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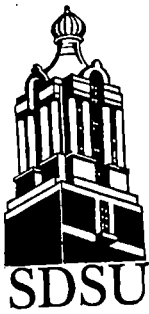
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ECONOMICS COMMENTATOR

SOUTH DAKOTA STATE UNIVERSITY

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BEEF COW-CALF PRODUCTION CONTRASTS: HERDS WEST AND EAST OF THE MISSOURI RIVER



by

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Agricultural Economist

An intensive case study of eight beef cow-calf operations in South Dakota has recently been completed. Some rather interesting contrasts were noted between the herds studied west and east of the Missouri River.

This newsletter contains a brief indication of the procedures for selecting the case farms/ranches studied and a summary of the contrasts in producer management practices and cattle performance. Readers should keep in mind that the findings presented are based on only a small number of herds that are not necessarily representative of all herds west and east of the Missouri.

Case Study Farm/Ranch Selection

The research reported in this newsletter was undertaken as part of a series of studies in South Dakota aimed at exploring technical and economic possibilities for agricultural production strategies designed to be both productive and environmentally benign. Data were collected from four pairs of matching "near-organic" and "mainstream" case farm/ranch crop and cow-calf operators from the following locations: (1) Northwest Region--Morristown area, about 80 miles northwest of Mobridge; (2) South Central Region--Norris area, about 90 miles west of Winner; (3) North Central Region--Roscoe area, 35 miles west of Aberdeen, and Eureka area, 45 miles northwest of Aberdeen; and (4) Central Region--within 15 miles of Huron. The first two pairs of farms/ranches are, of course, west of the Missouri
(Continued on p.2)

THE HOG INDUSTRY: SITUATION & OUTLOOK

by

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The Quarterly Hog and Pig report released on December 28 (for conditions on Dec. 1) included several factors of interest to those connected with the hog industry. Several of those factors are discussed below as they relate to the title of this article.

Current Situation

Inventory: The December 1, 1995 inventory of all hogs and pigs in the U.S. at 60.2 million head is the largest Dec 1 inventory since 1980. The slight increase over Dec 1, 1994, was a surprise to the industry. Decreases of 3-4 percent were expected.

The breeding inventory of 7.13 million head was up one percent from both Dec 1, 1994 and Sept 1, 1995. Inventory levels in both the market and breeding categories were above trade expectations. The surprise should pressure prices in 1996.

Farrowing Intentions: Hog producers intend to farrow 1-2 percent more hogs in 1996 than in 1995. While that number may seem low, it is more negative than it first appears. The increase is a surprise to an industry that expected a decrease. Also, the increase is in those operations that produce the most pigs per sow per year. Pigs saved per litter ranged from 7.45 for operations with 1-99 hogs (the size of operation going out of business) to 8.64 for operations with more than 2,000 hogs and pigs (those operations with growth). When one adds to that the fact that larger operations have more litters per sow per year, the supply problem is magnified.
(Continued on p.3)

(Continued from p.1)

and the latter two are east of the Missouri.

Detailed data for 1993 on each case farm's/ranch's resources, crop and livestock production management practices, and crop and livestock performance were collected through questionnaires that were initially mailed and then followed up with personal interviews. In this newsletter, I give attention to only beef cow-calf operations. Since differences between regions generally were greater than differences between production technologies, no attention is given to contrasts in production technologies.

Herd sizes for the eight case ranchers range from 32 to 201 cows each and average 109 head (Table 1). On average, these herds are 24% larger than the state average of 88 cows per herd. The average herd size for the ranches studied west of the Missouri is 104 head. The average east of the Missouri is 114 cows, which is about 10% more than in the West.

Table 1. Nature and size of beef cattle enterprises.

Farm	Cow-calf units	Farm	Cow-calf units
West River average	104	East River Average	114
Northwest 1	129	No. Central 1	201
Northwest 2	120	No. Central 2	172
So. Central 1	39	Central 1	51
So. Central 2	128	Central 2	32
Eight herd average	109		

Management Practices

Compared to the four case ranchers in the East, the four in the West are more inclined to (1) accord greater importance to yearling weight, total maternal, and carcass "expected progeny differences" (EPDs) in selecting herd sires to mate to mature cows; (2) place cows in fresh pastures to improve body condition prior to breeding; (3) have shorter calving seasons and earlier weaning ages; (4) initiate the breeding season for first-calf replacement heifers prior to that for mature brood cows; (5) use hot irons for dehorning calves; (6) brand their calves (not a legal requirement in the East); and (7) administer antibiotics to groups of animals at special times of stress.

