

Heat Stressed Dry Cows Impact Your Future

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Every dairyman has experienced the financial loss due to reduced production from their lactating cows during a summer heat wave. While not near as obvious, the financial impact of heat stress on dry cows and future heifers is just as real. The information shared in this article are from studies in which the protocol for each trial involved dry cows divided into two treatment groups during their dry period: 1) a cooled group (CL) with heat treatment abatement or 2) a heat stressed group(HS) without heat abatement . In each trail cows from both treatment groups were moved to the same lactation pen with heat abatement after calving. Therefore treatment differences observed were due only to environmental differenced during the dry period.

Researchers at the University of Arizona reported cooling dry cows under heat stress improved later reproductive performance in each of three trials. The average of the three studies showed services per conception was reduced from 3.68 to 3.09 and percent of cows culled due to reproductive issues was reduces from 19.0 to 7.7 for HS vs CL treatments, respectively. (Wiersma and Armstrong, 1989).

University of Florida research has consistently shown greater milk production when cows came from CL vs HS dry cow treatment groups. One such example was reported by Ameral et al, 2009 in which CL cows averaged 16.5 lb. /day more ECM than HS cows over a 210-d lactation period. Possible reasons for this are effects of heat stress during the dry period on mammary development and hormonal levels at calving.

Calves born to HS treatment group dry cows had lower birth weights, weaning weights and passive transfer of IgG than calves from HS treatment group dry cows (Monterio et al 2014). A particularity concerning result (Monterio et al, 2016) was that heifers born to HS treatment group dry cows produced an average of 11lb/day less milk in their first lactation than their cohorts calved from CL treatment group dry cows. It is apparent that exposure in utero heat stress can permanently impair a heifer's productivity.

Investment made in heat abatement equipment for dry cow housing can support huge long-term returns. Incorporating a proven feed additive in the summer dry cow ration to maintain hydration can further ensure success if it does not contribute additional sodium or potassium to the diet. One such product is I.C.E. ® Plus which has been shown to mitigate elevated body tempters of cows under heat stress.