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"DOVE" PROSO MILLET—NEW MOURNING DOVE FOOD?

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ABSTRACT

"Dove" proso millet (*Panicum miliaceum* L.), a new variety of proso millet, is being planted to attract doves in the Southeast. A food habit study was initiated to determine the desirability of dove proso as a mourning dove (*Zenaidura macroura*) food as compared with browntop millet (*Panicum ramosum* L.). Field trial plantings of equal acreages of dove proso and browntop millet were made in nine counties of South Carolina from 1966-1970. Crops of 152 mourning doves were collected and analyzed. Eighty-six of the crops were collected from a single trial field on Oakland Club, Berkeley County. Volumetrically, dove proso comprised 25.4 percent and browntop millet 13.4 percent of the total food consumed. The percent frequency of use was not significantly different. The frequencies of use of dove proso and browntop millet were 53.3 percent and 50.7 percent respectively. The method of planting dove proso is described, with some of the problems encountered with dove proso in dove fields.

INTRODUCTION

"Dove" proso millet, introduced from India by plant materials specialists of the Soil Conservation Service, is being planted in fields to attract mourning doves in the Southeast. This study compared dove proso with browntop millet to determine if dove proso is as choice a dove food as browntop millet. Mourning doves were collected from dove fields with approximately equal plantings of dove proso and browntop millet. A crop analysis was the method of making the comparison. Browntop millet is reported by Neely (1961) to be a choice food for attracting doves and produces successful dove fields that are economical. Dove proso seed is presently more expensive than browntop millet seed and if dove proso is not as choice a dove food as browntop millet, it would be uneconomical to continue to plant the dove proso.

Description of Dove Proso

Dove proso is a variety of proso millet introduced from Pandit Ramdott Chilokoti, Almora, United Provinces, India, and tested at the SCS plant materials center located at Americus, Georgia. Dove proso was selected for field trials as a wildlife food from 35 varieties of proso millet. Most varieties of proso millets are unsuited to the southern latitudes due to the moderately long days in the summer. Dove proso is a summer annual upright grass with a drooping panicle seedhead. Although not as leafy as browntop millet, dove proso grows about 1 foot taller under similar conditions, to a height of 3 to 6 feet. The seed are a shiny tan, almost yellow, color and about one-fourth larger than browntop millet seed. The seed matures in 90 to 100 days if planted on moderately fertile soil, without a drought or flood hazard. Dove proso produces 1500 pounds or more of seed per acre (U.S.D.A., 1964).

DESCRIPTION OF DOVE PROSO FIELDS

Mourning dove crops were collected from dove proso field trials in nine South Carolina counties from 1966-1970 (Table 1). Each of these dove fields were planted to approximately equal acreages of both dove proso and browntop millet. Over half of the dove crops were collected from one dove field trial planting on Oakland Club in the northern part of Berkeley County. This 20-acre dove field is flat and relatively well drained with Goldsboro, Lynchburg, and Ocilla as the dominant soil types.

TABLE 1. Number of mourning dove crops analyzed from dove proso fields in South Carolina.

County	Year	Number of Crops
Aiken	1967	30
Berkeley	1970	86
Chesterfield	1967	1
Florence	1967	5
Jasper	1966	9
Kershaw	1966	8
Lexington	1967	1
Marion	1967	4
York	1969	8
TOTAL		152

METHODS

The field method of crop analysis as described by Davison (1940) was used in this study. The crops were collected by Soil Conservation Service personnel, the landowners, or the author.

The volume percent method described by Martin *et al.* (1946) was used to determine the composition of the crops. Each food item was separated from the crops and measured volumetrically by the use of a 10 ml graduated cylinder and number 12 shot. The actual volume, percent volume, frequency, and percent frequency were recorded for each crop. Any item occurring in the crops, other than dove proso or browntop millet, was recorded under "*other items.*" All volumes of less than 0.1cc were recorded as "*traces.*"

Planting of Dove Proso

The following recommendations for planting dove proso in dove fields were made by SCS plant materials specialists. Dove proso should be planted 100 days before the opening of the first dove season. Plant 10 pounds of seed per acre in 3-foot rows or 20 pounds per acre broadcast. Use at least 300 pounds of 8-8-8 fertilizer (or its equivalent) per acre in the rows or at least 500 pounds of 8-8-8 fertilizer broadcast. Add

lime if soil is acid. Prepare the field and plant about ½ inch deep in 3-foot rows with a corn planter. Other row planters may be used. Row plantings must be cultivated to maintain the bare ground conditions favorable to doves. Broadcast plantings will be successful for dove fields only if the dove proso is cut, raked, and baled for hay.

