SUMMARY

Preliminary study for a prioritization of production pathologies, which cannot be reported, in free-range free-range farming of laying hens in the Lazio and Tuscany regions.

Key words: Laying hens, Mycoplasmas, Prevalence

General objectives

- Recruit a number of farms with a total number of animals reared that significantly represents the number of animals reared in the province of Viterbo;
- • Investigate the prevalence of *Mycoplasma synoviae* and *Mycoplasma gallisepticum* in the Viterbo area;
- • Correlate the onset of colibacillosis as a secondary infection to mycoplasmosis.

Specific objectives

• To investigate the circulating strains of the target bacteria

• Highlight the critical issues in farm management

• Create a collaboration between the poultry system in the area and IZSLT in order to meet the needs of the stakeholders, especially in terms of preventing diseases with a strong economic impact and on public health

Methodology

- Farm inspections and sample collection
- • Laboratory diagnosis and pathological examinations
- • Estimation of the prevalence of the investigated pathogens

Results and discussion

Twenty farms were recruited to collect serological samples and laryngeal swabs. A different number of laying hens were raised in each farm, from a minimum value of n. 150 up to a maximum of n. 40,000 animals for a total of 354010.

In particular 4 Farms raised a number of animals from 1 to 10,000 (20% of the total), 9 from 10,001 to 20,000 (45%), 4 from 20,001 to 30,000 (20%) and finally 3 from 30001 to 40,000 (15%).

In each farm were collected 100 blood samples, 20 laryngeal swabs and 3 hen carcasses except for Farm A where 75 blood samples were collected.

A total of 1974 blood samples and 400 laryngela swabs were collected to be investigated. All blood samples were investigated by Elisa screening against both *MG* and *MS* and laryngeal swabs were analyzed by RT PCR. Carcasses were analyzed for a pathological and bacteriological examination.

Out of a total of 1,974 (100%) serological blood were analyzed to detect antibodies against Mg and MS, 1443 (73.1%) samples were positive, 524 (26.5%) negative and n. 7 (0.4%) doubtful results (see attachment 2). Five of the twenty farms recruited did not have a vaccination protocol for *MS* and *MG*.

Five hundred blood samples (25.33% of the total) were collected in farms with no vaccination protocol against *MG* and *MS. T*he remaining 24 negatives samples and 7 doubtful results were collected into farms with a vaccination protocol against *MS* and *MG* so an individual variability of response against the vaccine or an incorrect practice in the execution could explain this reaction .

Regarding to laryngeal swabs they were analized by RT PCR and it was observed that all of the farm tested shown positive results both MG and MS except for two farms, N (3 *MG* positive samples) and R (4 *MG* positive samples) (see attachment 3) positive only against *MG*.