Public Abstract

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Title:EFFECTS OF ARTEMISIA AFRA AND ARTEMISIA ABSINTHIUM ON FERTILITY OF MALE MICE EXPOSED TO INCREASED AMBIENT TEMPERATURES FOR 24 HOURS

Elevated temperatures decrease male reproductive performance. Use of herbs to alleviate effects of heat in tropical countries has been long documented. As a model for boars, mice were used to determine if, under heat stress, *Artemisia absinthium* (AB) maintains reproductive performance similar to control males, and to determine the mechanism(s) of action for *Artemisia afra* (AF) and AB. Average daily fluid intake was higher for heat stressed AB and AF than for C males; heat stressed males were similar. Heat stressed males had higher body temperatures than C males. Despite higher body temperatures, AB and AF males maintained higher activity than C males. Early in the heat stress period activity was similar; in time HSC males became lethargic, while AB and AF males maintained high activity.

The percentage of females exposed to C males that became pregnant was higher than heat stressed males. Males from the AF group had a lower percentage pregnant females compared with AB and C males, and similar to HSC males. Total number of implantations and fetuses per female was lower for AF than AB and C treatments; and similar to HSC. Females exposed to C males had a higher number of implantations and fetuses than females exposed to AB, AF, and HSC males; AB and HSC were similar. Gene expression (HSP70.3) was lower for C males than AB, AF, and HSC males. Use of the herbs tested has potential to decrease negative effects of heat stress on fertility and warrants further investigation.