

## Effect of dry period length and dietary energy source on somatic cell count and udder health

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Shortening or omitting the dry period (DP) improved energy balance but decreased milk production in the subsequent lactation. Feeding a glucogenic ration improved energy balance in early lactation, compared with a more lipogenic ration. An improved energy balance may improve udder health in lactation. The aim of this study was to analyze the effect of DP length, and dietary energy source on SCC, incidence of SCC elevations, and clinical mastitis in the subsequent lactation. Holstein-Friesian dairy cows (n=168) were randomly assigned to three DP lengths (0, 30 or 60 days), and early lactation ration (glucogenic or lipogenic). The glucogenic concentrate mainly consisted of corn. The lipogenic concentrate mainly consisted of sugar beet pulp and palm oil. Forage mainly consisted of grass silage and corn silage, and was not different among rations. Postpartum daily milk production, and weekly milk composition (fat, protein, lactose, and SCC) was available. SCC elevation was defined as at least one SCC >200.000 cells/mL after two previous weeks with SCC < 200.000 cells/mL. Data were analyzed using a mixed linear model. Prepartum, milk yield, milk composition, and SCC in milk did not differ between DP lengths or rations. Somatic cell count was higher for cows with 0-d DP ( $232 \pm 512 * 10^3$  cells/mL) compared with cows with a 30-d DP ( $178 \pm 317 * 10^3$  cells/mL) or 60-d DP ( $141,4 \pm 248 * 10^3$  cells/mL) ( $P < 0.01$ ). Somatic cell count was not different between rations. The constant high level of SCC is probably due to restrained regenerative involution during a 0-d DP, and a greater apoptosis rate in early lactation in cows with a 0-d DP, compared with cows with a 30-d or 60-d DP. Incidence of SCC elevations (n=275), and occurrence of clinical mastitis (n=59) did not differ ( $P > 0.01$ ) between DP lengths or rations. Studies are ongoing to detect predictors for SCC, incidence of SCC elevations, and clinical mastitis in dairy cows after different DP lengths. Predictors for udder health in subsequent lactation can be used in a decision support model to optimize individual cow DP length strategies.

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