

The following Syncra® AVI related abstract was presented at the 24th annual Australian Poultry Science Symposium, Sydney, New South Wales, 17th-20th February, 2013
(http://sydney.edu.au/vetscience/apss/documents/2013/APSS-2013-Proceedings_Updated.pdf):

Interactive effects of exogenous enzymes and direct fed microbials on digestibility, intestinal integrity, pathogen colonization and performance in first-cycle laying hens. G.R.Murugesan¹, I.V. Wesley², J. Remus³, P.W. Plumstead³, and M.E.Persia¹. ¹ Department of Animal Science, Iowa State University, Ames, IA 50011, ² USDA-NADC, Ames, IA 50010, ³ DuPont Industrial Biosciences - Danisco Animal Nutrition, Marlborough, UK

A total of 288 Hy-Line W36 laying hens were utilized to understand the interactive effects of an exogenous enzyme (EE) blend containing xylanase, amylase, and protease (XAP) and direct-fed microbial (DFM) supplementation on energy digestibility, gut integrity, pathogen colonization and performance. Corn-soy bean meal-dried distiller's grain with solubles-based diets consisting of a positive control with 12.18MJ/kg (PC), negative control with 11.76MJ/kg (NC), NC + EE, NC + EE + DFM, were fed to 25-40 wk old laying hens. There were no significant differences in feed intake or hen day egg production, hen body weight, egg weight, egg mass, and egg characteristics over the entire experimental period. The combination of EE and DFM increased ($P < 0.05$) nitrogen corrected apparent metabolizable energy compared to NC fed birds at wk 38 and wk 40 of hen age. Hens fed the various diets did not differ in ileal villus height, crypt depth and villus height: crypt depth ratio measured at the completion of the experimental period. D-glucose and L-lysine active transport was significantly increased with EE supplementation and addition of DFM increased ($P < 0.01$) ileal mucin mRNA expression. Apparent endotoxin permeability in the colon ($P < 0.01$) and *Campylobacter spp.* colonization ($P = 0.05$) were significantly reduced with DFM supplementation while trans-epithelial electrical resistance was increased ($P < 0.01$). These results indicate that supplementation of the EE and DFM combination in corn-SBM-DDGS based diets increased energy digestibility and enhanced gut integrity and possibly reduced pathogen load in first-cycle laying hens.

Copyright© 2013 DuPont or its affiliates. All rights reserved. The DuPont Oval Logo, DuPont™ and all products denoted with ® or ™ are registered trademarks or trademarks of DuPont or its affiliates. Local regulations should be consulted regarding the use of this product, as legislation regarding its use may vary from country to country. Advice regarding the legal status of this product may be obtained on request. The information contained in this publication is based on our own research and development work and to our knowledge is reliable. Always read the label and product information before use. Users should conduct their own tests to determine the suitability of our products for their own specific purposes. Statements contained in this publication should not be considered as, and do not constitute a warranty of any kind, expressed or implied, and no liability is accepted for the infringement of any patents.