

The poultry red mite

Current situation and integrated control methods

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Objectives

The objectives of this review about the poultry red mite, *Dermanyssus gallinae*, are:

- Describe the lifecycle and compare the morphology between the mite and *O. sylviarum*.
- Assess the current situation in Europe: economic and health importance.
- Explain the methods used to detect the presence of the mite in the environment.
- Mention and explain the control methods currently used and future prospect.

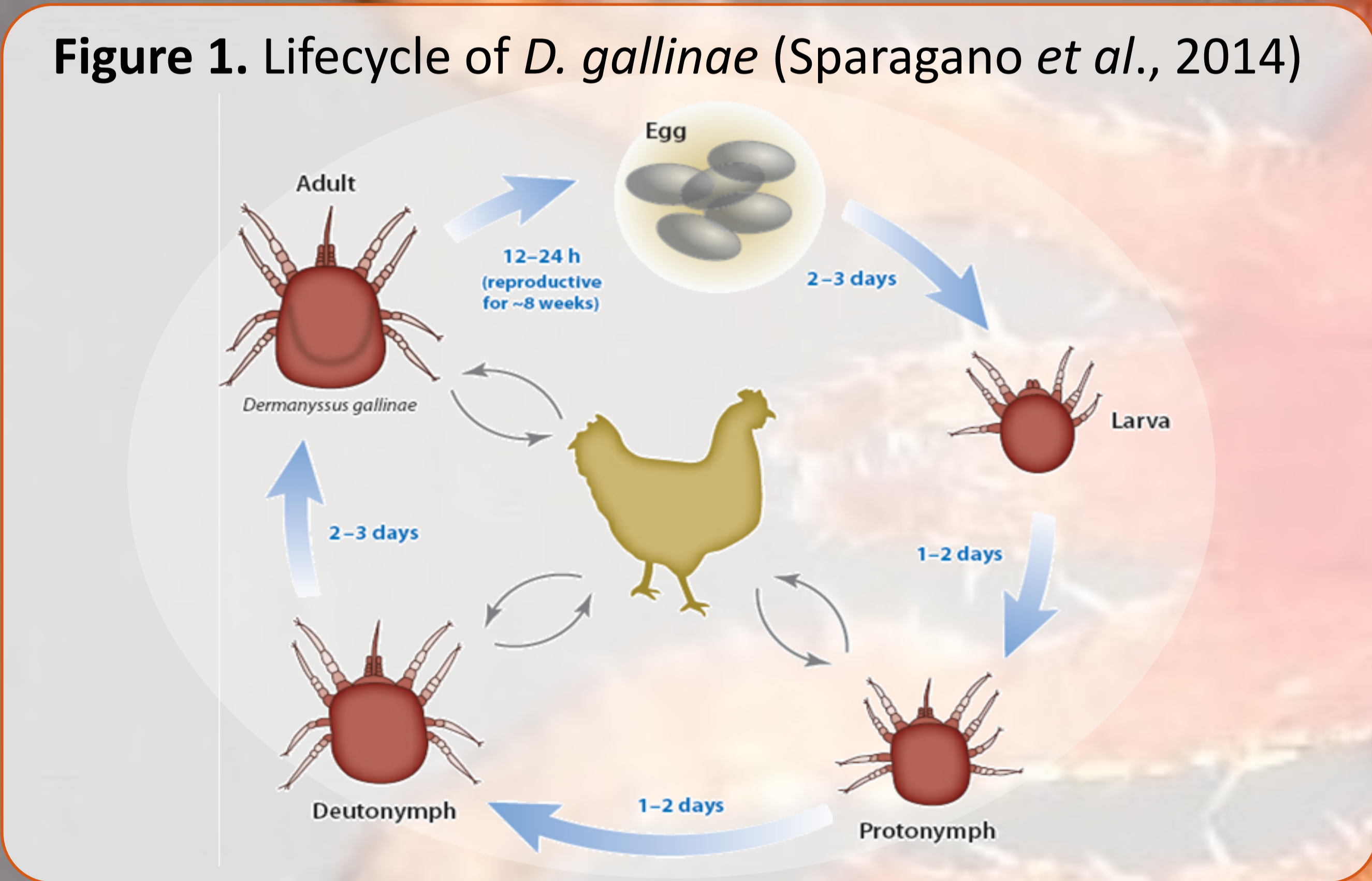
