

Once-a-day milking: Short and long term options to reduce labour

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Summary

- Cows can be milked once-a-day (OAD) for up to eight weeks from the start of lactation without reducing annual milk solids yield.
- OAD milking did not increase somatic cell count.
- Labour was reduced with OAD milking.

Introduction

Recent CSO figures show the number of dairy cows in Ireland has increased to 1.4 million, ICBF have also released six week calving rates for 2018 showing a 6% increase since 2016 (64% in 2018 compared to 58% in 2016). A greater number of cows calving more compactly results in increased workload, particularly during the early spring period. While twice-a-day (TAD) milking is accepted as the standard milking frequency more dairy farmers are challenging this theory. A number of farmers are now investigating the option of once-a-day (OAD) milking throughout the year but also just for a number of weeks at the start of lactation, during the busy calving period. A recent Teagasc Moorepark calf welfare survey conducted on 47 farms in the Munster area during spring 2017 showed that almost 10% of the herds enrolled on the study were milking OAD until the start of March.

Study

In spring 2018, a new programme of work investigating OAD milking commenced at Teagasc Moorepark. The study investigated the effect of short-term OAD milking at the start of lactation on dairy cow production, labour input and animal welfare both during the OAD milking period and also across the entire lactation. The four treatments were i) cows milked OAD for the first four weeks of lactation; ii) cows milked OAD for the first six weeks of lactation; iii) cows milked OAD for the first eight weeks of lactation; and iv) cows milked TAD for the entire lactation. Once cows were finished their respective OAD milking phase they returned to TAD milking for the remainder of lactation.

Results

The results (Table 1) showed that when cows were milked OAD, daily milk solids (MS) production was reduced by 25% (0.47 kg MS/day) for the first 4-weeks. Where cows continued on OAD milking for weeks 5 and 6 of lactation, MS yield was 50% less than the TAD cows that were producing 1.95 kg MS/cow/day during those 2-weeks of lactation. Continuing milking OAD for a further 2-weeks i.e. weeks 7 and 8 of lactation, reduced daily MS yield to 70% of the TAD cows (0.76 vs. 2.46 kg MS/cow per day, respectively). When OAD cows returned to TAD milking, production recovered and MS yield was similar for all treatments across the 35-week lactation period (401 kg/cow).

Table 1. Effect of short-term OAD milking on cumulative milk solids (MS) production

Cumulative MS yield (kg/cow)	TAD	OAD 4 wks	OAD 6 wks	OAD 8 wks
1 st 4 weeks	55	44	46	42
1 st 6 weeks	87	74	73	68
1 st 8 weeks	117	101	100	90
1 st 10 weeks	142	124	125	114
35 weeks	415	405	398	387

Less labour was required for the OAD herd, in terms of both droving and actual time spent milking. Total daily milking time for the TAD cows was 3.9 mins/cow greater than the OAD cows; it took on average 9.4 mins/cow to milk a cow assigned to an OAD treatment.

Cows enrolled on this study varied greatly in terms of their somatic cell count (SCC); there were cows at both the low and high end of the SCC spectrum. Milking cows OAD did not result in higher SCC, in fact there was no difference between treatments nor was there a difference in the incidence of mastitis, which incidentally was low.

As only 60 cows were assigned to this study it is necessary to repeat it over a number of years to identify differences in SCC, fertility and body condition score. This year, a new experiment was undertaken, however this year the short-term OAD milking treatments were for two, four or six weeks in early lactation; a OAD milking treatment for the entire lactation is also included. This herd (same cows) will be maintained for the next number of years and further investigation will be undertaken.

Conclusions

Once-a-day milking offers farmers a real option to reduce labour requirement during the spring period. Although MS yield was reduced during the OAD milking period, there was no difference in total MS yield at the end of lactation. Somatic cell count was also not different between the treatments. This study will be continued over the coming years to fully monitor the effects of OAD milking on dairy cow production and welfare.

