

Reduced crude protein content in milk replacer

Recent study



Testing conditions:

- Testing and education center for agriculture, Haus Riswick (Germany)
- Period: August 2012 to November 2013
- First week of life: individual housing, colostrum and whole milk ad libitum
- From second week of life: changing to group housing, 4 groups with 33 to 35 calves (Deutsche Holstein) each, for about 150 days

This study is the basis for the development of **BEWI-MILK® AM 11**

Group distribution:

Group	Milk meal per calf per day in liter	Crude protein content in %	Milk replacer intake in kg
6/18 test	6	18	41.6
6/22 control	6	22	42.5
10/18 test	10	18	63.6
10/22 control	10	22	64.3

Feeding schedule:

Period	Milk replacer concentration	Volume
8th- 42nd day of life	160 g/liter	6 or 10 liters
43rd-70th day of life	125 g/liter	linear weaning for all groups

Results

The study went almost unobstructed. Due to illness two calves left the test. The drinking trough volumes offered were nearly entirely consumed.

Since 2011 the DLG recommends 160 g milk replacer per liter water, based on a daily milk meal of 6 liters during the first six weeks, instead of their old recommendation of 125 g milk replacer per liter. This does not only increase energy supply, but also leads to a higher intake of crude protein.

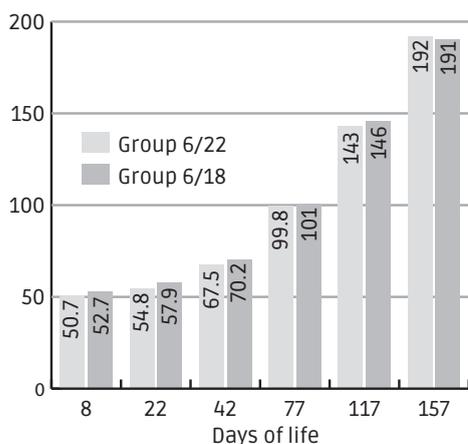
Calculating the level of consumption, based on a conventional milk replacer with 22 % crude protein and 1,000 g per animal per day, the crude protein supply is above the DLG recommendations.

In an examination, the effects of a reduced crude protein content from 22 % to 18 % in a milk replacer were analyzed. Both milk replacers had equivalent energy contents. It was also examined if the reduction of crude protein has negative impact on the calves' growth and health.

Live weight in relation to crude protein content

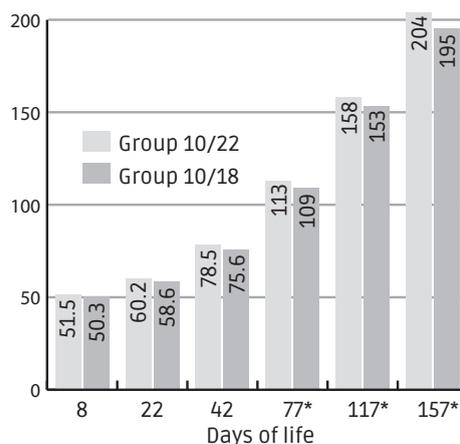
Development of live weight with 6 liters milk replacer depending on the crude protein content in milk replacer

Live weight in kg



Development of live weight with 10 liters milk replacer depending on the crude protein content in milk replacer

Live weight in kg



*significant difference

Advantages of BEWI-MILK® AM 11:

- optimal growth
- reduction in nitrogen supply
- cost reduced

There are no significant influences of the crude protein content on the calves' live weight in both cases: 6 and 10 liters milk replacer.

One week after weaning, on day 77, the animals reached a live weight of 99.8 and 101 kg (6 liters) or 109 and 113 kg (10 liters).

- The reduced protein content of 18 % and a total supply of 1,000 g of calf milk per calf and day were adequate to exploit the growth potential of the calves optimally within their first six weeks of life.