

Swine Breeding Systems - *Effects of Heat Stress¹*



Livestock
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Environment

The thermal environment in the breeding facility plays an important role in total herd management. This manifests itself in poor conception and farrowing rates that may not be detected until weeks or months past the occurrence of an improper thermal environment. Because of this, it is important to anticipate these potential lulls in breeding performance and counteract them by managing the breeding facility environment properly and adding additional open females to keep the facilities full.

High Temperature Effects

- Boar effects
 - Semen quality drops;
 - The effect begins 2 to 3 weeks after stress occurs and lasts until 8 or 9 weeks after the exposure.
 - Reduces libido.

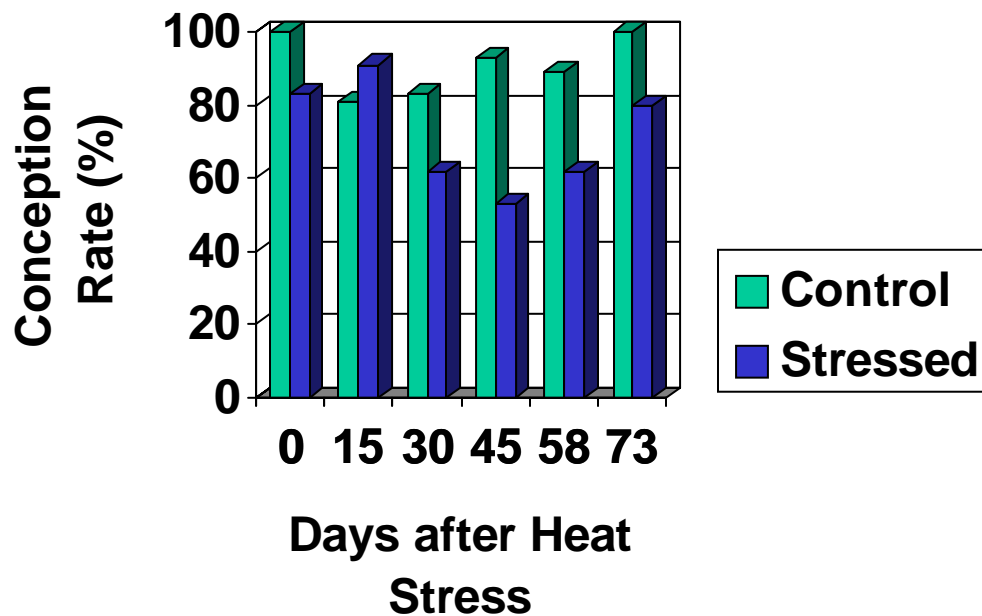


Figure 1 Effect of Three Days of Heat Stress of Boars on Conception Rate, Roller, et al. (1973)

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- Sow effects
 - Susceptible 2 or 3 weeks after breeding and just prior to farrowing;
 - Conception rate, litter size and litter weight may be affected.

Table 1 Effect of heat stress of sows on embryonic survival rate, (Tompkins, et al. 1967).

| Day after mating heat stress began (5 day duration) | Control Sows | Stressed Sows |
|---|--------------|---------------|
| 1 | 69% | 39% |
| 20 | 64% | 77% |

Table 2 Farrowing performance of gilts as affected by daily heat stress on days 102 through 110 of gestation, (Omtvedt et al. 1971).

| Trait | Control Gilts | Stressed Gilts |
|-------------------------|---------------|----------------|
| No. Born Alive | 10.4 | 6.0 |
| No. Born Dead | 0.4 | 5.2 |
| Mean Birth Weight (kg) | 1.4 | 1.2 |
| Mean Litter Weight (kg) | 13.6 | 8.6 |

Environmental Goal

- Average daily temperature of 80 F;
- Exposure above 84 F should be avoided.