

2013

The Effects of Bedding Pack Clean-out in Hoop Barns for Feedlot Cattle

Mark S. Honeyman

Iowa State University, honeyman@iastate.edu

W. Darrell Busby

Iowa State University

Shawn C. Shouse

Iowa State University, sshouse@iastate.edu

Dallas L. Maxwell

Iowa State University, dallasm@iastate.edu

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Recommended Citation

Honeyman, Mark S.; Busby, W. Darrell; Shouse, Shawn C.; and Maxwell, Dallas L., "The Effects of Bedding Pack Clean-out in Hoop Barns for Feedlot Cattle" (2013). *Iowa State Research Farm Progress Reports*. 1868.

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The Effects of Bedding Pack Clean-out in Hoop Barns for Feedlot Cattle

Abstract

Bedded hoop barns have become popular for feeding beef cattle. The cattle are kept in the hoop barn, which is bedded to form a manure pack. ISU work has shown that the cattle perform well. However, producers question how to manage the pack and when to clean out.

The objective of this study was to compare three clean-out strategies (none, once, and twice) for beef cattle fed in hoop barns.

Keywords

RFR A1283, Animal Science

Disciplines

Agricultural Science | Agriculture | Animal Sciences

The Effects of Bedding Pack Clean-out in Hoop Barns for Feedlot Cattle

RFR-A1283

Mark Honeyman, professor
Department of Animal Science
Darrell Busby, retired extension field
specialist
Shawn Shouse, extension field specialist
Dallas Maxwell, ag specialist
Armstrong Research Farm

Introduction

Bedded hoop barns have become popular for feeding beef cattle. The cattle are kept in the hoop barn, which is bedded to form a manure pack. ISU work has shown that the cattle perform well. However, producers question how to manage the pack and when to clean out.

The objective of this study was to compare three clean-out strategies (none, once, and twice) for beef cattle fed in hoop barns.

Materials and Methods

Yearling beef steers (136 head) were allotted to three pens in the beef hoop barn at the ISU Armstrong Research Farm, Lewis, Iowa on December 20, 2011. The steers were approximately 880 lb at the beginning of the trial.

Each pen was bedded with large round bales of cornstalks. Each pen's bedding was managed distinctly. One pen was cleaned out twice during the 92-day feeding period, approximately every 30 days. One pen was cleaned out once, about midway or 50 days after the trial began. The third pen was not cleaned out during the feeding period, but cornstalk bales were added as needed. At

clean-out, all manure and cornstalk bedding was removed to the concrete floor and new bales were added. All pens received the same total amount of cornstalk bedding. At clean-out dates, all cattle in all pens were removed from the hoop barn during cleaning.

All pens of cattle were fed the same corn/hay/modified distillers grains ration daily. All cattle were fed for the same duration (92 days) until March 21, 2012.

Results and Discussion

Cattle performance is shown in Table 1. There was no replication in this trial, so statistical comparisons are not possible. However, there seems to be no cattle performance differences based on pen clean-out plan.

Carcass characteristics are shown in Table 2. Again, there seems to be no difference in carcass characteristics based on pen clean-out plan.

The largest difference was mud score (Table 1). Mud score is a measure of the amount of mud clinging to the steer's hide. Remarkably, mud score of the cattle increased the more often the pen was cleaned. Therefore, based on this winter trial, there seems no advantage to removing the bedding pack or cleaning out when yearling steers are fed in bedded hoop barns.

Acknowledgements

The authors thank the ISU Armstrong Research Farm staff for their assistance and Arlie Penner for data analysis.

Table 1. Beef cattle performance in a bedded hoop barn with various bedding pack clean-out plans.

Clean-outs	None	Once	Twice
<u>Item</u>			
Head	46	45	45
Start wt., lb	880	884	879
Days on test, d	92	92	92
End wt., lb	1,223	1,208	1,209
Gain, lb	344	324	330
ADFI ¹ , lb/d dm	26.2	26.2	26.2
ADG ² , lb/d	3.73	3.52	3.59
FE ³ , lb feed/lb gain	7.01	7.45	7.30
Mud score ⁴	1.54	2.00	2.29

¹ADFI = Average daily feed intake.

²ADG = Average daily gain.

³FE = Feed efficiency.

⁴Mud score is assigned at market or end of trial: 1 = clean, no mud on hair coat, 5 = mud covering hair coat.

Table 2. Carcass characteristics of steers in a bedded hoop barn with various bedding pack clean-out plans.

Clean-outs	None	Once	Twice
<u>Item</u>			
Hot carcass wt., lb	746	732	750
Yield, %	61.4	61.0	62.3
Fat cover, in.	0.49	0.48	0.47
KPH ¹ , %	2.24	2.24	2.37
REA ² , in. ²	12.2	12.1	12.4
Choice or better, %	80.4	80.0	71.1
YG 2 or less, %	45.7	37.8	55.6

¹KPH = Kidney, pelvic and heart fat.

²REA = Rib eye area.