

Drying-off single udder quarters of dairy cattle during lactation using a casein hydrolysate

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Abstract

Udder quarters suffering from chronic and therapy-resistant infections represent a serious problem for dairy farms. Drying off such udder quarters during lactation would offer an opportunity to remove these single quarters from milk production without losing the whole milk yield of one cow during the current lactation. The use of a casein hydrolysate (CNH), an enzymatic fission product of casein, hence an endogenous substance, showed promising results regarding downregulation of milk secretion in udder quarters of high yielding dairy cattle in previous investigations in Israel. The objective of this study was to prove whether the infusion of CNH into the bovine mammary gland is an appropriate method to downregulate milk secretion in chronically infected udder quarters in high yielding dairy cows in Germany in order to dry off these single quarters without inducing clinical mastitis. Each treated udder quarter received six intracisternal infusions of CNH within 3 treatment days. After the last infusion of CNH on day 3, milking of the affected udder quarter was stopped. In 21 out of 24 (87.5 %) quarters a successful drying off could be achieved and only three quarters showed clinical mastitis. Furthermore, none of the animals showed a defence response or signs of pain during the intracisternal application. An increase in the average somatic cell score (SCS) during the treatment period could be revealed and 11 out of 16 conventionally milked quarters showed a decrease in milk yield. Hence, it could be shown that the infusion of CNH is an effective and gentle method for downregulating milk yield and drying off chronically infected and therapy-resistant single udder quarters during lactation.