A corn planter was used at Oakland Club to plant the dove proso and browntop millet in rows. By adjusting corn planter plates, 30 pounds of dove proso seed per acre were sowed in 36-inch rows. The dove proso and browntop millet were planted on June 20, 1970. The plantings were fertilized with 800 pounds of 4-12-12 and cultivated twice. Twelve acres of dove proso and 8 acres of browntop millet were planted in the same manner. Some browntop millet was mixed in with the dove proso plantings.

RESULTS

The crops of 152 mourning doves, collected over dove proso fields from 1966-1970, were analyzed as to the composition by volume and frequency of dove proso, browntop millet, and other items. Dove proso comprised almost twice as much of the total volume as browntop millet. Dove proso represented 25.4 percent of the total volume and browntop millet 13.4 percent. The volume of other items was 61.2 percent. The total volume in the 152 crops was 289.2 cc. The frequency of dove proso (53.3 percent) was not as significantly different from browntop millet (50.7 percent) as was the volume composition. Other items occurred more frequently than dove proso and browntop millet combined (Table 2).

TABLE 2. Crop contents of 152 mourning doves collected from nine dove proso fields in South Carolina during 1966-1970.

Crop Items	Percent Volume	Volume In cc	Percent Frequency	Number Occurring In
Dove proso (*Panicum miliaceum* L.)	25.4	73.4	53.3	81
Browntop millet (*Panicum ramosum* L.)	13.4	38.9	50.7	77
Other Items	61.2	176.9	80.3	122
TOTAL	100.0	289.2		

DISCUSSION

Dove proso comprised a significantly higher percentage of the dove crop contents by volume than browntop millet, indicating that dove proso is a preferred mourning dove food. Browntop millet occurred almost as frequently as the dove proso but a number of crops only had a trace amount of browntop millet. In the Oakland Club dove field, the dove proso plantings had browntop millet mixed in the rows, but the browntop millet rows were free of dove proso. This probably had an effect on the frequency of the two dove foods. The data resulting in this study in no way reflects against the use of browntop millet in dove fields. Browntop millet is, and will continue to be, satisfactory for use in dove field plantings.

Since most of the doves shot over the dove fields had not had a chance to feed in these fields, the majority of the food consumed was not dove proso or browntop millet because the doves had fed in other areas. Most of the doves examined were not of use in this study because they had empty crops when collected.

The growth characteristics of dove proso do not afford the most favorable feeding conditions for mourning doves which like bare ground for feeding purposes. Even under proper cultivation the dove proso plants were tall and bushy which reduced the amount of open ground.

Also, it was observed that the hunters had difficulty in locating downed doves in dove proso. One advantage of the robust growth of dove proso is that it provides cover for hunters in the fields. If dove proso is not planted for hay purposes, alternating strips of dove proso and browntop millet would provide more attractive feeding conditions than solid plantings of dove proso. Some landowners are planting 10- to 20-foot strips of dove proso and disking the unplanted area between the strips to provide bare ground for attracting doves.

Dove proso matures at a slower rate than browntop millet and should be planted about 90 to 100 days before the opening of the dove season. A number of landowners in South Carolina planted dove proso and browntop millet at the same time (usually the first week in July), and the dove proso did not mature in time for the first dove season.

The data obtained in this study revealed that dove proso is a choice mourning dove food.

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RECOVERY DATA FROM PEN-RAISED QUAIL RELEASED BEFORE AND DURING THE HUNT SEASON [1]

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ABSTRACT

A total of 1,915 bobwhite quail (*Colinus v. virginianus*) was released on Belmont Game Management Area in South Carolina from 2 to 10 weeks prior to the advent of the 1969 hunt season. An additional 1,134 quail were released on the same area during January and February, 1970. The overall study area had been sub-divided into nine smaller compartments for "release" and "hunting" purposes. The hunting season extended from November 24, 1969 through March 2, 1970. Recovery data showed that 33.52 percent of the quail released prior to the hunting season were harvested during the hunting season. The quail recovered from the releases made late in the legal season represented 37.57 percent of the quail released during this period. Data recorded on flight

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