ly overcome by supplemental inorganic phosphorus and additions of extra vitamins, minerals or amino acids were without effect, suggesting that there was no major destruction or unavailing of these nutrients caused by steam pelleting the bran.

ACKNOWLEDGMENTS

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The Effects of Reserpine on the Reproductive Performance of Breeder Turkeys Receiving Artificial Insemination

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JONES *et al.* (1966) administered reserpine in the diet of Broad Breasted Bronze turkeys at the levels of 0.0 and 2.0 p.p.m. during the breeding season. Comparisons made for fertility indicated a marked reduction in fertility of a naturally mated flock due to reserpine. In this study the reduction in fertility was greater in females than in males, although a depression in fertility was observed in both sexes.

This study was initiated to determine if the observed decline in reproductive efficiency was due to an unfavorable behavioristic effect between sexes due to the effects of reserpine. This experiment utilized artificial insemination in order to eliminate sociological interactions and thereby possibly estimate the depressing effects of reserpine on the reproduction of a naturally mated flock.

Large White turkeys purchased from a commercial hatchery were used in this study. On May 31, 1965, 100 male and 300 female poults were hatched and assigned to four brooder houses. Uniform brooding and rearing conditions were maintained for all birds. At 24 weeks of age, 120 females were randomly assigned into 12 breeding pens. Forty-eight males were randomly divided into three pens of 16 males per group. Reserpine treatment was initiated when the turkeys were 26 weeks of age. Females in four of the twelve breeding pens received 2.0 p.p.m. of reserpine in an all-mash breeder ration. One of the three pens of males received 2.0 p.p.m. of reserpine. By treating only one-third of each sex it was possible to create three treatment combinations. There were four pens in each treatment combination and each pen served as an experimental unit. The three treatment combinations were as follows: treatment A, non-treated males × non-treated females; treatment B, non-treated males × treated females; and treatment C, treated males × non-treated females. Artificial insemination was used throughout the entire study. The males and females were lighted at 26 weeks and 28 weeks of age, respectively. Both sexes were provided a 14-hour photoperiod.

All females were inseminated at two-week intervals throughout the breeding season beginning January 27, 1966, when egg production had reached 40 percent. As a standard procedure, each hen received 0.025 ml. of a suspension comprised of one part of semen to one part of physiological saline every two weeks.

Eggs were set at 14-day intervals beginning February 13, 1966, until the last setting on May 22, 1966. Percentage fertility, percentage hatch of fertile eggs, and percentage hatch of total eggs set were calculated for eight two-week periods. Fertility was determined when the eggs were transferred to hatching trays at 24 days of incubation. All eggs not readily identified as fertile by candling were broken out and examined macroscopically.

Percentage fertility, percentage hatch of fertile eggs and percentage hatch of total eggs set were analyzed using the analysis of variance method for testing variance components. In order to make all possible comparisons between treatment differences, Duncan's multiple range test was used. The three comparisons were: treatment A with treatment C, treatment C with treatment B, and treatment A with treatment B. Using these comparisons, the response due to the effects of reserpine on one sex could be compared to the response when the other sex was not treated.

Using the multiple range test, treatment differences for percentage fertility were analyzed within each period and over all periods. The results of this analysis indicate that the only consistent differences in percentage fertility were between treatment A and treatment C, where non-treated females inseminated with semen from treated males exhibited a higher level of fertility than did the controls (treatment A).

A summary of percentage hatch of fertile eggs is presented in Figure 1. The analysis of variance of percentage hatch of fertile eggs over all periods yielded a significant ($P < .01$) treatment effect and a non-significant treatment-by-period interaction.

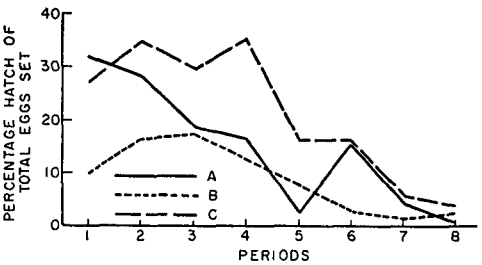

FIG. 1. Percentage hatch of fertile eggs as influenced by reserpine measured at 14-day intervals (A = M&F non-treated; B = F treated; C = M treated).

The difference between the over-all period means for treatments A and C was significant ($P<.05$) with treatment C exhibiting the higher hatchability. The difference between the over-all period means for treatment A and B was significant ($P<.01$), with treatment A maintaining the higher hatchability. These results indicate that treatment C exhibited a higher level of hatchability throughout the entire breeding season than either treatment A or treatment B. Treatment B maintained the lowest level of hatchability throughout the breeding season, with treatment A maintaining an intermediate level midway between treatment C and treatment B.

A summary of percentage hatch of total eggs set is presented in Figure 2. The analysis of variance over all periods yielded a significant ($P<.01$) treatment-by-period interaction. Using the multiple range test, treatment differences for percentage hatch of total eggs set were analyzed within each period and over all periods.

The results of this analysis indicated that treatment C maintained a higher level of percentage hatch of total eggs set throughout the entire breeding season than did either treatment A or treatment B. Treatment B exhibited the lowest hatch of total eggs set, while treatment A maintained a level which was significantly lower than treatment C throughout the breeding season.

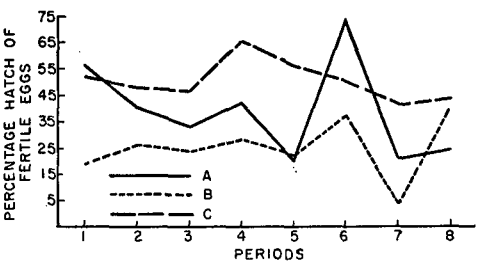

FIG. 2. Percentage hatch of total eggs set as influenced by reserpine measured at 14-day intervals (A = M&F non-treated; B = F treated; C = M treated).

The results of this study indicate that, where the sociological interaction of the sexes has been eliminated by artificial insemination, reserpine does not tend to depress the reproductive performance of males.

This is supported by the fact that in this study treatment C, (treated males × non-treated females) exhibited higher percentage fertility, hatchability and hatch of total eggs set than did the controls.

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NEWS AND NOTES

P.D.P.A. NOTES

The Pacific Dairy and Poultry Association has awarded nine scholarships of $500 each to students in western universities.

The awards were won by: B. O. Barker, Utah State University, Logan, Utah; Stephanie L. Bishop, Modesto Junior College, Modesto, California; H. P. Corda, Fresno State College, Fresno, California; R. L. Dorflinger, University of Arizona, Tucson, Arizona; D. E. Lemke Jr., Modesto Junior College, Modesto, California; J. L. Muller, Washington State University, Pullman, Washington; Anna J. Svacha, University of Arizona, Tucson, Arizona; J. S. Thayer, University of California, Davis, California; and J. R. Wolfskill, Colorado State University, Fort Collins, Colorado.

A.V.M.A. NOTES

Dr. Joseph F. Knappenberger was installed as the 89th President of the American Veterinary Medical Association on July 24th in the War Memorial Auditorium, Boston. Having served as President-elect for the past year, he succeeds Dr. Robert J. Schroeder, County Veterinarian for Los Angeles County, California.

This was the 105th annual anniversary of the Association.

Dr. Knappenberger graduated from the College

(continued on page 1416)