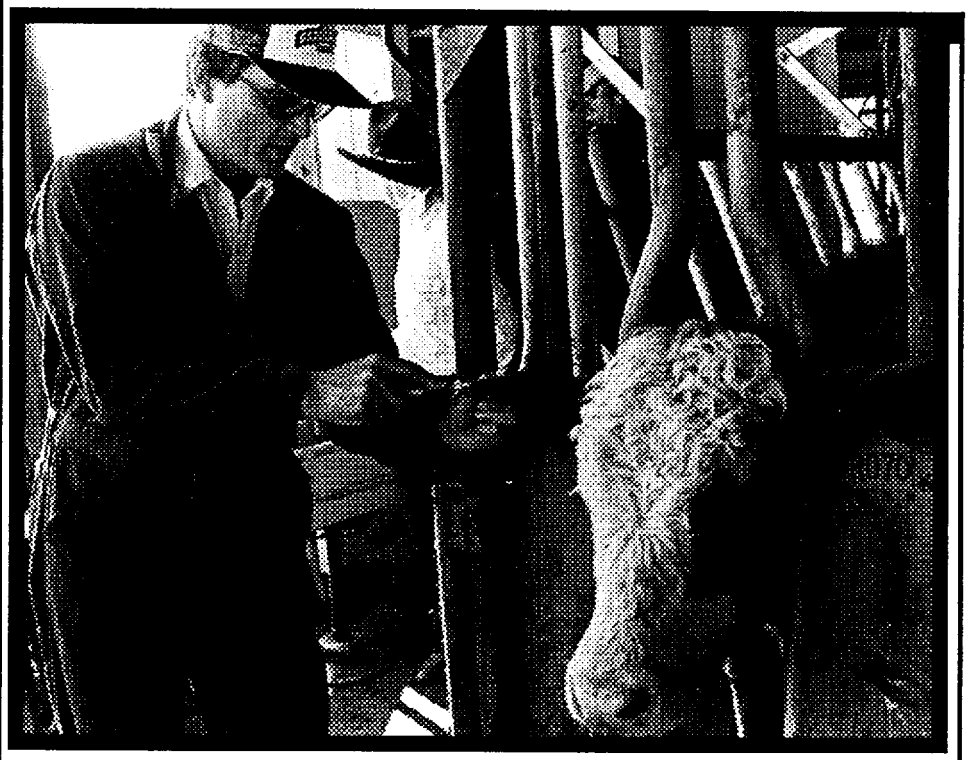
DERIVED LABOR REQUIREMENTS FOR KANSAS LIVESTOCK ENTERPRISES



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AGRICULTURAL EXPERIMENT STATION
KANSAS STATE UNIVERSITY, MANHATTAN

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DERIVED LABOR REQUIREMENTS FOR KANSAS LIVESTOCK ENTERPRISES*

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ABSTRACT

When considering new facility investments, enterprise analyses, and cost-of-production budgets, managers need labor information on various livestock enterprises. The rapid changes in livestock facilities, equipment, and feeding systems call for up-to-date livestock labor standards. Livestock labor surveys were conducted to obtain labor information for 1994 from agricultural producers enrolled in the Kansas Farm Management Association program. A total of 398 completed questionnaires was obtained, including dairy cow herd--50, beef cow herd--l39, beef-cattle growing and finishing--151, swine farrowing--32, swine finishing--11, and sheep--15. Except for hours per month for the winter-grazing system for beef cattle, the "derived hours" for all livestock enterprises were 24.7% lower than the standards currently being used in the Kansas Farm Management Association program and 18.2% lower than those from previous research. Also, the total labor available to handle crop and livestock production on a representative farm in southeast Kansas was similar to the required labor computed from the derived standards.

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INTRODUCTION

Agriculture has changed significantly as a result of decreased labor required for livestock and crop enterprises. By shifting to larger machinery/equipment and confinement facilities, agricultural producers can handle more livestock numbers and crop acres with the same, or fewer, hours of available labor. Between 1984 and 1993, operator and hired labor hours available on Kansas Farm Management Association farms decreased by 8.6%; while both livestock numbers and crop acres increased, the latter by 10.9% (l).

