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COMMENSAL RATS: A THREAT TO POULTRY PRODUCTION IN NIGERIA

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ABSTRACT: Rats are now found in the majority of poultry houses in Nigeria. They usually inhabit roofs, interior of cupboards, electrical and gas appliances, holes in the soil and in walls and rubbish dumps. Extensive rat trapping yielded only two species, the cosmopolitan roof/ship rat (*Rattus rattus*) and the multimammate rat (*Mastomys natalensis*). The most outstanding types of damage, resulting in much economic loss, were the killing of chicks by decapitation and the infliction of deep wounds on adult birds. Breaking of eggs became a serious problem in a few cases. Damage to containers, bags and feed consumption was usually of small proportions. Relief from damage in well-proofed and partially-proofed premises was obtained with the application of 5% alpha-chloralose in 95% milled maize or poultry feed or with Tomorin (a coumarin-derivative anticoagulant) applied at the ratio of 1 g. Tomorin in 19 g milled maize. Reinfestation within a few months was common in partially-proofed and unproofed premises, indicating a need for proper rat-proofing of poultry houses.

INTRODUCTION

The traditional method of poultry-keeping in Nigeria is by the free-range system. The free-range birds are small in size, need little care or food because they usually feed on available scraps of food around human habitations and inside the bush, and sleep and roost in any available space. Free-range poultry are molested by a number of vertebrate pests, particularly domestic pets like dogs and cats, and wild animals like snakes and raptorial birds. The carnivorous birds like the black kite (*Milvus migrans*) and the kestrel (*Falco tinnunculus*) usually attack the young chicks, kill and devour them.

Recently, however, as a result of Government encouragement and the availability of financial assistance, poultry-keeping, under the cage system, has gained wide acceptance throughout Nigeria. Many large poultry establishments are now found in Nigeria in addition to small units which are found in many domestic premises. Caged birds are free of pestiferous activities of dogs, cats and carnivorous birds but they are attacked at all stages by commensal rats. These commensal rats were relatively unimportant in poultry until recent times when several farmers started to request assistance for the eradication of these rats from poultry houses. This paper gives an account of the current state of knowledge on the occurrence, role and control of commensal rats in poultry establishments in Nigeria.

METHODS

The frequency of occurrence of rats in poultry houses was determined from questionnaires. The habits and habitats of rats and the types and seriousness of damage were determined during visits to several poultry houses.

Control of rats was done in four poultry houses in Ibadan. Rats were controlled with baited snap traps, Tomorin (a coumarin-derivative anticoagulant rodenticide) and alpha-chloralose (a soporific). The Tomorin was mixed at the ratio of 5% Tomorin to 95% ground maize while the alpha-chloralose was mixed at the rate of 5% alpha-chloralose to 95% poultry feed. Both poisons were applied in dishes and kept in infested areas until there were no further signs of damage.

RESULTS Pest Species

Commensal rats were found in all the poultry houses examined. The ages of the poultry houses varied from two to twenty years, with the average age being four years. The twenty-year old poultry house was in the Teaching and Research Farm, University of Ibadan.

Two species of rats, the roof/ship rat (*R. rattus*) and the multimammate rat (*M. natalensis*) were found. Both species were nocturnal but a few were seen occasionally during the day. The rats lived in holes in the ground, in the bush, in rubbish dumps, inside cupboards and appliances, and in the roof. *R. rattus* was more commonly found in the roof while *M. natalensis* was found mainly in extensive burrows in the ground. *R. rattus* was found alone in a majority (92%) of the poultry houses examined. It occurred in three color forms: black, blue-black and brown. *R. rattus* and *M. natalensis* occurred together in the same poultry in only two instances. In one case *M. natalensis* formed 25% of the rat populations while in the other case it formed 96.4% of the populations.

Types of Damage

Damage caused by commensal rats included damage to building structures, containers, bags and equipment by biting and chewing, but these usually never assumed serious proportions. Rats consumed feed and also broke and consumed eggs and these resulted in substantial economic losses in a few instances. The most serious types of damage were the killing of chicks and the wounding of adult birds. The rats killed the chicks and consumed only the heads. They bit and consumed the flesh of the adult birds in the fleshy dorsal region close to the tail.

