

Trial Report Summary

Thailand Trial of Xylamax® in Corn-Soy Diets 2016



Effects of a commercial xylanase supplemented to standard and reduced-energy corn-soy-based diets, on live performance of broilers raised in SE Asia

T. Sooksridang¹ and J. Tyus²

¹Bangkok Animal Research Center Co., Ltd., Samut Prakan, Thailand

²BioResource International, Inc., Durham, NC, USA

Introduction

NSPase enzymes have become an integral part of commercial poultry feed for enhancing the efficiency of nutrient utilization by the birds, thereby reducing the cost of production and improving growth performance.

In order to maximize return on investment for producers, flexible application strategies for feed additives are often required. The primary objective of this study was to evaluate the efficacy of 50 g/MT (one-half of recommended dose) inclusion of Xylamax supplemented “on-top” of standard energy diets or to replace dietary energy in reduced-energy corn-soy broiler diets.

Key Findings

- 50 g/MT inclusion of Xylamax significantly improved feed conversion rate (FCR) over the unsupplemented controls by reducing feed intake without compromising weight gain
- The positive impact of Xylamax was most pronounced during the finisher phase and at the lowest metabolizable energy (ME) level
- In reduced-energy diets, 50 g/MT Xylamax provided at least 65 kcal/kg ME
- Based on ingredient costs for this trial, 50 g/MT Xylamax provided an average feed cost savings of \$12.56 /MT feed

Xylamax®

A unique xylanase enzyme for consistent, all-around performance

Materials and Methods

576 Arbor Acres Plus male and female broiler chicks were randomly assigned to 36 floor pens, with 16 birds per pen, in a 3 x 2 factorial arrangement with three levels of dietary energy, each with or without 50 g/MT supplemental xylanase (Xylamax, BRI, USA).

Treatment	kcal/kg			g/MT
	Starter ME	Grower ME	Finisher ME	Xylamax
Standard Energy	3000	3100	3150	0
Standard Energy	3000	3100	3150	50
Standard Energy - 65 kcal	2935	3035	3085	0
Standard Energy - 65 kcal	2935	3035	3085	50
Standard Energy - 130 kcal	2870	2970	3020	0
Standard Energy - 130 kcal	2870	2970	3020	50

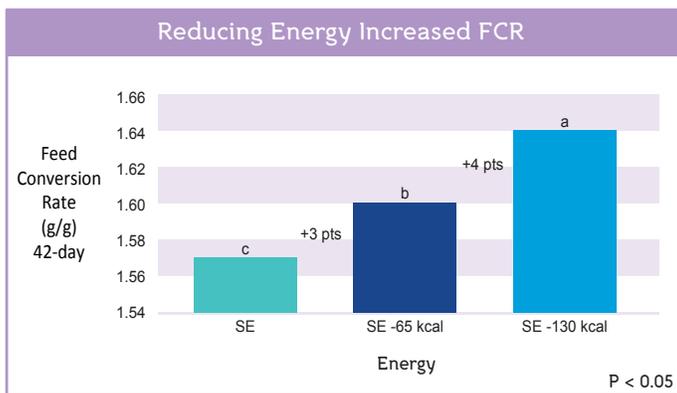
- All birds were fed corn-soy-based diets containing a coccidiostat.
- Dietary energy was adjusted using soybean oil.
- All feed was pelleted at an 82°C conditioning temperature and provided as a crumble during the starter phase (0 to 14 days), and as pellets during the grower phase (15 to 28 days) and finisher phase (29 to 42 days).
- Birds were raised on solid concrete floors with rice hulls as bedding material.

