

Teeraporn Panyaboon 2010: Effect of *Leucaena leucocephala* Supplementation on Beef Fattening Performance, Blood Metabolic Profiles and Conjugated Linoleic Acid Content. Master of Science (Food Safety), Major Field: Food Safety, Department of Animal Science. Thesis Advisor: Associate Professor Kanchana Markvichitr, Dr.Med.Vet. 104 pages.

The experiment was purposed to study on the effect of *Leucaena leucocephala* supplementation on beef fattening performance, blood metabolic profiles and CLA content. The experiment used of 12 Kamphangsae breed steers which age ranged of 2-3 years, and was conducted according to Completely Randomized Statistically Designs. All beef steers were at fed *ad-libitum* level with fresh para grass throughout the fattening period of 92 days with different supplementations; control group: supplemented fully with concentrate at level 4 kg/head/day. T1: supplemented with concentrate at 3.4 kg/head/day and fresh leucaena at 2 kg/head/day (15% DMI concentrate replacement) and T2: supplemented with concentrate at 2.8 kg/head/day and fresh leucaena at 4 kg/head/day (30% DMI concentrate replacement). Blood samples were collected from the jugular vein on 0, 50 and 92 experiment all day.

These results revealed that throughout the experimental day values of blood metabolic profiles and complete blood cells count were not significant different in reference normal ranges. All of steers revealed not difference in dry matter intake ( $P>0.05$ ). However, T2 group had greater final life weight ( $P<0.05$ ) than control group. All of the steers were slaughtered at the end of fattening period to determine carcass quality, fatty acid, CLA and cholesterol content in *Longissimus dorsi* and *Supraspinatus* muscle. The results revealed that leucaena supplement groups were higher 12-13<sup>th</sup> rib fat thickness and b\* meat color than control group ( $P<0.05$ ). *Longissimus dorsi* muscle of Leucaena supplement groups had also significantly different lower in  $n-6$ :  $n-3$  ratio and SFA, where as increased in  $n-3$ , PUFA content and also in PUFA: SFA ratio. The CLA content in T2 group revealed highest among another groups significantly ( $P<0.05$ ). Tendency of cholesterol content in T1 had a significant different lowest among another groups ( $P<0.05$ ). *Supraspinatus* muscle in T1 had a significant different lower in SFA than another group ( $P<0.05$ ). Leucaena supplement groups had also significantly different higher in  $n-3$  than control group ( $P<0.05$ ).

---

Student's signature

Thesis Advisor's signature