Title: Non-genetic factors affecting fertility traits in South African Holstein cows

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Profitable milk production and genetic improvement in dairy herds depend largely on fertile cows calving annually to initiate a new lactation period. Over the last 30 years, several studies have indicated a decline in the reproductive performance of dairy cows. From the perspectives of many farmers and veterinarians, the reproductive performance of cows is related to the calving interval (CI) and services per conception (SPC). Using these traits as cow fertility indicators is problematic as CI is dependent on subsequent calving dates, while SPC is strongly linked to inseminator proficiency. Cow fertility refers to the ability of cows to come into oestrus soon after calving, to conceive from a minimum number of services, and to stay pregnant until the next calving. In this paper, non-genetic factors affecting fertility traits other than CI in Holstein cows are discussed. Service records (n = 69 181) and pregnancy check results of 9 046 cows in 14 herds were available. Six fertility traits were derived. Means (± sd) for the interval traits, namely calving to first insemination (CFS) and the interval from calving to conception (days open (DO)) were 77 ± 30 and 134 ± 74 days, respectively, while the number of SPC was 2.55 ± 1.79. The proportion of first services occurring within 80 days post-partum (FS80d) and the proportion of cows being confirmed pregnant within 100 days (PD 100d) and 200 days post-partum (PD 200d) were 0.64 ± 0.48, 0.36 ± 0.48 and 0.71 ± 0.45, respectively. While lactation number, calving year and calving season affected reproduction traits significantly, herds (management) had the largest effect.

Keywords: dairy cows, days open, interval to first insemination, reproduction

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