



**A PRELIMINARY
ASSESSMENT OF THE
CURRENT STATE OF
RESISTANCE TO ACTIVE
COMPOUNDS USED IN
ACARICIDES FOR POULTRY
RED MITE, *DERMANYSSUS
GALLINAE*, IN THE UK**

Joanne Atkinson

POULTRY RED MITE

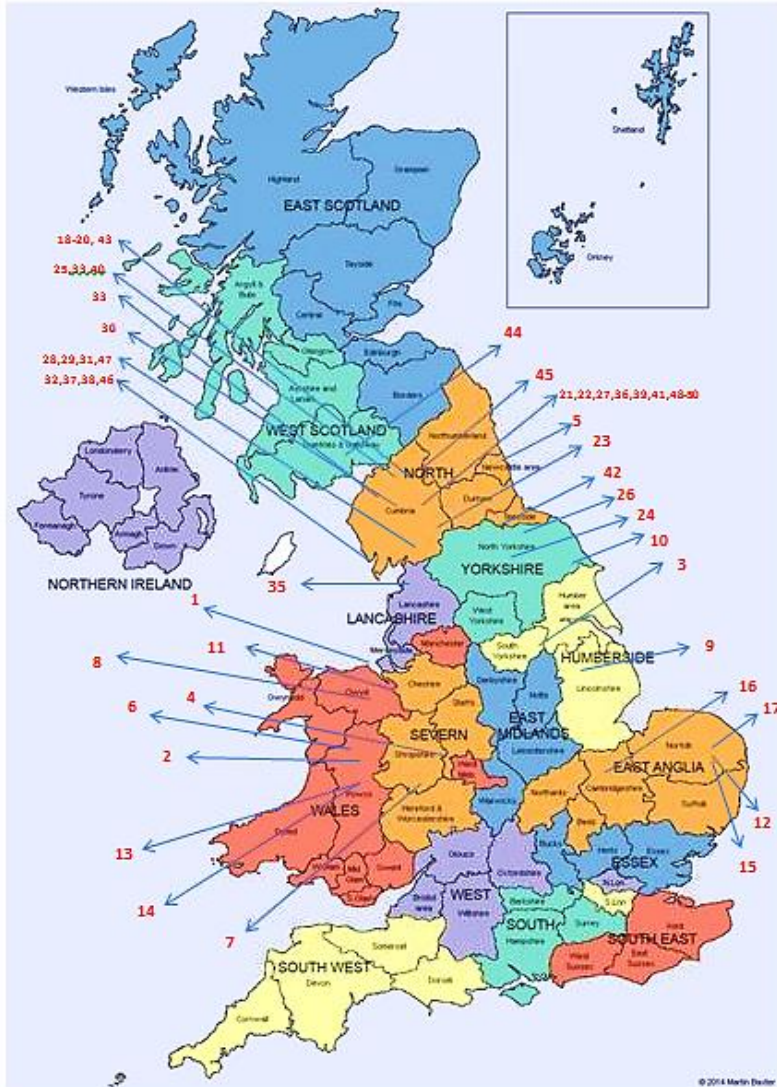
- ◉ Ectoparasitic pest that feed on chickens
- ◉ Infestations cause reduced egg quality and production
- ◉ Direct effects- Irritation, feather picking, anaemia
- ◉ Cost millions of pounds to the UK agriculture sector
- ◉ Live in nooks of chicken houses and live without food for long periods
- ◉ Only feed for short periods of time
- ◉ Larvae do not feed, males reduced feed
- ◉ Evidence of pesticide resistance



