

Effects of using different colony forming units of Saccharomyces cerevisiae in the feeding of beef cattle: a meta-analysis

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The yeast Saccharomyces cerevisiae species are food additives used in cattle feed, which improve animal performance because they act as on ruminal parameters intensifying microbial activity and as a consequence, increasing their digestive efficiency. However, in the market are available different commercial products with numerous strains with different colony forming units per gram of product (CFU g^{-1}) contributing to the wide variation in results. The objective was to evaluate the effects of the CFU on the yeast dry matter intake (DMI) and average daily gain (ADG) of beef cattle. Searches of work were carried out in the Web of Scince, Scince Direct and Scopus. The criteria considered for inclusion were: randomized trials with the inclusion of live yeast of the species *Saccharomyces cerevisiae*, to assess the DMI and / or beef cattle ADG and possessing a control treatment. a meta-analysis for random effects and the results expressed as the standardized difference of the mean (MD) was performed. As well, we calculated the percentage of total variation across studies that is due to heterogeneity rather than to chance, expressed by I^2. We tested five CFU / g of which only 10^{09} CFU (p = 0.06; MD = -1.46 kg) showed effects on the DMI. For other DMI CFU showed the following values: 10^{06} (p = 0.474; MD = -0.678 kg); 10^{08} (p = 0.837; MD = -0.303 kg). For the ADG were no effects of the CFU on the ADG which showed the following values: 10^{06} (p = 0.253, MD = 440.81 g); 10^{08} (p = 0.257, MD = -501.47 g); 10^{09} (p = 0.357, MD = -2.84 g), 10^{10} (P = 0.968, MD = -6.40 g). DMI for the UFC 10^{07} and 10^{10} and 10^{07} for the ADG were reported only in one study can not be considered for analysis. The I^2 values between studies were elevated varied between 92 and 99%. The ability to form colony had no effect on the GMD, demonstrating that the effects of yeast do not get the multiplication capacity, but by their metabolic activity (breathing). However, DMI was reduced when the animals were supplemented with yeasts that showed 1009 g^{-1}. However, the publications evaluated in this study yielded mixed results, thus suggesting that the response to supplementation is not consistently and uniformly. As well, it is here noted that the interaction of other factors can influence the results, such as diet composition and the yeast dose offered. Thus, the ability to form colony has effect on the DMI supplemented beef cattle with live yeast species Saccharomyces cerevisiae

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