

TECHNICAL BULLETIN

A successful transition for high yield dairy cows with LiFT®



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During transition, cows will use body condition to support milk yield. This can reduce the liver's ability to manage energy. This is a major cause of reduced performance in early lactation.

The liver has many functions, including energy management and detoxification of the blood. Around 85% ruminal propionate is built into glucose by the liver, and fat mobilised from 'body reserves' must be processed there before it can be used for energy. Therefore, the liver can be considered as the energy control centre for the cow.

Provimi, part of Cargill Animal Nutrition, has developed LiFT®. LiFT can be fed during transition to prime the liver for better energy management leading to good performance throughout the lactation.

In a recent experiment, the effect of feeding LiFT during both the dry period and early lactation was investigated in a well-managed herd under controlled trial conditions.

Trial overview

The experiment included cows that calved between September and December. 56 cows were grouped on calving date, BCS at dry-off and parity and per group split into four treatments (see Table 1). Cows were followed until 150 days in lactation. The close-up concentrate was fed for 21 days prior to calving and the early lactation concentrate was fed for 100 days.

Table 1: Four treatment groups

Treatment	Description
Control/Control	Standard feed in both close-up and early lactation
LiFT®/Control	LiFT® in close-up concentrate, standard feed in early lactation
Control/LiFT®	Standard feed in close-up, LiFT® in early lactation concentrate
LiFT®/LiFT®	LiFT® in close-up concentrate, LiFT® in early lactation concentrate

Farm facts:

- 130 cows herd, housed throughout the experiment in a free stall barn in The Netherlands.
- Excellent management and performance
 - 10,136 litres yearly average
 - 3.45% protein
 - 4.33% butterfat
- Excellent transition cow management
 - Close-up cows housed on straw with large calving pen for individual calving.
 - Out-of-parlour feeders for the close-up group and lactation groups allowing individualised concentrate feeding.
 - Average body condition score (BCS) of 3.65 at the start of the close-up.
 - Low incidence of clinical ketosis.



Results

The trial shows a 3.1kg increase in milk yield when supplementing dry cows with LiFT (Figure 1). Supplementing LiFT during early lactation showed an increase of 0.17kg in milk components yield (fat+protein) as cows were more persistent in milk components yield throughout the first 150 days in milk (Figure 2). Both the effects on milk yield and milk components were statistically significant.

Figure 1: Effect of feeding LiFT® during the close-up period and/or early lactation on milk yield

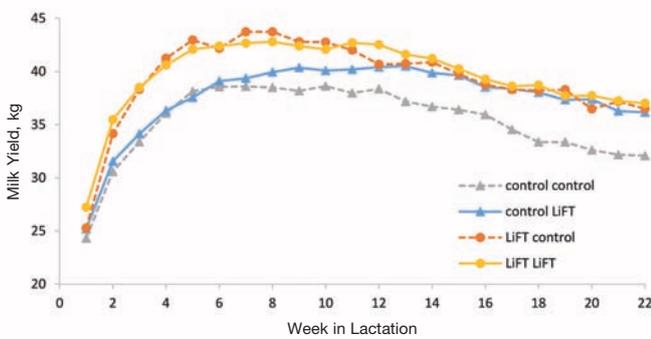
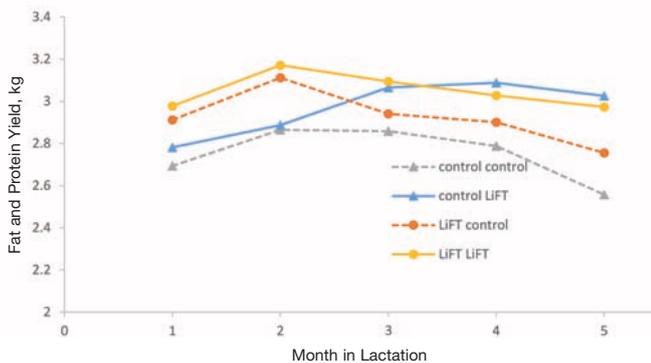


Figure 2: Effect of feeding LiFT® during the close-up period and/or early lactation on milk fat and protein yield



Results explained

Improvement in milk yield during early lactation - improvement in milk production was observed when LiFT was fed during the dry period. As cows start mobilising body reserves before calving, supporting the liver in this period can help maintain feed intake during the transition period and allow the cow to produce more milk in early lactation easily.

Improvement in milk solids during the first 150 days in milk (DIM) - when LiFT was fed during the first 100 DIM, cows produced more milk solids, and milk solids yield was more persistent in the fourth and fifth month of lactation. When early lactation dairy cows are supplemented with the right nutrients during early lactation, combined with high feed intakes, they can more easily sustain this production throughout lactation.

Take-home messages:

- The benefit of feeding LiFT during the close-up period and early lactation has been proven in a well-managed herd under controlled trial conditions.
- LiFT delivers significant production benefits, in this trial;
 - 3.1kg more milk in early lactation when fed during the dry period;
 - 0.17kg more milk solids in the first 150 days of lactation when fed during the first 100 days in lactation.
- In a well-managed herd with good transition cow management LiFT still delivers a large performance benefit.

Provimi® is brand of Cargill; a family-owned company with more than 150 years' experience in developing food and feed ingredients. Cargill develops results-oriented nutritional solutions and feeding programmes, which in turn help producers grow their business. Premixes and concentrates, speciality feeds and additives are produced under the Provimi® brand.

