WER 1994-128

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88 Strychnine Alkaloid: Reproductive Effects in Mallard Ducks and Bobwhite Quail. R. T. Sterner, USDA/APHIS Denver Wildlife Research Center, Denver, CO and C. A. Pedersen, B. R. Helsten, C. L. Lesar, and D. R. DuCharme Bio-Life Associates, Ltd., Neillsville, WI. Avian reproduction studies were conducted to determine the effects of strychnine alkaloid in mallard ducks and bobwhite quail (Subdivision E, Hazard Evaluation: Wildlife and Aquatic Organisms, Code of Federal Regulations 40 Part 158.490, GDLN 71-4a & b) . Four groups (n = 32/group) of ducks were fed Purina® Game Bird Breeder Layena® diets containing 0 (control), 35, 70, and 140 ppm strychnine for 20 weeks with a 3-week recovery period; whereas, 4 groups (n = 32/group) of quail were fed this diet containing 0 (control), 300, 600, and 1200 ppm strychnine for 22 weeks without a recovery period. Waterfowl were more sensitive than the gallinaceous birds to the test material. Some results were: (1) the no-observed-effect-level (NOEL) for mallard ducks and bobwhite quail was 33.2 ppm and 1113.6 ppm strychnine, respectively, (2) decreased reproductive success and egg production were found in mallard hens fed 140 ppm strychnine diets, and (3) the "normal-hatching" F_1 ducklings from the eggs of ducks fed 140 ppm had significantly greater mortality 14 days after hatching than ducklings from the other test or control groups. Potential physiological factors accounting for the obvious disparity in toxicological and reproductive impacts in the 2 species will be discussed.