New generation of inert substances in D. gallinae control

Pavličević Aleksandar1, Ratajac Radomir2, Dotlić Milica1, Stojanov Igor2, Pavlović Ivan1, Horvatek Tomić Danijela4

1AVES MIT DOO, Subotica-Bajmok, 24210 Bajmok, Cluster “Dermanyssus gallinae”, Serbia
2Scientific veterinary institute “Novi Sad”, Novi Sad, Serbia
3Scientific veterinary institute of Serbia, Belgrade, Serbia
4Faculty of veterinary Medicine, University of Zagreb, Croatia

Corresponding author: Aleksandar Pavličević, zemljadrveca@gmail.com

INTRODUCTION

The dominant method of the physical control of D. gallinae, the use of inert substances, has thus far relied on compounds based on SiO2, which have been applied in powder form or as a water suspension. A representative of the new generation of inert substances is the formulation P 547-17 which contains inert oils (purified paraffin and silicone oils), and is applied in the form of a water emulsion.

AIM

Establishing the efficacy of P 547-17 in D. gallinae control.

MATERIALS AND METHODS

Laboratory (Petri cup and tin boxes method) and clinical examinations. Application of P 547-17 on farms was conducted by a professional service, with expert monitoring, observation and consultation.

RESULTS

Laboratory examination

For full direct exposure of a 1% active matter P 547-17 with a 1 minute exposure, the mortality was 96-100%, and for a 10% P 547-17 it was 100%.

Clinical examination

Unconditioned facility preparation

The new generation of inert substances P 547-17 removes most of the insufficiencies of SiO2 formulations: the need for a special type of applicators; highly skilled staff for the application; it has a greater quality of distribution and efficacy to directly achieve eradication from production facilities.

The achieved effect of P 547-17 will depend upon meeting a level of necessary conditionality, as well as the appropriate application based on the preparation of the facility; the quality of application; facility rest period duration and temperature conditions; structure of the cages and equipment; intensity and extensity of the infestation; biosafety in- and outside of the farm.

Discussion

The safety of application of P 547-17 is ensured in two ways: through the non-toxicity of the formulation and the preventive application based on the preparation of the facility.

As the effect of P 547-17 is based on a physical mode of action, we do not anticipate the diminishing of its efficacy over time, or the development of chemoresistance.

Conclusion

Formulation P 547-17 has specific characteristics, and a special dependency on the cleanliness of cages and quality of the surface. By meeting the conditional requirements, with application technology and a program approach, P 547-17 allows a significant improvement in the rational control of D. gallinae.