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Alligator Farming Project

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Alligator Farming Project

Abstract

The project is investigating conversion of swine farrowing house mortalities into value added products using alligators. Alligator production in the southern states has been a successful farming operation for over 15 years. Currently the southern states produce about 500,000 alligators each year; about 80% are farm raised. Alligators can convert the swine mortalities into marketable products of meat and hides. Alligators need a warm environment and clean water in order to thrive. The recommended temperature is 89° F, with the performance directly related to the temperature. The temperature and building styles of commercial alligator farms are similar to swine nurseries.

Disciplines

Agricultural Science | Agriculture

Alligator Farming Project

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Introduction

The project is investigating conversion of swine farrowing house mortalities into value added products using alligators. Alligator production in the southern states has been a successful farming operation for over 15 years. Currently the southern states produce about 500,000 alligators each year; about 80% are farm raised. Alligators can convert the swine mortalities into marketable products of meat and hides. Alligators need a warm environment and clean water in order to thrive. The recommended temperature is 89°F, with the performance directly related to the temperature. The temperature and building styles of commercial alligator farms are similar to swine nurseries.

Materials and Methods

The project had two alligators in a 3 × 8 ft tank in an environmentally-controlled room. The temperature of the water was held at approximately 80°F and the room temperature at 89°F. Inside the alligator pen/tank was an elevated platform that was about one-third the size of the tank. The remaining two-thirds was water. Water was circulated through a gravel filter and an algae filter before returning to the alligator tank. Small swine mortalities were ground using a meat grinder and fed to the alligators 5 days/week. Alligators were weighed and measured every two months.

Results and Discussions

The results of the alligator feeding trial are presented in Table 1. The variability in the performance of the alligators is partly due to several disruptions and field days. Small changes, like bi-monthly weighing of the

alligators, would put them off feed for a week. We also turned down the temperature during the field days when the alligators were being viewed. Our gains are slightly below the industry standard, which may be due to the lower water temperature of 80°F. As the alligators grew, their ability to clean up the meat on the platform diminished. Even though they turned their head sideways to eat, some meat was pushed off the platform and lost through the filtering system. The economic data for the project are presented in Table 2. The room was a small office on the northwest corner of a building with 4 in. insulated walls. If the alligators were at the recommended density there should be about 15 in the room, which would reduce the per animal cost.

Conclusion

We were successful in raising alligators in Iowa. The two alligators consumed a total of 382 lbs. of swine mortalities in the 20-month study period. Before alligator farming will be successful in Iowa, additional study needs to be done on a larger scale to determine the following:

1. Energy costs using lower cost fuels for a well insulated, properly designed system for several hundred alligators.
2. Cost of processing on a larger scale.
3. What is needed to properly filter the water of a production-size facility.
4. Whether relationships with southern hatchling producers should be fostered.

Acknowledgments

Special thanks to Wayne Roush who cared for the alligators and collected the data and to the Iowa Pork Center for funding.

Table 1. Results of alligator feeding trial.

Date	Alligator length in inches	Weight, lbs	Gain, lbs	Feed conversion
12/12/01	32 (#1)	6	---	---
12/12/01	32 (#2)	6	---	---
02/20/02	38 (#1)	8.6	2.6	2.68
02/20/02	41 (#2)	9.2	3.2	2.68
04/22/02	41 (#1)	10	1.4	4.44
04/22/02	45 (#2)	12.8	3.6	4.44
06/28/02	41 (#1)	13.6	3.1	4.98
06/28/02	45 (#2)	13.6	3.8	4.98
08/19/02	42.4 (#1)	15	1.4	7.25
08/19/02	50 (#2)	20.2	3.6	7.25
10/28/02	46 (#1)	17.2	2.2	12.5
10/28/02	54 (#2)	21.4	1.2	12.5
12/16/02	47(#1)	19.8	2.6	5.40
12/16/02	54 (#2)	24.3	2.9	5.40
		Total	31.6	Avg. 4.41
Total swine weight consumed = 141.6 lbs				
02/27/03	49 (#1)	25.3	5.5	8.20
02/27/03	55 (#2)	9.2	2.2	8.20
04/24/03	51.5 (#1)	10	1.9	16.8
04/24/03	57.5 (#2)	12.8	0.6	16.8
06/21/03	54 (#1)	13.6	4.4	6.05
06/21/03	59 (#2)	13.6	4.9	6.05
08/21/03	58.5 (#1)	15	4.8	9.74
08/21/03	62 (#2)	20.2	3.3	9.74
		Total	27.6	Avg. 10.2

Total swine weight consumed in 2003 was 240.4 lbs.

Table 2. Economic data.

Gross income	2 alligators	Southern U.S. (per alligator)
Meat sales	29.94 lbs. @\$7.5/lb	\$ 50.00
Hide sales	67 cm. @\$4.00/cm	134.00
	Total	\$184.00
Variable cost		
Feed	-0-	\$ 53.00
Purchase price	\$250.00	15.00
Processing	160.00	25.00
Utilities	11,384 kw@\$0.06/kwhr	25.00
Freight		5.00
Labor		25.00
Facility charge		15.00
	Total	\$ 163.00
Net Income	\$ 1,503.00	\$ 21.00
		\$ (1,010.45)

Projection Comments

The Gross Income is comparable to normal yields of meat and hide at wholesale prices.

Variable cost projections would require a minimum production size of 50 alligators per group.

Feed would be fallen pigs with a mineral supplement.

Propane heat would be used rather than electricity.

A portion of the processing is included in the labor charge.

Freight is for delivery of raw hides and packaged meat to the wholesaler.

The facility charge represents a 10-year useful life on a 50-head building with equipment.