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Efficiency of buquinolate in growing-finishing swine diets

Abstract

A feeding trial utilizing one-hundred and twelve growing-finishing Duroc pigs was conducted to evaluate the effect of buquinolate (0, 30, 60, or 90g/t) in their diets on growth, efficiency, and carcass quality. Pigs fed 30g/t or 90g/t buquinolate gained four percent faster than did control pigs; however, the feed required per pound of gain was the same. Carcass quality was similar for all treatment groups.; Swine Day, Manhattan, KS, November 10, 1977

Keywords

Swine day, 1977; Kansas Agricultural Experiment Station contribution; no. 78-101-S; Report of progress (Kansas State University. Agricultural Experiment Station and Cooperative Extension Service); 312; Swine; Buquinolate; Growing-finishing pigs; Carcass quality

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Summary

A feeding trial utilizing one-hundred and twelve growing-finishing Duroc pigs was conducted to evaluate the effect of buquinolate (0, 30, 60, or 90g/t) in their diets on growth, efficiency, and carcass quality. Pigs fed 30g/t or 90g/t buquinolate gained four percent faster than did control pigs; however, the feed required per pound of gain was the same. Carcass quality was similar for all treatment groups.

Introduction

Feed additives have become an important part of swine growing-finishing rations during the past several years and should result in increased rate of gain for the swine and/or in improved feed efficiency. In this study we evaluated the effects of three levels of buquinolate--a feed additive used to prevent coccidiosis in chickens--on performance and carcass traits of confined growing-finishing swine.

Procedure

One-hundred twelve weaned Duroc pigs of similar background, weighing approximately 35 to 42 lbs., were allotted to pens of seven animals each among four treatment groups (four replicates). The pigs were self-fed a 16% corn/soy grower

ration from initiation of the trial until pigs in each pen weighed an average of 135 lbs; pigs then were fed a 14% finisher ration until they weighed an average of 200 lbs. (Formula of these two basal diets appear in table 40 .) Treatment-group diets consisted of appropriate grower or finisher basal diet and no drug, or basal diets and one of three buquinolate levels (30, 60, or 90g/t.).

Swine were housed in a KSU modified open-front finishing barn with total slats, and each 6' x 16') pen had a self-feeder and an automatic waterer.

At the termination of the trial, five pigs were slaughtered per treatment group for collection of carcass data: backfat thickness, loin eye area, carcass length, percentage of lean cuts and ham and loin. All swine that died during the trial were examined at necropsy to identify their condition and ascertain the etiological agent.

Results and Discussion

Table 41 gives performance data for the growing-finishing trial. Trial results indicate that swine administered 30g/t and 90g/t buquinolate exhibited slightly, but not significantly, better (8.3% and 4.5%, respectively) average daily gain than did control swine. This increased daily gain was observed in both growing and finishing phases of the trial. Swine given 60g/t buquino-

late gained the same as did control pigs.

No effect on feed efficiency was observed; no significant effects on carcass length, backfat, or loin-eye area were observed. Under the conditions of the study, continuously administering buquinolate in the diets of growing-finishing swine appeared to have no detrimental effects on performance or carcass quality of confined swine. The 30g/t level appeared to be the most desirable in promoting weight gain.

Table 40 . Formulation of basal grower and finisher rations.

Ingredients:	Grower Amt/1000 lbs	Finisher Amt/1000 lbs
Corn, lbs.	740	805
Soybean meal (44%), lbs.	225	165
Dicalcium phosphate, lbs.	17	12
Limestone, lbs.	10	10
Salt, lbs.	5	5
Trace mineral (Z-10), lbs.	1	1
Vitamin premix, grams		
Vit. A (10,000 IU/gm.)	200	150
Vit. D ₃ (15,000 IU/gm.)	10	10
Vit. B ₁₂ (20 mg./lb.)	300	114
B-complex (1233)	454	250
Vit. E (20,000 IU/lb.)	110	110

Table 41 . Performance of growing-finishing swine fed buquinolate at different levels.

Buquinolate level, g/ton	0	30	60	90
No. pigs	26 ^a	28	27 ^b	27 ^c
Initial wt., lb.	39.5	39.7	39.7	38.8
Final wt., lb.	199.9	206.4	199.9	206.7
Daily gain, lb.	1.56	1.62	1.56	1.63
Daily feed, lb.	4.17	4.33	4.31	4.36
Feed/gain	2.68	2.67	2.75	2.67

^aDuring the trial two pigs with gastric ulcers died.
^bOne pig with bronchial pneumonia died.
^cOne pig with gastric ulcer died.

Table 42 . Carcass data of five pigs slaughtered per treatment.

Buquinolate level, g/ton	0	30	60	90
Sl. wt., lb.	214.8	223.6	219.4	215.6
Backfat, in.	1.12	1.21	1.11	1.09
Loin-eye area, sq. in.	5.46	5.88	5.80	5.56
Length, in.	30.6	30.0	31.2	30.4
Ham-loin, % carc. wt.	41.4	40.2	42.2	41.7
Lean cuts, % carc. wt.	59.9	57.7	60.3	59.8