



ND Pharma & Biotech



RED MITE INNOVATIVE SOLUTION  
ACARISIN™





### Suitable for use in Organic Farming Systems:

ACARISIN™ contains only pure and natural-mineral ingredients. The product was developed for use in intensive rearing, breeding and egg laying units and is also suitable for use in organic farming systems, as it falls into the exempt category of products than mandatory should be registered as biocides.

ACARISIN™ is a **food product** for industrial use and therefore is exempt from inclusion in the Register for Biocides. In accordance to its individual components, functional and legal classification as well as the mechanism of action and the technology provided, the compound is specifically excluded from the requirements of Directive 98/8/EC of the European Parliament and of the Council of 16 February 1998 concerning the placing of Biocide products, on the grounds of the precepts established within Article 1, Paragraph 2 , Sections i ) and j) of that mentioned legal norm and statute .

ACARISIN™ formulation uses only 100% natural mineral salts and other mineral origin ingredients known for their excellent properties to thoroughly rid poultry and other birds of all types of mite and lice. Its active ingredient is a synergized mixture assembled under proprietary technology as one ingredient (single grain fusion) , all of which are proven very effective for this purpose. Never use chemical based products in conjunction with our natural products as this could render ours useless.

### **Best time to apply ACARISIN™ :**

The best time to treat the birds is during the evening, because Red Mite are nocturnal and so feed on the birds as they roost at night. Apply in accordance with the directions for use, directly onto the birds.

### **Directions for use – ACARISIN™ Powder application:**

Always read the label and product information before use.

Diffusion through water on premises, ceilings, storages, grounds, cages, trucks, and any surface in contact as necessary during farming periods till you reach the top efficacy against the infestation detected.

Regarding Red mite, please note that this is a nocturnal creature so it's best to dust the birds before lights out. Dim the lights as low as practically possible to avoid any undue agitation amongst the birds. The powder can be dusted onto the birds and added to the dust bath. Do not apply to birds & poultry under 7 days old and apply sparingly to small birds. Thoroughly dust the birds with the Red Mite Powder, avoiding the eyes. Repeat application as necessary dependant upon infestation and until you are on top of the problem.


Don't forget that red mite can live away from the bird for up to 36 weeks. ACARISIN™ can be used on other blood sucking pests such as Lice, Fleas and Ticks.

Powder remain in grounds and premises will continue being effective and lasting for weeks.

### **Staying power:**

**ACARISIN™** contains minute slow release granules that can remain effective for up to six weeks - depending upon infestation and weather conditions.





## INNOVATIVE POULTRY RED MITE AND OTHER SPECIES SOLUTIONS EFFICIENCY STUDY ACARISIN™ (2012)

Red mites are one of the most important pests of laying hen farms worldwide. More than 50% of layer batches encounter difficulties in managing red mite problems.

Poultry red mite (PRM), scientific name *Dermanyssus gallinae*, is a nocturnal blood feeding ectoparasite of birds. PRM is an acarid that requires blood of its host for development and reproduction.

It particularly infests laying farms due to long production cycles. Red mites feed by attaching themselves to the hens during brief periods of time throughout the night. The rest of the time, it hides in dark places such as egg bands, under feeding dishes, cages, wood equipment (perch, nest,...) or under droppings or feathers).

Parasites consume 0.2 µl of blood in each bite. As a consequence, anemia can appear on hens with massive infestation of PRM, leading to performance reduction (weight loss, reduced feather quality, reduced laying rate up to 25%) and, in some cases, mortality due to exhaustion and reduced immune system favoring *Escherichia coli* problems. Stress behavior as higher level of preening, head scratching and feather pecking have also been reported, as well as mortal hurts and cannibalism. In addition, PRM are suspected to transfer pathogens such as Marek, Newcastle, and Zoonotic bacteria such as salmonella.

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Finally, the rate of downgraded eggs due to bloodspots from crushed mites on the eggshell can be significantly higher (up to 20%) in cases of high infestation.

In conclusion, PRM reduces the profitability of laying hen farms. The global impact is difficult to evaluate and probably underestimated by producers. However, Mul (2009), has recently estimated an annual loss of 11 million Euros only in the Dutch layers sector, thus accounting for at least 0.3 € per hen per year. This does not include the effects of PRM on human health such as skin irritation, itching, dermatitis, and allergies.

- Resistance to insecticides are now emerging, as PRM is highly adaptable to its environment due to its very short reproduction cycle.
- Evolution of welfare regulations (ban of light programs, red mite repellent) and European directives on residues in eggs (MRL) are limiting the treatments during the production period thereby making it increasingly difficult to control these nocturnal acarus.
- Alternative solutions have been developed by spraying natural insecticides in the houses or by blowing inert dust on the hens to destroy the red mite cuticle, ultimately leading to its dehydration. However, these techniques are time consuming; require special equipment and protection for the workers so their efficiency depends on how carefully they have been applied.

## INNOVATIVE SOLUTIONS TO ELIMINATE RED MITES

To cope with these disadvantages and propose a solution based on an in-feed patented non medicated mixture of MINERAL SALTS and NUTRIENTS to farmers, ACARISIN™ has been tested in a large scale field trial involving several French farms encountering PRM problems.

### EFFICIENCY TRIALS: MATERIALS AND METHODS

Twenty four (24) farms representing a total of 1.650,000 hens, encountering PRM problems were selected (7 farms in cages and 7 free range). The methods consisted of evaluating PRM population in the buildings before and after the inclusion of ACARISIN™ application..

The number of PRM in each trap was measured by counting under a microscope.

The test was performed during 15 to 25 days.

The effect of the treatment was evaluated by calculating the reduction of the population of PRM found in the traps after the treatment, as a percentage of the population found before the treatment (initial population).

Results of the 24 tests showed a reduction in the PRM population after using ACARISIN™ up to 92% of the initial population. On average, the reduction of the PRM population was 85%

### CONCLUSION

This large scale field study has enabled to validate ACARISIN™ as a new non medicated alternative approach to efficiently manage red mite infestation in farms even during production period presenting the advantage to be easy to use as it can be included in feed and sprayed or diffused during (15 day treatment approximately 3 to 4 times per year).

ACARISIN™ can be used preventively, starting use at the arrival of a new flock to keep red mite levels low thereby decreasing economic losses and discomfort for the farmer.

# ACARISIN™

FOOD PROTECTING FOOD



## NO BALANCE SHEET HAS A LINE FOR **SALMONELLA**

A SINGLE PRODUCT RECALL CAN COST MILLIONS OF DOLLARS TO FOOD & BEVERAGE COMPANIES WORLDWIDE. MOST OF SUCH COMPANIES UNDERESTIMATE SUCH SITUATIONS. IN THE MEANWHILE EVERY DAY INDUSTRY EXPOSURE TO FOODBORNE RISKS IS CREATING DANGER TO THE BUSINESS' BALANCE SHEET IN OTHER ASPECTS THAN ECONOMIC DAMAGES AS REPUTATIONAL DESTRUCTION, CUSTOMERS DISTRUST AND BOTTOM LINE CONSUMER'S CONFIDENCE LOOSENING.

PROTECT YOUR CUSTOMERS, YOUR SUPPLY CHAIN AND YOUR BUSINESS NOW!

# SterilFood™

BECAUSE **DANGER** IS EVERYWHERE

