Effect of dietary vitamin D3 and 25-hydroxyvitamin D3 supplementation on plasma and milk 25-hydroxyvitamin D3 concentration in dairy cows

Article

Accepted Version

Letter to Editor

Reply to the Letter to the Editor for "A 25-hydroxycholecalciferol-fortified dairy drink is more effective at raising a marker of postprandial vitamin D status than cholecalciferol in men with suboptimal vitamin D status." (Manuscript doi: 10.3945/jn.117.254789) *by* Jing Guo, Kim G Jackson, Che Suhaili binti Che Taha, Yue Li, David I Givens, and Julie A Lovegrove

We thanks Dr Thomas R Hill and Dr llias Kyriazakis for their comments and feedback on our article.

We agreed to derive vitamin D enriched foods by 'biofortification' via adding vitamin D supplements to the diet of animal is practice and possible. Our recently review article (1) has summarised previous vitamin D biofortified studies on eggs and milk and found most of vitamin D biofortified studies have higher vitamin D dose than EU diet limit (1, 3). Furthermore, there are few human randomised controlled trial on the effect of those vitamin D enriched foods on the human vitamin D status. In addition, our lab work (4) by adding vitamin D3 maximum dose within the EU diet limit (2) into dairy cows' diet and showed negligible increased of vitamin D (vitamin D_3 and 25(OH) D_3) in the milk produciton. Therefore, vitamin D fortified milk by adding vitamin D supplement directly into milk are needed rather than biofortified milk.

Current finding of 'dairy drink fortified with 25(OH) D_3 was more effective at raising plasma 25(OH) D_3 concentrations than dairy drink fortified with vitamin D_3 in men with suboptimal vitamin D status' agreed with previous studies (5, 6), which may indicates the potential application of enriched foods with 25(OH) D_3, although long-term intervention period is needed to confirm the effect of 25(OH) D_3 fortified dairy drinks on human vitamin D status. Furthermore, different vitamin D fortified food are needed to accommodate dietary

diversity (7), thus, future studies are needed to investigate the effect of other foods fortified with 25(OH) D_3 compared with vitamin D_3 on human vitamin D status.

References

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