Revision of vitamin E recommendations for ruminants in organic agriculture

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Vitamin E is essential, and supplementation on top of the native tocopherol contents in feed components is often needed to meet the animal’s requirement. The recommended supplementation for ruminants may, however, be overestimated, especially in forage-based feeding systems where grazing or grass-clover silages are the basal feed with low to moderate concentrate levels in the diet (<40% of the DM intake). In such feeding regimes, which are frequent in organic animal husbandry, transfer rates for tocopherol may be higher than assumed in standard literature. We have done a systematic literature review, and critically evaluated the relationship between basal feed type and quality, forage to concentrate ratio, stage in animal production cycle, indicators of animal health and animal vitamin E status. Based on this information, we reassess dietary vitamin E requirements for cattle in organic systems. Subsequently, the revised recommendations are related to typical diet compositions of organically managed ruminants across Europe, and necessary additive supplementation levels will be estimated. The results will be presented as the basis for specific recommendations for the vitamin E supply in organic forage-based cattle husbandry. Funded by EU H2020 No 773431 – RELACS.