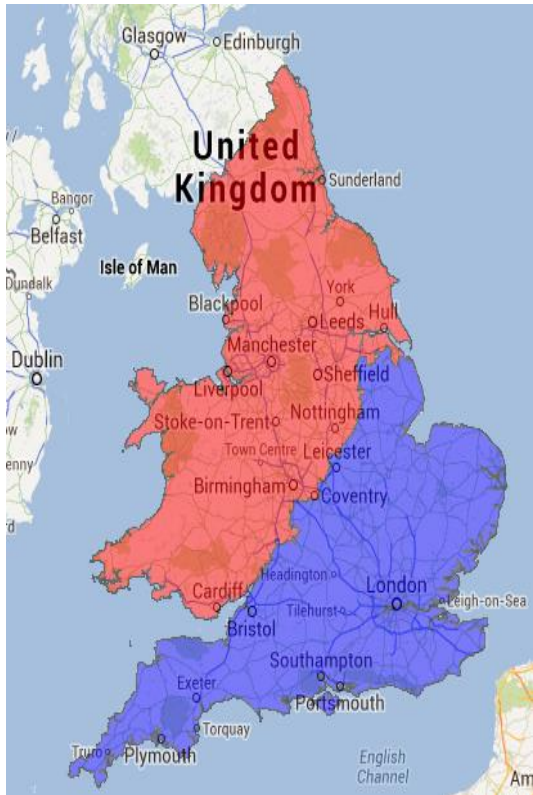
PROJECT AIMS

- Assess the current state of resistance to actives used in acaricides for PRM in the UK and use information obtained to map perceived resistance and recommend optimal PRM treatment programmes
- In the laboratory, the toxicity of a range of actives to PRM will be screened at their recommended usage concentration to allow comparison between farms and geographic divides. The information obtained will be used to map actual PRM resistance/susceptibility

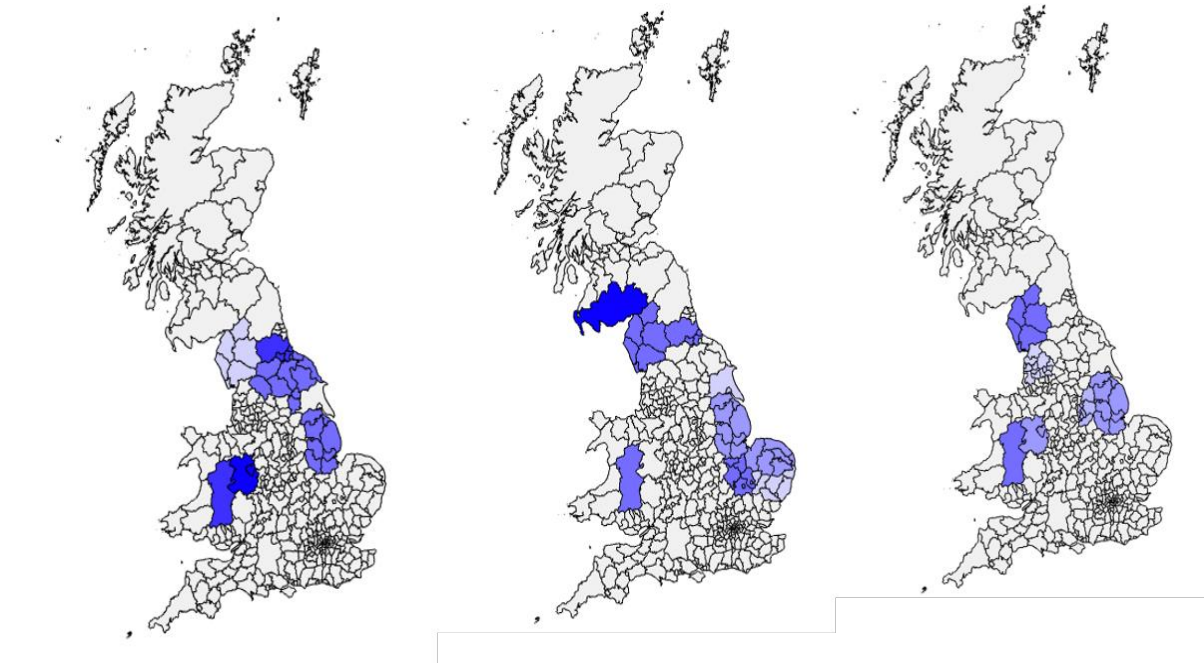
SURVEY SPREAD



- Contact data received from British Egg Council.
- Contacted companies asking for their participation
- 50 individual farms said they would participate in the project
- Each number on map= one farm response
- Survey asked questions such as: Flock size, number of buildings/size, products used, product type, manufacturer, frequency of use, timing of use, method of use, effectiveness of product (1-10)



Official North South divide of UK as stated by Sheffield university



Perceived effectiveness of Milbenex (cypermethrin)

Perceived effectiveness of Ficam (Bendiocarb)

Perceived effectiveness of Hemexsan (diatomaceous earth)

- No significant difference in pesticide effectiveness across any variable.
- BUT if a colloquial North/South divide is used instead of the official divide then Milbenex is significantly more effective in the South of the UK than the North
- The lack of significant difference in effectiveness across different locations could highlight the continually high levels of resistance in PRM

CONCLUSIONS/OUTCOMES

- Completed an extensive survey of farms across the UK to ascertain the level of perceived resistance to a range of products which can serve as a baseline of resistance for the future
- This survey shows a potentially high level of widespread resistance across the UK
- Toxicity testing was completed on selected farms to obtain a more accurate and full picture of the state of PRM resistance in the UK (Results on Poster)
- Overall improvements to pest management resulting in an increase of farming production