Results and Discussion

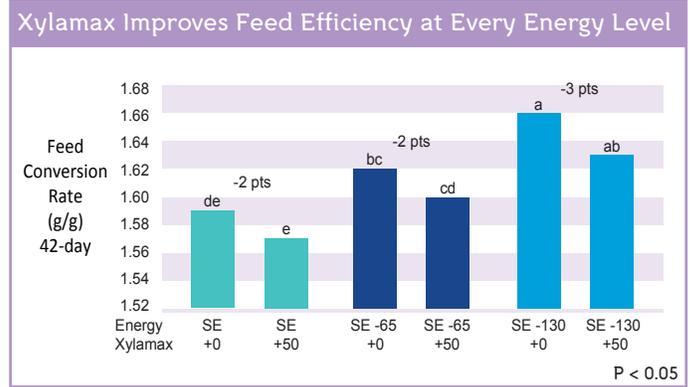
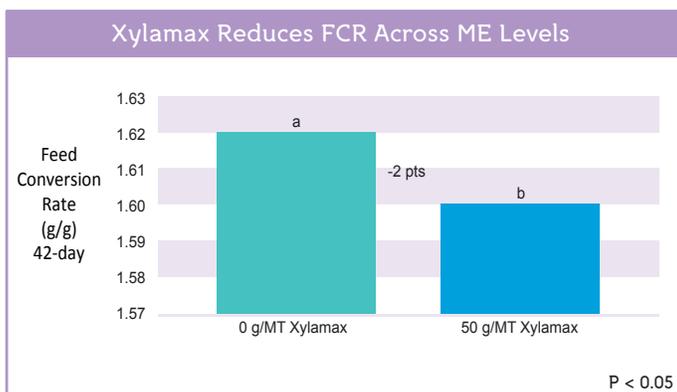
Key parameters evaluated were:

- Body weight
- Feed intake
- Feed conversion rate
- Feed costs

As expected, feed efficiency was significantly impacted by the level of metabolizable energy in the diet, such that average 42-day FCR of birds fed standard energy (SE) diets was lowest (1.57), followed by SE -65 kcal/kg (1.60), then SE -130 kcal/kg (1.64). These data confirm the effectiveness of the dietary energy model used to evaluate both “on-top” and “reformulation” xylanase supplementation strategies in this trial.



Xylanase inclusion tended to improve 42-day FCR by 2 points in the SE diet and the SE -65 diet, and 3 points in the SE -130 diet. Also, in reduced-energy diets, supplementation with Xylanase yielded 42-day FCRs statistically-equivalent to that of birds fed the unsupplemented feed with 65 more kcal/kg ME. FCR improvement by Xylanase was most pronounced (3 points) during the finisher phase, when feed consumption is highest.



Phase	Average FCR Improvement
Starter (day 0 - 14)	1 pt
Grower (day 15 - 28)	2 pts
Finisher (day 29 - 42)	3 pts

Across phases, feed costs for unsupplemented diets averaged \$442/MT, \$430/MT and \$417/MT for SE, SE -65 kcal/kg and SE -130 kcal/kg diets, respectively. By replacing at least 65 kcal/kg in reduced-energy diets, 50 g/MT inclusion of Xylanase yielded an average feed cost savings of \$12.56/MT of feed.

Standard Energy	SE -65 kcal	SE -130 kcal
\$442.33	\$429.68	\$417.20
Savings Provided by 50 g/MT Xylanase	\$12.65	\$12.47

*US dollars per MT of feed

Conclusion

At each energy level, inclusion of 50 g/MT Xylanase improved 42-day FCR over the unsupplemented controls, particularly in the finisher phase. In reduced-energy diets, Xylanase replaced at least 65 kcal/kg metabolizable energy. These data indicate that Xylanase is effective at improving broiler performance using both “on-top” and “reformulation” strategies, while providing strong return on investment by reducing feed costs.

Copyright© 2016 BioResource International, Inc. or its affiliates, all rights reserved. The BRI logo and all products denoted with ® or ™ are registered trademarks or trademarks of BioResource International, Inc. or its affiliates. Information 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, or work conducted by third parties, 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 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 or misuse of any patents, or other intellectual property of third parties.

