

## DEVELOPMENT OF MELATONIN LEVEL IN BOVINE'S MILK

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According to the scientific literature, naturally originated melatonin hormone can greatly help the handling of sleep problems. After 22.00 o'clock, besides artificial lightening, any activities significantly decrease the melatonin production of the human and animal body. In that case, despite the well-functioning metabolism, sleeping problems can occur. The long-term consequence of sleep deprivation is health damage, and ultimately it deteriorates life expectancy. The beneficial

effect of milk melatonin is reflected in folk tradition. Drinking a glass of warm milk before bedtime, helps to fall asleep. Milk and milk products containing high level of melatonin could be a new possibility to handle and solve sleep deprivation related problems. Considering the circadian and circannual rhythm, the melatonin production in mammals shows significant differences. Melatonin level in milk is influenced by the time of milking, feeding regime and breeding technology. Based on these correlations, I would like to give an insight into the development of melatonin in bovine's milk, in order to produce melatonin rich milk. One of my motivations is to check the possibilities to create a new milk product group. In Ireland and in New Zealand night-milked, separately collected and processed cow-milk is already marketed, but these products derive mainly from family-run farms. There is no data of high melatonin milk products coming from intensive milking cow breeding. During our examination, we collected milk samples in an intensive dairy farm, so that we could get accurate data about the daily development of melatonin level in bovine's milk. The results present the effect of heat treatment on the melatonin level of the raw milk, and the daily development of melatonin level of raw cow's milk as well.

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