

SUGGESTED APPROACH TO RED POULTRY MITE CONTROL IN EXTENSIVE POULTRY PRODUCTION

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The external parasite red poultry mite, *Dermanyssus gallinae* poses significant health and economic impact on the poultry industry. Although the *D. gallinae* has infested most of farms now days it has had been known in extensive poultry production for ages. On average, it parasitizes on the host every 3-4 days, in order to feed on its blood. The rest of the time it stays in the environment where it reproduces. Frequent egg-laying and short reproductive cycle give it significant reproductive power. The infestation grows fast so there can be dozens or hundreds of mites per single hen. The mite upsets the poultry, causes stress, hinders the development of immunity, aggravates the existing health problems, transmits infectious diseases, and decreases the production results. *D. gallinae* can starve for longer than a year In extensive poultry production, an especially problematic part of the control is the size (per hen) and complexity of the environment, as well as its hygienic circumstances. These circumstances increase the difficulty of control, they demand great effort, and result in low efficacy of control. In such situations, where veterinary medicine does not offer an adequate solution, in addition to regular health damage and economic loss, alternative control measures are emerging from research devoted to *D. gallinae* and its management

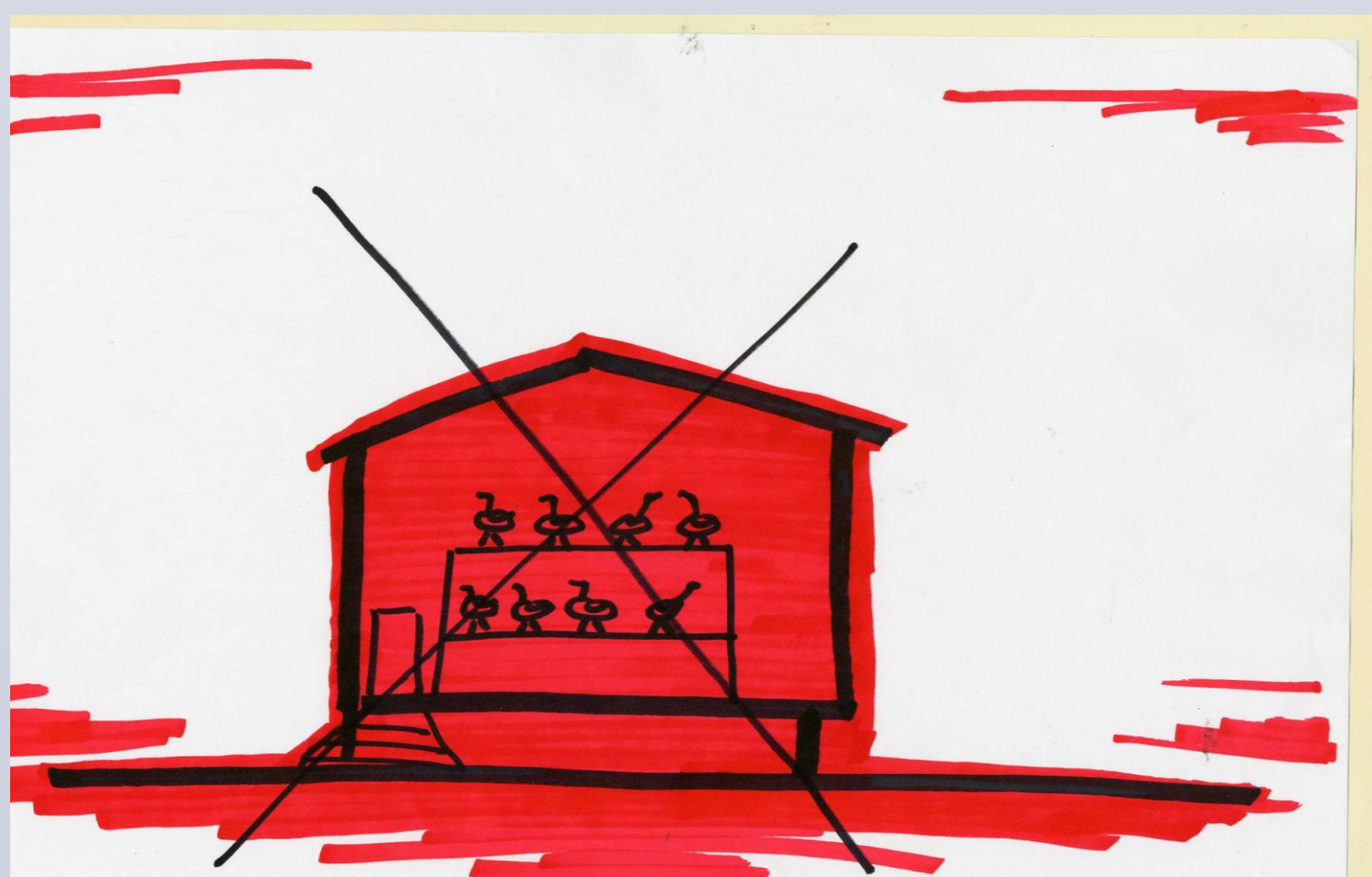


Aim

To suggest a possibility of rational control program of the red poultry mite *D. gallinae* in extensive poultry production.

Situation analysis

Extensive, free range and organic poultry production is significantly different from the intensive one. Key differences are the number of housed poultry (flock size) and the method of housing. Directive 1999/74/EC prohibited use of traditional cages on egg production for poultry birds since 2012. In extensive poultry production, a small number of poultry is allowed to move freely. Poultry sleeps and lays eggs in the poultry house or improvised places. The poultry house is a specially designed or improvised facility where each hen has a large part of the environment, which is complex and hygienically favourable for *D. Gallinae*. Red poultry mite control in this environment is difficult, since there is lack of sufficient contact of *D. gallinae* with opposing products and methods. Furthermore, there is plausibility of contact with wild birds, domestic poultry and other animals, which significantly increases the likeliness of reinfestation compared to intensive poultry farming.



