9. Effects of extended voluntary waiting period from calving until first insemination on udder health in dairy cows

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Traditionally, cows are managed for a 1-year calving interval. This yearly calving moment is associated with challenging transitions related with the process of drying off, calving and start of a new lactation together with a negative energy balance (NEB) and high disease incidence in early lactation. One possible solution to reduce health disorders in peripartum dairy cows is to reduce the frequency of calving and associated critical transitions by extending the voluntary waiting period until first insemination (VWP). The aim of this study was to evaluate the effect of extended VWP on SCC, SCC elevations and clinical mastitis incidence during the complete lactation and the first 6 weeks of the next lactation. Holstein-Friesian dairy cows (N=154) were blocked for parity, expected milk yield, calving season and breeding value for persistency and were randomly distributed across 3 VWP (50, 125 or 200 days: VWP-50, VWP-125, VWP-200). Cows were monitored from calving until 6 weeks in the next lactation, or until culling. An elevation of SCC in milk was defined as SCC in milk ≥200,000 cells/mL after two previous weeks with SCC <200,000 cells/mL. Over the complete lactation, extending the VWP did not affect SCC elevations and occurrence of clinical mastitis per lactation or per cow per year. The effect of VWP on average SCC in the complete lactation depended on parity. Multiparous cows in VWP-125 had a higher SCC over the whole lactation compared with multiparous cows in VWP-50, no effect of VWP was found in primiparous cows. Dry-off antibiotic usage per year was lower in VWP-200 compared with VWP-50 for multiparous cows. In the first 6 weeks of the next lactation, cows in VWP-200 had a higher SCC compared with cows in VWP-50. In conclusion, although extending the VWP resulted in prolonged lactations, no effects were found on number of elevations in SCC, incidence of mastitis and average SSC in primiparous cows over the whole lactation. In multiparous cows, SCC during the complete lactation was higher for cows with VWP-125, but not for cows with VWP-200. Extending the VWP may therefore be used to reduce the frequency of transition periods and the associated use of dry-cow antibiotics, with limited impact on udder health, and a similar occurrence of SCC elevations and clinical mastitis per year.

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