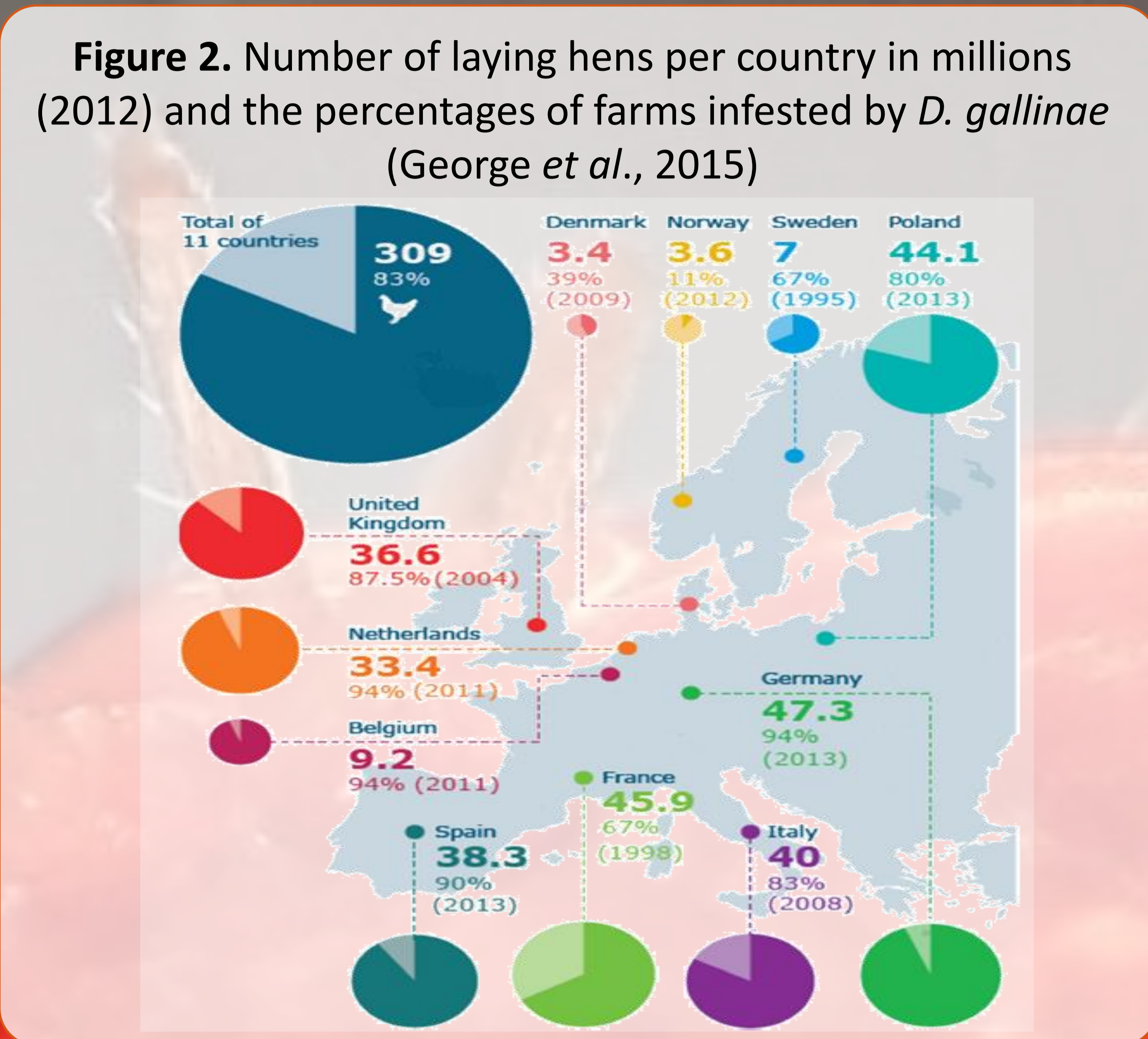


Table 1. Main morphological differences between females (Di Palma *et al.*, 2012)

<i>Dermanyssus gallinae</i>	<i>Ornithonyssus sylviarum</i>
Chelicerae are long, thin and pointed end with no evident chela.	Chelicerae are elongate, with well developed and distinct fixed and movable digits.
Genitoventral (epigynal) shield is broadly rounded posteriorly.	Genitoventral (epigynal) shield is attenuate and narrowly rounded posteriorly.
The dorsal shield is more smoothly narrowed.	The dorsal shield is abruptly narrowed posteriorly.

