Transition cow management and health in Irish dairy herds: Results from an on-line survey addressed to farmers

# Application

The present qualitative and quantitative survey study was conducted to describe farmers’ perception of the transition period and reported disease prevalence and management strategies, to ultimately inform and guide quantitative research aimed at optimising transition cow health and management in Irish dairy farms.

# Introduction

The transition period involves the change from dry and pregnant to lactating and not pregnant in dairy cows. This transition involves numerous physiological, immunological and metabolic challenges for the cow. Suboptimal management during this period has been associated with increased disease incidence, poorer production, poorer reproduction, and higher herd removal rates. Considering the unique nature of the Irish dairy production system (predominantly pasture-based and spring calving), the transition period challenges are potentially different to that of other systems.

# Materials and Methods

An online survey consisting of 19 multiple choice and open-ended questions was distributed via text message to clients of Teagasc (The Agriculture and Food Development Authority in Ireland) dairy advisory services (n = 3,899) in autumn 2022. The survey questions addressed three main areas: 1) Farmers’ perception of the transition period, 2) Disease prevalence, and 3) Management practices.

# Results

# *Study population*

A total of 525 responses suitable for analysis were obtained in this study. Respondents managed spring-calving (84%), split-calving (13%), all year round calving (2%) and autumn calving herds (1%), and defined their feeding strategy as grazing high input (providing yearly >1 ton of bought-in feed/cow; 52%) or low input (providing yearly <1 ton of bought-in feed/cow; 48%). On average, respondents’ herd size was 135 cows (interquartile range = 78 to 162 cows).

# *Perception of the transition period*

Fresh calver cow diseases (e.g. milk fever, held cleanings, metritis, displaced abomasum, ketosis) were ranked first on importance (based on incidence and/or impact on the herd) by 49% of the respondents; the remainder of farmers ranked first mastitis (27%), lameness (17%), or infectious disease (e.g. Johne's, respiratory disease; 7%). The majority of respondents considered freshly calved cows health “critical” (86%) and correct management during the dry period essential for future cows’ health and performance (90%).

# *Disease*

Freshly calved cows (within the first 3 weeks after calving) were reported to have the highest incidence of disease by most of the respondents (58%). Highest disease incidence was most commonly observed in late calving cows (48%) and multiparous cows (52%) with a significant cohort of respondents indicating that they observe the highest incidence of disease in cows all throughout the calving season (41%) and in cows of any parity (43%).

Most respondents reported “occasional cases but no major effect on herd performance” for milk fever (73%), metritis (72%), retained placenta (69%), displaced abomasum and/or digestive problems (62%), and ketosis (61%). While fatty liver (70%), grass tetany (60%), dystocia (49%), acidosis (48%) and subclinical ketosis (40%) were reported as “not a problem” for respondents’ herds. Remarkably, milk fever and subclinical hypocalcaemia were reported as being a “significant problem” (regularly treating severe cases with some cows lost/culled; 13% and 8%, respectively) or a “routine problem” (regularly treating cows to control the issues; 2% and 1%, respectively) by some respondents. Nearly half (48%) of respondents reported treating 1 to 3% of their herd for milk fever, and 17% reported treating 4 to 6% of their herd for the condition. Similarly, most of the respondents (56%) reported treating between 1 and 3% of their herd for retained placenta, but a considerable cohort (11%) reported treating between 4 and 6% of their herd. Less than 1% of the cows were reported to be treated for metritis (52%), displaced abomasum and/or digestive problems (72%), ketosis (73%), and grass tetany (83%).

# *Management practices*

*Dry cow management.* Most respondents reported to body condition score cows throughout the dry period (74%), managing cows in more than one group (56%), supplementing magnesium (52%), and providing feed sources other than silage to close-up cows (48%). Less commonly implemented management practices included calcium supplementation to close-up dry cows (35%), vitamin D supplementation to close-up dry cows (23%), low potassium diet to dry cows (20%), provision of a general dry cow mineral in the diet (14%), and acidifying the diet of close-up dry cows (6%).

*Fresh cow management.* Most respondents reported to keep freshly caved cows indoors for a period after calving (68%) and high-risk cows’ calcium supplementation at calving (57%). Less commonly implemented management practices include once-a-day milking for a few days after calving (36%), magnesium supplementation in diet (26%), calcium supplementation in diet (18%), vitamin D supplementation in diet (10%), all cows routine calcium supplementation at calving (8%), fresh cows are provided with general minerals (3%), and provision of feed sources other than forages to fresh cows (2%).

# Conclusions

In conclusion, Irish dairy farmers acknowledge the importance of fresh cow diseases and that correct management during the transition period is important for future performance of the dairy cow, therefore supporting the need of transition cow health and management research within the Irish dairy production system. This survey has identified milk fever and subclinical hypocalcaemia, as well as body condition score management during the dry period and calcium supplementation at calving as health conditions and management practices that merit research efforts to respectively decrease their prevalence and optimise the benefits of their implementation in Irish dairy farms.

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