Letter to the Editor: Differences in Forage to Concentrate Ratios Can Confound Results: A Comment on Petit et al. (2007)

R. R. Rastani^{*1} and A. F. Kertz[†]

^{*}MSC, PO Box 78, Dundee, IL 60118

[†]ANDHIL LLC, 9909 Manchester Road, #366, St. Louis, MO 63122-1915

In a recent article, Petit et al. (2007) claim that feeding flaxseed compared with no lipids or a source of saturated fatty acids from 6 wk before calving through 4 wk postpartum could be a useful strategy to increase glycogen concentrations in the liver and decrease triglyceride concentration in the liver after calving. However, this study was confounded by an unacknowledged factor: major differences in forage to concentrate ratios among diets and resultant effect on DMI. Diets high in forage lead to distension of the reticulorumen, which limits DMI in dairy cows (Allen, 2000).

Diets were **CO** = control with no supplemental fat; **FL** = unsaturated lipids supplied as whole flaxseed; and **EB** = saturated lipids supplied as Energy Booster (MSC, Dundee, IL). The dietary composition was less of an issue with prepartum diets, which had forage to concentrate ratios of 82:18, 86:14, and 90:10, for CO, FL, and EB, respectively. Even with these diets, daily

DMI progressively decreased ($P < 0.05$) with increasing forage levels: 13.4, 12.9, and 12.2 kg, for CO, FL, and EB, respectively. Postcalving diets had forage to concentrate ratios of 58:42, 50:50, and 71:29, for CO, FL, and EB, respectively, with corresponding NDF levels of 33.5, 33.4, and 39.4 (as % of DM). Not surprisingly, the postpartum DMI was 18.1, 18.7, and 14.6 kg, for CO, FL, and EB, respectively. As previously established in the literature (Allen, 2000), DMI decreases as forage level and NDF increase. These differences in forage to concentrate ratio and NDF levels were not acknowledged in the article even though they were statistically and biologically significant. Although there were extensive metabolic parameters measured, the biological significance of any differences was confounded by major differences in composition of diets that resulted in DMI differences.

REFERENCES

- Allen, M. S. 2000. Effects of diet on short-term regulation of feed intake by lactating dairy cattle. *J. Dairy Sci.* 83:1598–1624.
Petit, H. V., M. F. Palin, and L. Doepel. 2007. Hepatic lipid metabolism in transition dairy cows fed flaxseed. *J. Dairy Sci.* 90:4780–4792.

Received January 28, 2008.

Accepted February 28, 2008.

¹Corresponding author: rrastani@msccompany.com