INTER RELATIONSHIP AMONG ENVIRONMENTAL FACTORS, COW FACTORS AND MANAGEMENT FACTORS AT THE TIME OF INSEMINATION WITH CONCEPTION RATE OF CATTLE IN DRY ZONE OF SRI LANKA

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ABSTRACT

A study was conducted from October, 2012 to May, 2013 at Batticaloa district to assess the relationship between inter relationship among environmental factors, cow factors and management factors at the time of insemination with conception rate of cattle. Breedable female cattle (244) were used in this study. Different breeds comprising Jersey cross, Sahiwal cross, Ayrshire and Local were used in this study. All cows were artificially inseminated with deep frozen semen of breeds belonging to Jersey, Sahiwal, Frezian and AFS.

Environmental temperature(ET), relative humidity(RH), rectal temperature (RT), respiratory rate (RR), body condition score (BCS), heat sign score and time interval between first detection of heat to insemination were recorded at the time of insemination. Data on cow such as age, breed, parity, post-partum period (PPP), milk yield and information on AI technician such us educational qualification, experience were documented from available records. A representative sample of 40 cows was randomly selected for synchronization program (2ml of hormone $PGF_{2\alpha}$ is injected). Conception rate was assessed by per rectal palpation at 90-120 days post insemination.

The mean ± SD of environmental temperature (ET) and relative humidity at the time of insemination were 28.12 ± 2.08^{0}C and 77.29 ± 5.64%, respectively. Environmental temperature (ET) at insemination was negatively ($p<0.01$) correlated to relative humidity (RH). Overall conception rates in synchronized and non-synchronized cows were 62.5% and 52%, respectively.

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