



# Effects of Pelleting, Expanding Plus Pelleting, and Enzyme Supplementation on Barley Diets with Wheat Millrun on DE Content

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## Summary

Individually-housed grower pigs were fed barley or barley-millrun diets with or without supplemental enzyme and processing. The DE content and subsequent performance did not differ between barley and barley-millrun diets indicating grower pigs may be fed high-fibre diets without negative impact on performance. Supplemental enzymes improved DE content of barley but not barley-millrun diets.

## Introduction

Feed costs may be reduced if high-fibre ingredients could be included in diets fed to grower-finisher pigs without affecting performance negatively. Successful inclusion of these ingredients (for example, barley and wheat millrun) may be accomplished by treatment of diets with processing or enzyme supplementation.

## Experimental Procedures

Barley and barley-25% wheat millrun diets that were formulated to limit in energy (3200 kcal/kg) but not amino acids (3 g dig. Lysine/Mcal DE). Barley diets were mash, pelleted, or pelleted + expanded and barley-millrun diets were pelleted, or pelleted + expanded. Diets were fed with or without enzyme ( $\beta$ -glucanase + xylanase) to six individually-housed grower pigs.

## Results and Discussion

Barley and barley-millrun diets did not differ ( $P > 0.10$ ) in DE content, feed intake, or growth performance, indicating that up to 25% of wheat millrun may be included in diets for grower pigs. Supplemental enzyme increased DE content ( $P < 0.10$ ; Figure 1) and nutrient digestibility of barley diets, but not of barley-millrun diets. Pelleting versus

mash improved DE content of barley diets. Supplemental enzyme increased voluntary

***Millrun can be included in diets without a negative impact on performance.***

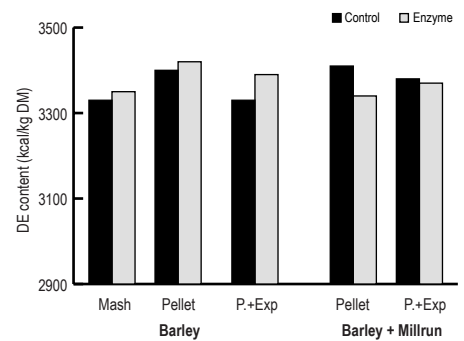
feed intake across all diets in week 1 ( $P < 0.05$ ; Figure 2) but not week 2; however, improvements in growth performance were not detected.

## Implications

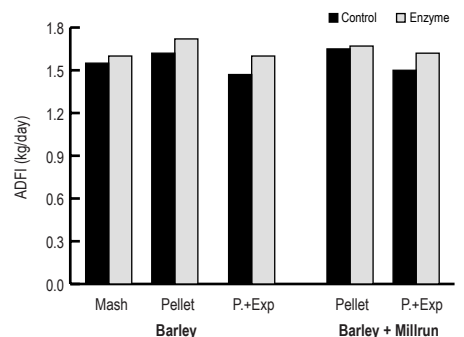
Up to 25% wheat millrun may be successfully incorporated in diet formulations for grower pigs without reducing performance, a finding that should be confirmed with group-housed pigs. Supplemental enzymes improved DE content of barley, but not barley-millrun diets, indicating that barley but not millrun contains fibrous fractions that reduce energy digestibility.

## Acknowledgements

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**Figure 1** Effects of supplemental enzyme on DE content of barley or barley-millrun diets that were either mash, pelleted, or pelleted + expanded (P+Exp) and fed to grower pigs.



**Figure 2** Effects of supplemental enzyme on voluntary feed intake of grower pigs fed barley or barley-millrun diets that were either mash, pelleted, or pelleted + expanded (P+Exp) for 1 week.