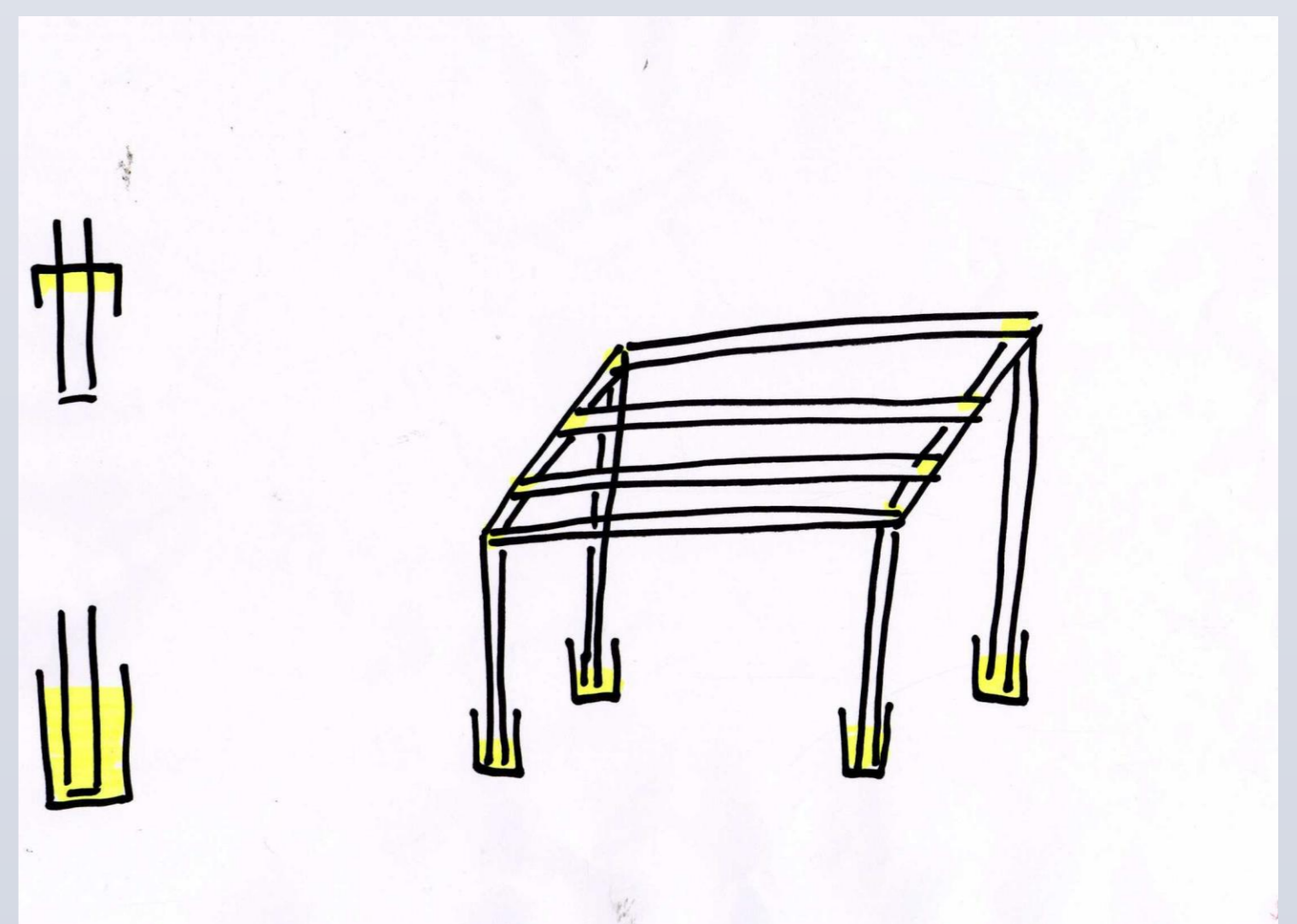
Suggested solution

In order to solve this seemingly insolvable situation, we will divide the environment into the relevant part which we can control and the other, which is irrelevant and cannot be controlled. Really relevant part of the environment in *D. gallinae* parasitism on layers are the perches where hens can sleep, and nests where they can lay eggs without disruption



Procedure:

1. Simply construct nests and seats, in the form of a bench with 4 legs, or support. Their size should allow them to be taken out of the building. The oil coating removes cracks and closes overlapped areas.
2. Place them separate from the walls, so that their only contact is with the legs of the support.
3. Place deep barriers in the form of a vessel with oil and oil at the bottom or an inverted container with grease.
4. When the presence of *D. gallinae* is noticed, the seats and nests are removed, cleaned and washed (with hot water), the straw in the nests is replaced and the barriers are refreshed.
5. General hygienic measures and arrangements of the surrounding environment are useful as auxiliary measures (plastering of a brick wall, or coating with oil protection of walls and wooden structures).



Instead of a conclusion

Inability to feed and reproduce, will lead to depletion and then limit the numbers of *D. gallinae* invasion. If the proposed measures are carefully implemented, we expect the procedure of mechanical control of *D. gallinae* to be reduced to 1-2 times a year. Technological order and simple hygienic and mechanical measures of farmers lead to the situation that without significant material cost and application of biocides can effectively control *D. gallinae*, the most important external parasite in poultry.