Effect of different dry period lengths on milk production in subsequent lactation

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In recent years, growing interest has developed toward a shorter dry period (DP) as a management strategy which could be more appropriate for today's high-producing dairy cows. Several options exist in applying this management strategy, like complete omission of the DP for all cows in the herd, or cow-specific DP lengths. The aim of this study is to determine the effect of both DP management strategies on subsequent milk production. In the Netherlands, five commercial farms started in the beginning of 2011 with a complete omission of the DP for all cows. From these herds, information on 333 cows (1,514 monthly test-day records) was available. Test days of the year before applying complete omission of the DP are used as control (386 cows, 2,126 test days). Six other commercial farms decide, based on milk yield and somatic cell count, for each individual cow for no DP (59 cows, 246 test days), a short DP (<30 days) (77 cows, 555 test days) or a conventional DP (>30 days) (209 cows, 1,386 test days). A non-linear regression model incorporating an autoregressive covariance structure accounting for repeated test-day yields within cow was developed to estimate the daily yield (milk, fat and protein) of all cows. For day 1 till 300 d of lactation, average daily milk yield was significantly lower for cows without a DP (23.0 kg) compared with control cows (29.7 kg). On farms with cow-specific DP lengths, daily milk yields were 25.3, 29.4 and 32.2 kg ($P < 0.05$) for the three DP length groups. Research is ongoing to study precalving milk yields and effects of different DP strategies on milk yield during subsequent lactations.