

International Conference on Livestock Nutrition

August 11-12, 2015 Frankfurt, Germany

The effect of live yeast (*Saccharomyces cerevisiae*) on in-vitro total gas, methane and carbon dioxide production of diet containing 50% oat straw in horses

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The effect of live yeast (*Saccharomyces cerevisiae*) of three products incubated with equine fecal of horses previously fed the same products on fecal *in vitro* fermentation of a diet contained oat straw and concentrate mixture (1:1) as a substrate was evaluated. Three products of *S. cerevisiae* of Bio-cell F53 (YP53), Procreatin 7 (YP7) and Biosaf SC47 (YP47) were *in vitro* evaluated at 0, 2 and 4 mg/g DM. Fecal inoculums were collected from sixteen horses mares of Cuarto de Milla fed the same concentrate (restricted amount daily) and oat straw (ad libitum) and supplemented with yeast (g/animal/ day) at 0 (control-without yeast), 11 (Biocell F53), 11 (Procreatin 7), and 15 (Biosaf SC47), for 15 days. Gas Production (GP), CH₄ and CO₂ productions were measured at 2, 4, 6, 8, 10, 12, 24 and 48 h post-incubation. Interactions were occurred (P<0.05) between fecal type and yeast product for GP, CH₄ production and fermentation parameters. The dose of 2 mg/g DM linearly increased the asymptotic GP (P=0.021) and GP during the first 12 h of incubation (P<0.05). The product YP53 at 4 mg/g DM decreased (P=0.028) CH₄ production by 78% at 24 h. Two mg/g DM of YP53 increased (P<0.05) improved fermentation kinetic parameters. It could be concluded that fecal type has an effect on fermentation processes of horse's diets. The product YP53 increased GP, CH₄ and fermentation kinetics at the dose 2 mg/g DM with decreasing CH₄ production by 78% at 4 mg/kg DM at 24 h of incubation.

Biography

A Z M Salem had his PhD in 2002 from Faculty of Veterinary, Leon University, Spain. Now he is working as a Professor Researcher at Faculty of Veterinary Medicine, Autonomous University of the State of Mexico, Mexico. He is specialist in Ruminant Nutrition and working with using the tree leaves extracts, exogenous enzymes, yeasts, As feed additives in animal nutrition. Salem has a lot of research papers published in ELSEVIER, SpringerLink, Wiley, with some text books as well as registered patents in his field of research. He is currently in the editorial board of two international indexed journals in the JCR with impact factor (Journal of Integrative Agriculture and Animal Nutrition and Feed Technology) and he is a reviewer in a lot of scientific international journals.

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