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THE RED EYED TURTLE DOVE *(Streptopelia semitorquata)* AS AN AGRICULTURAL PEST IN NIGERIA

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ABSTRACT: Preliminary results compiled from visual observations and questionnaires indicated that a large variety of crops including soyabean, cowpea, groundnut, maize, rice, sorghum were attacked at planting and seedling stages of growth by the red-eyed turtle dove (Streptopelia semitorquata).

The social conditions under which this bird is protected, by social taboos and also as an attractive and common household pet in many parts of Nigeria, limit the control options that could be used to stop its deleterious activities.

In the meantime research efforts are being directed to the understanding of the population ecology and biology of the species as a prerequisite to determining appropriate control strategies.

INTRODUCTION

Birds have been acclaimed as important pests of agricultural crops in Nigeria (Akande 1977; Funmilayo 1973, 1975; Funmilayo and Akande 1974, 1976; Ward 1971, 1972). Current emphasis in food production in Nigeria is mainly on grains such as rice, maize, sorghum, millet and cowpea and soyabean. These crops are also the ones that are more accessible and therefore more vulnerable to bird pests which have constituted a great nuisance and source of discouragement to farmers.

The major avian pest on which the Federal Government has spent a fortune is the red-billed quelea (Ouelea quelea) whose damage to big plantations of cereal crops in Northern Nigeria and also other parts of Africa has been very severe and devastating, threatening the success of many commercial cereal production schemes within its distribution range.

A lot of data on the biology, ecology, behavior and control techniques of Quelea sp. have been documented (Pope and Ward 1971; Ward 1965a, b, c, d). However, even in spite of all these efforts much research information is still necessary to produce long-term effective control measures.

Other major avian pests already identified and being studied include the village weaver bird (Ploceus cucullatus) and the bushfowl (Francolinus bicalcaratus bicalcaratus) which in Southwestern Nigeria constitute major constraints to increased grain production (Funmilayo and Akande 1976).

The red-eyed turtle dove occurs throughout Nigeria. Various reports have made allegations of the deleterious activities of this bird on cereal crops, cowpea and soyabeans. In Botswana, the laughing dove (Streptopelia senegaleusis) and the cape turtle dove (Streptopelia capicola) have been identified as major pests on sorghum which is the main cereal food item for the population, and loss to the doves has assumed a lot of importance (Pope and Irving 1976). The possibility of these doves becoming a major pest in Nigeria is high, with the current trend of devastation by doves on grains and the realization that the dove in Nigeria seems to occupy the same niche as the bushfowl in areas where the bushfowl is absent.

It is essential to obtain detailed information on the biology and population dynamics of this bird before any forms of control can be designed and recommended. This paper discusses some aspects of the role of the red-eyed turtle dove as a major avian pest in peasant and plantation agriculture in Nigeria.

METHODS

The pest status of the dove was determined from questionnaires sent to farmers. The questions asked were: Can you identify the dove? (local name and common English name used); Is it a major pest on your farm? What crops does it damage? Have you ever controlled it and with what methods and what measure of success?

The mode of damage was determined from visual observations on damaged crops on the field and from observations of birds in the aviary.

RESULTS

Eighty-four percent of the questionnaires sent out were completed and returned. Preliminary results compiled from answers to the questionnaires indicated that a large variety of crops including rice (Oryza sativa); maize (Zea mays); cowpea (Vigna unguiculata); groundnut (Arachis hypogea); sorghum (Sorghum guineense) and soyabean (Glycine max) were attacked at various stages of growth, planting, seedling, and harvesting by the red-eyed turtle dove (Table 1).

The planted grains were dug up immediately after planting and swallowed whole. During the seedling stage of growth, the cotyledons were pecked and the germinating seed dug up and consumed. The extent of damage depends on the population of doves in the crop land. Damage was severe in many instances; sometimes it was total.

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Table 1. Questionnaire responses on turtle dove damage to crop plants.

Name of crop	No. of respondents that grow crop	No. of respondents that allege damage	% Respondents who allege damage	Part(s) of crop damage	Time of damage
Maize	365	350	95.89	Seeds Cotyle-don	Sowing germinating harvesting
Rice	305	245	80.32	Seeds	Sowing
Sorghum	280	270	96.42	Seeds	Sowing
Cowpea	225	215	95.56	Seeds Cotyle-don	Planting germinating
Soyabean	25	25	100	Seeds Cotyledon	Sowing germinating
Groundnut	85	25	29.41	Cotyledon	Germinating

CONTROL

The replies from farmers indicated that the most common form of control is human scaring which is fast becoming obsolete because scarers are no longer available and they are very expensive to maintain.

Maize and rice grains soaked in concentrated insecticides have been used to kill birds but this habit is dangerous and is being discouraged.

DISCUSSION

The dove is already presenting a serious problem in avian pest research as the country focuses attention on improved agricultural production. Extent of damage is also related to population. Therefore, research presently undertaken is the study of the breeding behavior of the dove in captivity. Results have so far indicated that two eggs are laid regularly at intervals of between 6-8 weeks. Most of the eggs are also hatched. Thus, where food is plentiful and other conditions are favorable, there could be a population explosion of the red-eyed turtle dove leading to more devastation of crops.

The dove is a common household pet in many parts of Nigeria. It is regarded as a bird of "peace" whose presence in the home infers some sort of peaceful existence. Thus, social conditions involving taboos confer some protection on this bird, thereby limiting control options that could be used to stop its deleterious activities.

The problems of controlling our bird pests include: 1) lack of enough researchers, and 2) the bird pests have not all been identified except those that are affecting large commercial and government plantations.

Meanwhile, the bird pests that are locally destroying the crops of peasant farmers are very important because sometimes the damage is total and peasant farmers form approximately 80% of the country's farming population. Therefore, if these bird pests are not controlled, they could become real major problems in the future.

The future research needs with regard to the control of the pest activities of this species is to try various control measures under field and laboratory conditions. Such control measures include the use of avicides, repellents and suitable traps.

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