

## Effect of Linseed Oil Supplementation on Production, Composition and n-6/n-3 Fatty Acid Ratio in Cow's Milk

Pitunart Noosen<sup>1</sup>, Pipat Lounglawan<sup>2\*</sup>, Supreena Srisaikham<sup>3</sup>, and Wisitiporn Suksombat<sup>2</sup>

<sup>1</sup>*Department of Animal Science, Faculty of Natural Resources, Prince of Songkhla University, Songkhla 90112, Thailand*

<sup>2</sup>*School of Animal Technology and Innovation, Institute of Agricultural Technology, Suranaree University of Technology, Nakhon Ratchasima 30000, Thailand*

<sup>3</sup>*Faculty of Agricultural Technology, Burapha University, Sakaeo Campus, Sakaeo 27160, Thailand*

\*Corresponding Author. E-mail: pipat@sut.ac.th

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### ABSTRACT

*The effects of linseed oil supplementation on milk production, milk composition, and n-6/n-3 ratio of dairy cow's milk were studied. Twenty-four Holstein Friesian crossbred lactating dairy cows were assigned into a 2x2 Factorial arrangement. All cows were fed approximately 6 kg/d of 21% CP concentrate. Treatments were: 1) concentrate plus 300 g/d of palm oil (PO) together with ad libitum corn silage (CS); 2) concentrate plus 300 g/d of linseed oil (LSO) together with ad libitum CS; 3) concentrate plus 300 g/d of PO together with ad libitum fresh grass (FG); and 4) concentrate plus 300 g/d of LSO together with ad libitum FG. Supplementation with LSO had no effect on DMI, milk production and milk composition. Milk fat content was also not affected by LSO supplementation. However, the milk C18:3n3 percentage was increased while n-6/n-3 FA ratio was decreased by LSO supplementation. It was concluded that the milk FA composition can be altered by 300 g/d LSO supplementation with increasing concentrations of potentially health beneficial FA and decreasing concentrations of SFA. Finally, LSO supplemented with ad libitum FG lowed n-6/n-3 FA ratio in dairy cow's milk.*

**Keywords:** Linseed oil, Milk fatty acid, n-6/n-3 Fatty acid ratio, Dairy Cow's milk