In utero heat stress effects on dairy cow performance

From paper

SHORT SUMMARY FOR PRACTITIONERS:

This study examined whether heat stress experienced by a pregnant dairy cow affects the future performance of her daughter, using data from French Holstein and Montbéliarde breeds. Heat stress was measured using the mean temperature-humidity index (THI) recorded each month of pregnancy. Fourteen traits were analysed in the daughters, including milk, fat and protein yields, udder health, body conformation, and fertility.

Overall, the effects of in utero heat stress were small under French climatic conditions. High THI early in pregnancy had a slight negative effect on daughters' milk, fat and protein yields.Body conformation and somatic cell score were also affected, though modestly. No significant effects were found for clinical mastitis or conception rates.

The practical recommendation for farmers is reassuring: under temperate climates like France, heat stress during a cow's pregnancy is unlikely to substantially harm the future performance of her calves. However, the study also notes that these results come from animals raised in a relatively mild climate, and as climate change drives more frequent and intense heatwaves, this could change. Farmers in warmer climates, or those anticipating rising temperatures, should be aware that in utero heat stress could become more relevant under future climate scenarios.

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