

Poster #23

Effect of the anti-androgenic endocrine disruptor vinclozolin on song rate, activity, and body composition of a temperate songbird (*Junco hyemalis*).

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The effects of endocrine-disrupting chemicals (EDCs) on endocrine physiology have received increased attention in recent research, however little is known in avian models. One such EDC is the fungicide and androgen receptor (AR) antagonist, vinclozolin. The effects of vinclozolin on singing, general activity levels, and body composition were investigated in wild-caught male Dark-eyed Juncos (*Junco hyemalis*). We tested whether dietary exposure to vinclozolin by daily oral gavage at one of three dosages for 10 weeks would affect photoperiodic response. The birds were exposed to organic canola oil only, 100ug/bird/day flutamide (positive control), or 550, 55, or 5 ug/bird/day of vinclozolin dissolved in organic canola oil (n=7-8/group). One week after beginning exposure to treatment, all birds were exposed to long photoperiod (16L:8D) to stimulate reproductive recrudescence. Two 10-minute video recordings were taken during weeks 8 and 9 of treatment and scored for number of songs sung, movement, preening, eating and drinking. Body weight, fat, and cloacal protuberance (CP, a structure that grows seasonally in an androgen-dependent fashion) were also measured weekly during the treatment period. There was no difference in rate of singing among treatment groups, but this measure was highly variable. Although all groups displayed a photoperiodic response of CP enlargement, the rate of enlargement and total body weight increase were delayed during week 8 only in the group receiving flutamide. Measures of neurochemistry and neuroanatomy are yet to be analyzed, but thus far, no significant effect of vinclozolin has been detected in this model at the dosages administered.

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