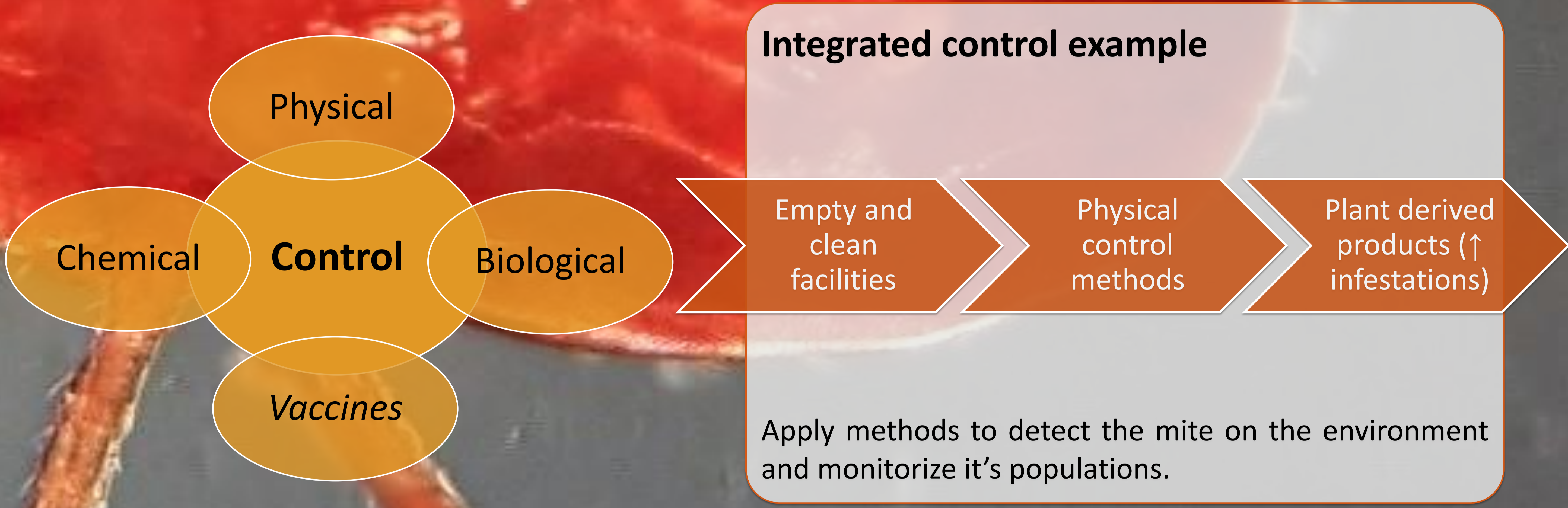


Why it's so important?

- Costs €130 million/year in European egg industry.
- Causes weight losses, anaemia or death (high infestations).
- ↑ self-grooming and head scratching = ↓ animal welfare.
- ↓ egg quality: blood spots on the shell.
- Involved in the transmission of pathogenic agents.
- Human health: opportunistic parasite.

How to detect the mite on the environment?

- **Observation:** blood spots on eggs.
- **Traps:** manual count
 - Corrugated cardboard placed in perch or others.
- **Automated mite counter:** in development.



Conclusions

- *D. gallinae* is an hematophagous mite of poultry spread worldwide causing important economical losses.
- Short lifecycle eases spread.
- It's important to distinguish *D. gallinae* from others mites (like *Ornithonyssus sylviarum*) to apply adequate control methods.
- There are different methods for monitoring and control.
- Alternative control methods are necessary due to the emergence of synthetic acaricides resistance.
- New control methods are being investigated, like vaccines, which needs more research to be applied.

Background image (adult from *D. gallinae*): Viénot E. La lucha contra el ácaro rojo, el enemigo Nº 1 de las gallinas. Selecciones avícolas [Internet]. 2015;17-8. [cited 2016 Jan 15] Available from: <http://seleccionesavicolas.com/avicultura/2015/09/la-lucha-contra-el-acaro-rojo-el-enemigo-n-1-de-las-gallinas>