On the other hand, West River ranchers are less inclined to (1) give major emphasis to birth weight/calving ease EPDs in herd sire selection, (2) conduct fertility tests on bulls, (3) place cows in fresh pastures to improve body condition at calving, (4) immediately cull cows that lose their calves before

weaning, (5) vaccinate for calf scours, (6) use parasiticides, and (7) "continuously" monitor the condition of cows and calves.

Physical Performance

Calving percentages—defined as percentages of cows exposed that calved (including calves born dead, but not those aborted)—range among case herds from 94.2% to 100% and average 97.0% (Table 2). Calving percentages in the West are slightly lower than in the East (95.8% versus 98.2%). Weaning percentages range from 88.3% to 97.5% and average 93.5%. Because of both lower calving percentages and higher calf death losses in the West, the average weaning percentage for the four case herds in the West (91.7%) is 3.7 points lower than for those in the East (95.4%).

Average daily gain from birth to weaning for steers ranges among case herds from 1.83 lb to 2.61 lb and averages 2.35 lb. The daily gain average of 2.57 lb for the four West River herds is 21% more than for herds in the East. Average weaning weights for steers range from 525 lb to 630 lb and average 570 lb. The 598 lb average for herds in the West is 10% higher than for herds in the East.

Table 2. Cow-calf herd physical performance.

Farm	Calving percentage	Weaning percentage	Steer average daily gain to weaning (lb)	Steer average weaning weight (lb)
West River average	95.8	91.7	2.57	598
Northwest 1	96.9	88.4	2.61	555
Northwest 2	94.2	92.5	2.54	620
So. Central 1	97.4	97.4	2.58	630
So. Central 2	94.5	88.3	2.55	585
East River average	98.2	95.4	2.13	543
No. Central 1	99.0	97.5	2.06	580
No. Central 2	95.9	93.0	1.83	525
Central 1	98.0	94.1	2.16	540
Central 2	100.0	96.9	2.45	525
Eight herd average	97.0	93.5	2.35	570

Economic Performance

Gross returns per cow-calf unit range among case herds from \$480 to \$558 and average \$520 (Table 3). They are 2.3% lower for case herds in the West than in the East (\$514 versus \$526). Higher average weaning weights in the West (10%) are inadequate to offset the West's 3.7 point lower average weaning percentage.

Table 3. Cow-calf herd economic performance.

Farm	Dollars per cow-calf unit				
	Gross returns	Direct costs	Total costs	Net returns over:	
				Direct costs	Total costs
West River average	514	373	496	141	18
Northwest 1	480	352	471	128	9
Northwest 2	531	322	450	209	81
So. Central 1	557	449	578	108	-21
So. Central 2	486	367	484	119	2
East River average	526	451	585	74	-60
No. Central 1	558	451	578	107	-20
No. Central 2	516	449	588	67	-72
Central 1	508	444	568	64	-60
Central 2	520	461	607	59	-87
Eight herd average	520	412	541	108	-21

Direct costs of production (costs which vary with level of production) per cow-calf unit range from \$322 to \$461 and average \$412. On average, they are 17% less in the West than in the East. Total per-head costs of production, excluding management, range among case herds from \$450 to \$607 and average \$541. Total costs per head are \$89 (15%) less in the West (\$496) than in the East (\$585). The primary reason for lower costs in the West is a lesser importance of harvested roughages and grains in the West. For example, the average expenditure per head on harvested feedstuffs for case herds in the West is \$122 versus \$247 in the East. The

value of pasture as a percentage of the value of total home-raised feedstuffs for West River case herds averages 55% while, in the East, it averages only 29%.

