Table 1 (Abstr. M60). Mean RT values per 100,000 cells per day of viral accumulation

Day	Control	Pol High	Pol Low	Pur High	Pur Low
2	3.2E6 ± 0.5E6	3.8E6 ± 0.4E6	4.9E6 ± 0.9E6	13.6E6 ± 0.4E6	13.4E6 ± 4.9E6
4	12.7E6 ± 2.7E6	13.7E6 ± 1.5E6	15.2E6 ± 1.3E6	720.6E6 ± 341.6E6	59.1E6 ± 21.8E6
7	8.6E6 ± 1.7E6	13.8E6 ± 2.5E6	17.4E6 ± 3.3E6	527.1E6 ± 210.1E6	21.6E6 ± 5.9E6
9	27.9E6 ± 1.8E6	27.7E6 ± 1.5E6	28.4E6 ± 6.5E6	529.4E6 ± 104.4E6	27.4E6 ± 1.5E6
13	9.7E6 ± 0.8E6	12.0E6 ± 3.1E6	9.9E6 ± 0.9E6	215.0E6 ± 13.5E6	6.5E6 ± 0.8E6
17	5.2E6 ± 1.0E6	7.0E6 ± 1.7E6	6.4E6 ± 0.8E6	198.6E6 ± 11.7E6	4.2E6 ± 0.3E6

Key Words: equine infectious anemia virus (EIAV), RNA interference (RNAi)

M61 Co-aggregation ability of cell wall components of *Saccharomyces cerevisiae* to pathogenic bacteria. Marlén Rodríguez[1], Ana Julia Rondón[1], Yadileiny Portilla[1], Ramón Bocourt[2], María José Ranilla*[3,5], María Dolores Carro[4], Alexey Díaz[3,5], and Grethel Milián[1], *[1]Center for Biotechnological Studies, University of Matanzas, Matanzas, Cuba, [2]Institute of Animal Science, Mayabeque, San José de las Lajas, Cuba, [3]Animal Production Department, University of León, León, Spain, [4]Agriculture Production Department, Technical University of Madrid, Madrid, Spain, [5]5IGM (CSIC-ULE), Finca Marzanas s/n, Grulleros, León, Spain.*

Autoaggregation in bacteria is the phenomenon of aggregation between cells of the same strain, whereas coaggregation is due to aggregation occurring among different species. Aggregation ability of prebiotic bacteria is related to adhesion ability, which is a prerequisite for the colonization and protection of the gastrointestinal tract in all animal species; however, coaggregation ability of prebiotic bacteria offers a possibility of close interaction with pathogenic bacteria. Coaggregation ability of cell wall components of *Saccharomyces cerevisiae* is known, because of their mannan content, but literature offers little information on this topic. The aim of this experiment was to assess the ability of coaggregation of 2 preparations of *S. cerevisiae* cell walls to 3 pathogenic bacteria (*Staphylococcus aureus* hemolytic enterotoxin A, *Salmonella enteritidis* and *Escherichia coli* serotype O157:H/7). Cell wall preparations consisted on either the distillery cream (DT), a byproduct of sugar cane, or a hydrolyzate (HT) obtained by enzymatic methods. Pathogens were grown in nutritive broth medium for 18 h at 37°C. After that, cultures were diluted (1:1) with DT and HT, and absorbance (560λ) was measured at 0 and 5 h. Both DT and HT showed the ability of coaggregate to the 3 pathogenic strains, and no bacterial strain × cell wall preparation interaction ($P = 0.379$) was detected. Coaggregation was higher ($P < 0.001$; SEM = 0.36) with HT (mean values of 85.3, 78.6 and 77.8% for *S. aureus*, *S. enteritidis*, and *E. coli*, respectively) compared with DT (mean values of 16.5, 5.8 and 6.0% for *S. aureus*, *S. enteritidis*, and *E. coli*, respectively). If confirmed with other pathogen species, these results support further research on the use of the HT from *S. cerevisiae* as a possible prebiotic additive for animal feed.

Key Words: coaggregation, pathogenic bacteria, *Saccharomyces cerevisiae*

M62 In vitro efficacy of chitosan against *Cryptosporidium parvum* and validation on infected goat kids. Karim Adjou[1], Jean-Philippe Marden*[2], Eric Auclair[2], Christian Mage[3], and Isabelle Vallée[1], *[1]UMR BIPAR Anses-ENVA, Maisons-Alfort, France, [2]Phileo Lesaffre Animal Care, Marcq en Baroeul, France, [3]Mage Consultant, Estivaux, France.*

The aims of this study were to investigate (1) the efficacy of chitosan in 2 forms, the monomer *N*-acetyl glucosamine (NAG) and a chloride salt of chitosan (MIX) in culture systems HCT-8 and Caco-2 cell lines in vitro for *Cryptosporidium parvum* compared with a positive control, paromomycin (PARO) a classical drug used in veterinary medicine; (2) the action of a chitosan-yeast-bacteria based product on neonatal diarrhea and mortality in goat kids. Cryptosporidiosis is considered as an economically important disease with clinical signs and death in young ruminants. The usual clinical symptom is acute diarrhea affecting animals from 1 to 3 weeks old. As no drugs are fully effective in the treatment of cryptosporidiosis in man and animals, the research for new therapeutic agents is crucial. Chitosan is a sugar that is obtained from the hard outer skeleton of shellfish, including crab and shrimp and it is used in medicine. It has been found to be active against a variety of diseases including antimicrobial and anti-tumoral effects. Immunofluorescence technique was used for the identification and enumeration of the parasites. The results showed a significant reduction of viability of Cryptosporidium oocysts (>95%) after pre-incubation of 24h at 37°C with PARO ($P < 0.001$), MIX and NAG ($P < 0.001$). Additionally, PARO, MIX and NAG inhibited significantly the development of *C. parvum* in HCT-8 and Caco-2 cell lines ($P < 0.005$). These effects were dose-dependent. Synergistic effects were obtained when NAG treatment was associated with Paromomycin. The efficacy of MIX in combination with yeast and bacteria (Optisaf FIRST, Phileo, France) was evaluated experimentally in goat neonates inoculated with *C. parvum* oocystes (10^6 oocytes/mL) per oral route. Preliminary results showed a significant reduction in oocyst shedding and diarrhea score in goat kids and mortality was significantly reduced (36%) in treated animals ($P < 0.05$) compared with the control group (90%). In conclusion, these findings provide evidence of in vitro inhibitory activities of chitosan against *C. parvum* and its combination with yeast-based products revealed promising in lessening the incidence of neonatal diarrhea in young ruminants.

Key Words: chitosan, yeast, goat