GROUND-ROOSTING BY MOURNING DOVES IN ILLINOIS

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ABSTRACT.—Mourning doves observed near Neoga, Illinois, select clovers and vegetation under 6 inches in height for roosting cover when trees no longer afford protection in the fall.

Ground-roosting by the western mourning dove *(Zenaidura macroura marginella)* has been reported in grazed pasture land and in stubble hayfields adjacent to nesting and feeding areas of mourning doves (Cowan 1952: 508). Chambers (1961: 47) found eastern mourning doves *(Z. m. carolinensis)* roosting in abandoned pastures of Korean lespedeza *(Lespedeza stipulacea Maxim.)* and in or around clumps of grasses in a weedy, handpicked cornfield. Hennessy and Van Camp (1963: 370) found eastern mourning doves roosting on clipped wheat stubble and in fields of dead alfalfa *(Medicago sativa* L.). This note presents data on the ground-roosting of mourning doves of mixed racial stock composed of *Zenaidura macroura marginella* and an intermediate between *carolinesis* and *marginella* (Aldrich and Duvall, 1958: 113, 119; Aldrich et al., 1958: 72).

METHODS OF STUDY

While nightlighting pheasants (Labisky, 1959) on a study area near Neoga in Cumberland County, Illinois (Ellis and Anderson, 1963: 226), the numbers of ground-roosting doves and the habitats they were utilizing were recorded from July 23, 1963, through November 13, 1963, in conjunction with the collecting of pheasant data. The vegetation on the study area was rated from 1 to 4, based on its height, as follows: 1 - 3 inches high = (1), 4 to 6 inches high = (2), 7 - 14 inches high = (3), and 15 - 48 inches or more high = (4). Since not all of the different agricultural fields were searched and the sample size of fields and doves was small, no attempt was made to analyze the data statistically.

RESULTS AND DISCUSSION

Two hundred fifty-four doves were observed in 661 acres driven from September 23 through November 13, 1963; no doves were observed on 789 acres cruised from July 23, 1963, through September 16, 1963. Mourning doves appear to be selective in the composition and height of the vegetative cover they choose for roosting as 97 per cent of the doves utilized vegetation with clovers *(Trifolium spp.)* as a vegetative base. Sixty-one doves (148.7 doves per 100 acres) utilized mowed oat stubble characterized by 4- to 6- inch high clovers. One hundred seventy-three doves (71.2 doves per 100 acres) were observed in clover hayfields and 11 (12.6 doves per acre) were observed in wheat stubble with clover growth. The censusing of wheat and oat stubble, and of wheat and oat stubble regrown with weeds, timothy, and timothy pasture indicated that very few doves (9 doves in 290 acres) were roosting in these fields.

Ninety per cent of the doves chose vegetation under 6 inches high with clovers as a base for roosting. Doves found in vegetation over 6 inches tall were in open areas within the vegetation or on piles of dead vegetation.

At least two factors may account for the initiation of ground-roosting by doves after September 23, as described here. Ground-roosting may have served to protect the doves from their enemies since leaves were falling from the trees, in particular from the osage orange hedges *(Maclura pomifera* (Raf.) Schneid), where the birds had been observed roosting during July, August, and early September. The more logical possibility is that the mourning doves may have started ground-roosting to conserve body heat. Moore (1945: 253 - 260) has stated that a bird must overcome radiation of heat from its body on clear cold nights by roosting in a place relatively free of air movements, and he thought that the bird could ac-

complish this by roosting close to, or under, opaque cover. This may explain the selection of clovers by ground-roosting doves. Riddle et al. (1932: 264-266) reported that mourning doves attain their highest metabolic rates in September and that in this species metabolism is more affected by slight changes in air temperature than is the metabolism of nonmigrant ring doves *(Streptopelia roseogrisea)* or pigeons *(Columba livia)*.

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