Net returns over direct production costs per cow-calf unit range among case herds from \$59 to \$209 and average \$108. Net returns over direct costs per head are 91% greater in the West than in the East. Net per-head returns over total production costs, excluding management, range among case herds from -\$87 to +\$81 and average -\$21. Average net returns over total costs are \$78 per head more in the West than in the East (+\$18 versus -\$60). Thus, the 15% lower total cost of production in the West more than offsets the 2.3% lower gross returns in the West.

Summary

The West River cow-calf operations studied have slightly lower calving percentages and slightly higher calf death losses than their East River counterparts. However, because of more than offsetting (1) cheaper feed sources (they rely less on harvested roughages and grains) and (2) calves that gain faster from birth to weaning, cow-calf producers studied in the West realize greater profits than those studied in the East.

Postscript

Readers interested in a detailed report of findings from the overall case farm study should request from the author a copy of "case farm study research report."

(Hog Industry ... Cont'd from p.1)

Industry Structure: In 1995, there were 182,700 farming operations with hogs. That number is down 12% from 1994 and 19% from 1993. Of those 182,700 farms, about 33% are farrow to finish, 36% are finish only, and 31% are farrow only. However, in terms of percent of inventory by type of operation, only about 10% of the inventory is on farrow only operations, 70% on farrow to finish operations, and 20% on finish only operations.

All hog operations with less than 2,000 head inventory lost ground in 1995--both in terms of number of operations and percent of inventory when compared to 1994. For example, operations with less than 100 head inventory now number 45,000 (down from 50,000) and have only 4% of the total inventory (down from 4.5%). At the other extreme, operations with an inventory of 2,000 or more now number 4,750 (up from 4,630) and control 43% of the total inventory (up from

37%).

Places with 2,000 or more hogs account for only 3% of total operations and control 43% of the inventory. When one looks at all hog operations, currently 6% control 60% of the inventory. The big are getting bigger and the small are getting smaller or are going out of business (both in number and in inventory).

South Dakota: When comparing inventory and producer numbers on Dec 1, 1995 with Dec 1, 1994, South Dakota lost ground. The state's total inventory now is 1.5 million head (down 14%), the breeding inventory is 185,000 (down 12%), and the market inventory is 1.315 million (down 14%). There now are about 5,400 hog operations in S.D., down about 1,100 or 18½%. The U.S. decrease was about 12½%. For the Sept-Nov 1995 time period, S.D. producers averaged about 8.2 pigs per litter, slightly below the 8.34 average for the U.S.



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Outlook

1996: Prior to the release of the Hog and Pig report, there was considerable optimism in the industry for 1996. Lower inventories were expected, mainly because of high corn prices. Some comments about \$60 hogs for this Summer were heard. Most forecasters expected prices to remain above breakeven levels.

Since the report, price expectations for 1996 have been lowered. Cash prices in the mid-to-upper \$40's still are expected for the Winter and early Spring of 1996. Emphasis now seems to be more on the mid-\$40's than on the upper \$40's.

Summer prices still may reach the \$50 area, with a slight chance for the mid-\$50's. However, chances seem much better for prices to peak closer to \$50 than to \$55. The futures market was hit hard by the report, with the mid-\$50's offered before the report for the June, July, August time period being replaced by the low \$50's. Even that might be optimistic.

Fall, 1996 prices could slip considerably below \$50, with the low \$40's not out of reach. Much will depend on corn prices (the higher they stay, the quicker hog prices recover) and cash hog prices early in the year (if cash prices drop much below \$45, liquidation could occur forcing prices down early in 1996 but recovering more later).

Beyond 1996: The Hog and Pig report carries with it

some negative implications for beyond 1996. Those negative implications are more than what is indicated by the increased inventories. The increases in inventory were in the larger-sized producer categories, the categories where production is likely to continue at the expanded level for several years. Reductions in inventory were in the smaller-sized producer categories, the categories where the in-and-outers often are found.

Other long term implications can be drawn from the "increase inspite of very high corn prices" situation. Historically, high corn prices led to liquidation. With the changed industry structure, inventory changes are more tied to "breakeven" than only to costs.

Summary

The Hog and Pig report issued on Dec. 28, 1995, was not good news for either the state's or nation's hog industry. Larger supplies than expected should pressure prices. That pressure could be strong in 1996 and even carryover into 1997 and 1998.

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