of eggs and reduced laying. Control of PRM is typically achieved through programs incorporating biosecurity measures, cleaning and the use of synthetic acaricides. Despite the importance of the use of acaricides in controlling populations, poultry farmers are faced with growing incidences of pesticide resistance. It is critical that the efficacy of existing acaricides for PRM be maintained to ensure their continued benefit to the industry. To achieve this goal resistance must be monitored and managed wherever possible through considered application of these acaricides. The first step towards achieving this is gaining information on the current status. Therefore in this project a survey was carried out to determine the occurrence of perceived resistance/acaricide usage across the UK. The information obtained has been used to rank and map PRM resistance/susceptibility in the target areas and statistical analysis carried out to determine differences between areas. Mites are currently being collected from selected farms to allow laboratory toxicity testing to be performed to independently verify these observations. This data will facilitate comment on the impact of previous acaricide use on the development of resistance in PRM and allow recommendations to be made for 'best practice' treatment programs. Additionally, it will also serve as a baseline for future study and comparison with data from across Europe.

Biography

Joanne Atkinson has completed her degree in Biomedical Science with first class honors at from Northumbria University and she is currently pursuing her PhD also at Northumbria University. During the summers of her undergraduate degree, she was employed by external companies to test novel pesticidal products on the poultry red mite, which ultimately lead to her interest in the field.

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