



# The effects of Allzyme® Vegpro in chicken diets

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## Introduction

Dietary proteins and carbohydrates can be variably degraded by the endogenous enzymes found in the gastrointestinal tracts of poultry. Variability in the utilization of dietary nutrients by poultry adversely affects performance and can also adversely influence health and welfare. Supplementing poultry diets with enzymes has been shown to improve performance and nutrient utilization and to reduce variability within flocks. Digesta viscosity has been attributed as one of the causes of poor performance, and dietary supplementation with enzymes has been shown to reduce viscosity.

## Objective

To investigate how feeding diets containing no supplementary Allzyme® Vegpro (a combination of xylanase and protease activities) or diets supplemented with 125, 250, 500 and 1,000 g/ton of Allzyme® Vegpro (liquid; batch no. 247638; protease activity: 22,000 HUT/ml) affects the performance of Ross chickens.

## Materials and methods

A randomized block study was conducted with male and female Ross chickens (500) fed isonutritional diets containing 0, 125, 250, 500 and 1,000 g/ton of Allzyme® Vegpro. Birds had *ad libitum* access to diets and water and were maintained in an environmentally controlled house in pens at a terminal stocking density not exceeding 34 kg/m<sup>2</sup>. The birds and the diets they consumed were weighed, and FCR was determined. Samples of digesta were collected, and the viscosity of the supernatant fluid was determined after centrifugation.

## Results

- Birds offered the diets containing Allzyme® Vegpro had higher weight gains than those fed the control diet; however, feed intake and FCR were unaffected by the presence of Allzyme® Vegpro.
- As enzyme activity in the diet increased, digesta viscosity decreased (as the square root function;  $P < 0.024$ ). When compared, the digesta viscosity of the birds fed the control diet (124 cP) was higher ( $P < 0.001$ ) than those birds fed diets supplemented with Allzyme® Vegpro (4.2 cP).
- Litter quality tended to improve with the dietary supplementation of Allzyme® Vegpro.

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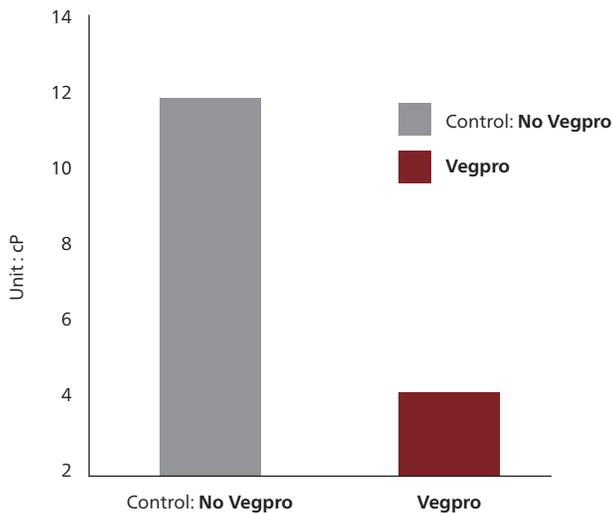
# The effects of Allzyme® Vegpro in chicken diets, cont'd.

Table 1. Performance of chickens during the study (0-42 d).

Treatment	AWG 0-42 d	AFI 0-42 d	FCR 0-42 d
	<b>Pooled treatments</b>		
<b>Control</b>	1,879	3,758	2.01
<b>Vegpro</b>	1,947	3,869	1.99
<b>SEM</b>	30	75	0.03
<b>P-Value</b>	0.059	NS	NS

Where AWG = average weight gain; AFI = average feed intake; and FCR = feed conversion ratio.

Viscosity of digesta (cP) from birds fed diets with and without Allzyme® Vegpro



## Conclusions

Chickens fed diets containing Vegpro grew faster and had lower digesta viscosity than those not supplemented with Vegpro. This reduced digesta viscosity may have improved nutrient utilization.

## Acknowledgements

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