Review of: "Oscillating dietary crude protein concentrations increase N retention of calves by affecting urea-N recycling and nitrogen metabolism of rumen bacteria and epithelium"

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A main concern is raised while reading this paper. The work is related to nitrogen metabolism and authors declared that the diets are homogenous expect dietary protein content. A big concern is that they used soybean oil (2.4%, DM basis) in high CP diet; however, no soybean oil is incorporated in diet in low CP diet. It has been shown many times that soybean oil can have negative effects on microbial activity as well as on ruminal fermentation due to its unsaturated fatty acid (mainly n-6 FA) which has been reported in dairy calves (Hill et al., 2015; J. Dairy Sci. 98:4882–4888.; Ghorbani et al., 2020; Anim. Feed Sci. Technol. 262:114429.; Yousefinejad et al., 2021; J. Dairy Sci. 104). This amount of soybean oil can negatively affect nitrogen digestibility, microbial protein synthesis and subsequently can impact on nitrogen recycling in to the rumen. I believe that in addition to using iso-energetic diets in the current study, similar energy sources should be used. For instance, only grains are better to change in such studies as the main energy source instead of making alterations in both starch and fat sources. Fat is not favorable source of energy for ruminal microbes and all ruminal fermentation items can be influenced with fat incorporation in diet that then impact on urea recycling rate and make bias in obtained results. Furthermore, I am wondering that no report of dietary starch content is presented in the current study. Starch contents absolutely are different in experimental diets in this study. Because it has been indicated that alteration in starch as the main energy source in calves' diets can have impact on nitrogen efficiency (Makizadeh et al., 2020; J. Dairy Sci. 103:9037–9053); a study with more similar dietary ingredients (both fat and starch) is warranted to evaluate urea recycling in calves. The rest of the work and all experimental methods are valuable in the current study.