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Injection of 100µg of GnRH 31 d after AI does not reduce pregnancy loss in lactating dairy cows.

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Objectives of the current study were to determine whether treatment with 100µg of GnRH 31±3 d after artificial insemination (AI) reduces pregnancy losses and whether exposure to heat stress affects this outcome. Lactating cows from two dairies were enrolled in the study at 31±3 d after AI. At enrollment cows were grouped by parity and number of AI and assigned to 1 of 2 treatments in a ratio of 1:2. Cows assigned to the GnRH treatment received 100 µg of GnRH at 31±3 d after AI and cows assigned to the control treatment did not receive GnRH. All cows were examined by manual palpation per rectum at 38±3 d after AI (first pregnancy diagnosis) and those diagnosed pregnant were re-examined 66±3 d after AI (second pregnancy diagnosis). Data regarding daily temperature (minimum, average, maximum) and humidity were recorded and temperature humidity index (THI) was calculated from 4 weeks before to 9 weeks after AI. At pregnancy diagnosis 38±3 d after AI there were 606 pregnant GnRH cows and 1,303 pregnant control cows. No cows were exposed to heat stress (THI>72) between AI and pregnancy diagnosis and average THI between AI and first pregnancy diagnosis was 53.0±0.1. Average THI from AI to first pregnancy diagnosis was 58.9±0.1 and average THI between first and second pregnancy diagnosis was 63.9±0.1. Average THI from AI to the second pregnancy exam was 60.1±0.1, cows were exposed to 0.5±0.1 week with weekly average THI>72, and 21.1% of cows were exposed to at least one week of heat stress (weekly average THI>72). Pregnancy loss from 38±3 to 66±3 d after AI was not (P=0.42) affected by treatment (GnRH=5.9, control=5.1%). Similarly, site (P=0.94), parity (P=0.99), and exposure to heat stress did not affect pregnancy loss from 38±3 to 66±3 d after AI. Average projected 305-d milk yield was 11,218.6±42.2 kg and projected 305-d milk yield affected (P<0.01) pregnancy loss from 38±3 to 66±3 d after AI because cow in the lower two quartiles (Q1=2.7 and Q2=4.2%) had smaller (P<0.07) incidence of pregnancy loss than cows in the higher two quartiles (Q3=7.7 and Q4=6.9%). Treatment with GnRH 31 d after AI does not reduce pregnancy loss regardless of exposure to heat stress.