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Abstract

A growth trial, a digestion trial, and a preference trial were conducted to evaluate a blended dried bakery product (BDBP) as an ingredient in swine starter rations. Replacing 0, 10, 20, or 30% corn with BDBP had no effect on average daily gain or feed efficiency. When given a choice, pigs preferred a ration containing 20% BDBP. The energy and protein digestibilities in BOBP were 91.5% and 87.88%, respectively.; Swine Day, Manhattan, KS, November 10, 1977

Keywords

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Blended Dried Bakery Product in Swine Starter Rations

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Summary

A growth trial, a digestion trial, and a preference trial were conducted to evaluate a blended dried bakery product (BDBP) as an ingredient in swine starter rations. Replacing 0, 10, 20, or 30% corn with BDBP had no effect on average daily gain or feed efficiency. When given a choice, pigs preferred a ration containing 20% BDBP. The energy and protein digestibilities in BDBP were 91.5% and 87.88%, respectively.

Introduction

Blended dried bakery product[a] (BDBP) is a by-product of the baking industry processed and sold with a guaranteed minimum of 8.5% crude protein and 11.5% fat, and a maximum of 1.6% fiber. Because it is high in fat (11.5%) sugar (9%) but low in fiber, BDBP shows potential as a high-energy ingredient in starter rations for swine.

This study was conducted to evaluate use of BDBP as an ingredient in starter rations.

Experimental Procedures

Trial I. Eighty-four Yorkshire pigs averaging 11.1 kg. (24.5 lbs.) initially were randomly assigned from outcome groups (based on weight and sex) to 12 pens representing three replications of four dietary treatments. The basal (corn-soybean meal) ration contained 18.0% crude protein, 0.90% lysine, 0.80% calcium, and 0.60% phosphorus. BDBP was added to the basal ration to replace corn at 0, 10, 20, and 30%. Salt levels were adjusted in all rations, in that BDBP contains a maximum of 3.5% salt. Rations were fed in meal form. Pigs were housed on a totally slatted floor, in an environmentally-controlled nursery. Each pen contained a self-feeder and an automatic watering cup. The experiment lasted 38 days.

Trial II. A preference trial was conducted to determine if young pigs would prefer the ration containing 20% BDBP over the basal corn-soybean meal ration. Two feeders were placed in a pen containing 18 pigs averaging 17.6 kg. (38.8 lbs.). Feeders were rotated daily. The trial lasted 33 days.

Trial III. A digestion trial was conducted with 12 crossbred barrows (from two litters) averaging 37.2 kg. (81.2 lbs.) initially. The basal ration contained 0.75% lysine, 0.65% calcium, and 0.55% phosphorus. BDBP was fed at 0, 25, 50% (replacing corn). Pigs were housed individually in metal metabolism crates, to allow urine and feces to be collected separately. Feed was provided in two equal portions daily. Water was available at all times. A 5-day pretest preceded each 5-day collection period. Feed and feces were analyzed

[a]Blended dried bakery product produced by International Bakerage, Inc., 3300 Northeast Expressway, Atlanta, GA.

for protein and energy.

Results and Discussion

Level of BDBP in the starter ration did not significantly affect average daily gain or feed efficiency (table 15). The lack of improvement in feed efficiency was surprising, in that replacing corn with BDBP increased the energy concentration of the ration.

Table 15 . Effect of level of BDBP in starter rations on pig performance.

Criteria	% BDBP 0	10	20	30
No. of pigs	21	21	21	21
Pigs/pen[a]	7	7	7	7
Avg. daily gain, lbs.	1.19	1.18	1.19	1.15
Avg. daily feed intake, lbs.	2.30	2.34	2.31	2.26
Feed/gain	1.93	1.98	1.94	1.97

[a]Average initial weight of pigs: 11.1 kg. (24.5 lbs.); average final weight: 31.4 kg. (69.1 lbs.). Trial lasted 38 days.

The apparent energy protein digestibilities of rations containing 0, 25, and 50% BDBP are shown in table 17 . Apparent digestibilities of protein and energy in BDBP were determined to be 87.88 and 91.51%, respectively.

When given a choice, pigs exhibited a marked preference for the ration containing 20% BDBP. Young pigs may prefer BDBP because of its sugar and fat content.

This study demonstrates that BDBP is a highly digestible and acceptable ingredient that can be used in swine starter rations.

Table 16 . Preference consumption.[a]

	% BDBP 0	20
Feed consumed, lbs.	667	1003
% of total consumed	39.9	60.1

[a]Trial involved 18 pigs with an average initial weight of 17.6 kg. (38.8 lbs.) and a final weight of 31.5 kg. (69.3 lbs.). Trial lasted 33 days.

Table 17 . Apparent energy and protein digestibilities.[a]

Level of BDBP, %	Energy, %	Protein, %
0	87.38	87.06
25	88.31	86.39
50	89.50	87.22

[a]Each value is the mean of eight observations.