

Conference Name: BioTecnica 2024 – International Conference on Advances in Biological Sciences, 19-20 January, Tokyo
Conference Dates: 19-20 January 2024
Conference Venue: TKP Ichigaya Conference Center, Building 2F, 8 Ichigaya Hachiman-cho, Shinjuku-ku, Tokyo 162-0844

Appears in: LIFE: International Journal of Health and Life-Sciences (ISSN 2454-587)

Publication year: 2024

Hnokaew et. al., 2024

Volume 2024, pp. 01-02

DOI- <https://doi.org/10.20319/icrlsh.2024.0102>

This paper can be cited as: Hnokaew, P., Seepai, A., Moonmanee, T., Phatsara, C., Chongkasikit, N. and Yammuan-Art, S. (2024). Milk Yield, Milk Composition and Blood Metabolite Profiles in Dairy Cows Supplemented with Vitamin D Enriched Yeast. BioTecnica 2024 – International Conference on Advances in Biological Sciences, 19-20 January, Tokyo. Proceedings of Healthcare and Biological Sciences Research Association (HBSRA), 2024, 01-02.

MILK YIELD, MILK COMPOSITION AND BLOOD METABOLITE PROFILES IN DAIRY COWS SUPPLEMENTED WITH VITAMIN D ENRICHED YEAST

Patipan Hnokaew

*Department of Animal and Aquatic Sciences, Faculty of Agriculture, Chiang Mai University,
Chiang Mai 50200, Thailand
Patipanhnokaew@gmail.com*

Apichart Seepai

*Department of Animal and Aquatic Sciences, Faculty of Agriculture, Chiang Mai University,
Chiang Mai 50200, Thailand
apichart.s@cmu.ac.th*

Tossapol Moonmanee

*Department of Animal and Aquatic Sciences, Faculty of Agriculture, Chiang Mai University,
Chiang Mai 50200, Thailand
tossapol.m@cmu.ac.th*

Chirawath Phatsara

*Department of Animal and Aquatic Sciences, Faculty of Agriculture, Chiang Mai University,
Chiang Mai 50200, Thailand
chirawath.p@cmu.ac.th*

Nattaphon Chongkasikit

Department of Animal and Aquatic Sciences, Faculty of Agriculture, Chiang Mai University,

Chiang Mai 50200, Thailand
nattaphon.c@cmu.ac.th

Saowaluck Yammuan-Art

Department of Animal and Aquatic Sciences, Faculty of Agriculture, Chiang Mai University,
Chiang Mai 50200, Thailand
saowaluck.y@cmu.ac.th

Abstract

The purpose of this study was to evaluate the effect of vitamin D enriched yeast supplementation on milk performance, vitamin D content in milk, and blood metabolite profiles. Six crossbred Holstein Friesian cows were randomly allocated to treatment by using a 3 x 3 Double Latin square design, including a control group (T1), 5 g live yeast supplementation (T2), and 5 g vitamin D enriched yeast supplementation (160,000 IU/head/day; T3). Milk and blood samples were collected on days 28 of each trail period, for analyzing milk composition, vitamin D content in milk, and blood metabolite profiles. The result showed that the vitamin D enriched yeast supplementation group had 25-hydroxyvitamin D2 concentration in blood significantly higher than other comparable groups (64.27 compared to 47.39 and 49.31 ng/ml, respectively; $P < 0.01$). There were no significant differences between treatments for milk yield or ECM yield and milk composition but the vitamin D enriched yeast supplementation group had significantly higher vitamin D content in milk than the T1 and T2 groups (690.83 compared to 562.83 and 529.48 ng/1000mL, respectively; $P < 0.01$). As a result, supplementing vitamin D enriched yeast with dairy cow diets could improve vitamin D content in milk.

Keywords

Vitamin D, Vitamin D Enriched Yeast, Blood Metabolite, Dairy Cows