Producers, agri-businesses, and others need current information on livestock labor requirements. When considering new facility investments, enterprise analyses, and cost-of-production budgets, managers need labor information on various livestock enterprises. The rapid changes in livestock facilities, equipment, and feeding systems call for up-to-date livestock labor standards.

LIVESTOCK LABOR DATA

Livestock labor surveys were conducted to obtain labor information for 1994 from a sample of agricultural livestock producers enrolled in the Kansas Farm Management Association program. Extension Association Economists helped cooperating agricultural producers complete the questionnaires during farm visits. A total of 398 completed questionnaires was obtained, including dairy-cow herd--50, beef-cow herd--l39, beef-cattle growing and finishing--151, swine farrowing--32, swine finishing--11, and sheep--l5. The number of questionnaires received represents about 15.0% of all association farms.

DERIVATION OF LIVESTOCK LABOR REQUIREMENTS

Dairy Cow Herds

Table 1 provides information on the characteristics of the dairy-cow herd operations surveyed. The average number of dairy cows per farm was 88, with an average of 72 cows milked. The average pounds of milk per cow per year were 17,797. The herringbone milking system was the dominant type of system utilized at 78.0% of all farms. Other milking systems used were stanchion barn, walk through with elevated stalls, and side opening with elevated stalls.

The types of feed handling and distribution systems utilized by these dairy operations are outlined in Table 1. Large round bales, small bales, and upright silos were the primary feed handling systems. Automated feeding systems were utilized by 56.0% of farms surveyed, whereas 52.0% had feed wagons. Some artificial insemination was used on 92.0% of the farms, with only 8.0% of the farms using all natural breeding. A complete liquid manure system was used on only 26.0% of the farms.

Table 2 presents the labor requirements for the average dairy-cow herd, as well as by size of herd. Labor requirements decreased in all categories as the size of herd increased, except in the amount of yearly labor for herds between 50 and 100 cows. The largest labor reduction occurred in farms with over 100 dairy cows. Labor usage for these farms was 16.9 and 12.6 hours per cow less than usage for herds with fewer than 50 cows and with 50 to 100 cows, respectively. Total labor hours per cow for the average farm were 47.2. This labor value included 34.9, 4.7, and 7.6 hours for daily, weekly, and yearly labor, respectively.

Beef Cow Herds

The average size of beef-cow herds was 108 cows for the 139 farms surveyed, with commercial herds being the dominant type of operation (Table 3). Ten farms had completely purebred herds, whereas 13 farms had both purebred and commercial operations.

For most farms, wintering programs consisted of either some type of established grass or stalks. Two farms operated a summer drylot program. The dominant feed-distribution system during the wintering program was a pickup for grain and supplement and baled hay in the pasture for roughage. A total of 50.8% of the farms had a spring calving program, whereas 43.6% practiced both spring and fall calving systems. Mature cows and replacement heifers were kept separate on 82.3% of the farms surveyed.

Table 4 provides information on the labor requirements for the average farm, as well as by size of herd. Total labor usage for the average beef-cow herd was 7.38 hours per year per cow. Labor requirements decreased in the daily, weekly, and yearly categories as size of the herd increased. The largest labor reduction occurred between farms with fewer than 50 cows and with 50 to 100 cows--a total of 3.23 hours per cow or a reduction of 35.1%. The labor usage difference between herds of 100 to 200 cows and over 200 cows was only 1.8 hours.

Beef-Cattle Growing and Finishing

The four major operations surveyed were winter grazing, summer grazing, background-drylot, and finishing as shown in Table 5. Wheat pasture or stalks, with some grass, was the major program for the winter-grazing operations. Beef finishing occurred primarily in drylot, although four farms fed cattle on grass.

The type of forage handling and feed distribution systems varied widely for the farms surveyed. Horizontal silos and large round bales were the most common types of forage system, and 65.1% of the farms had fence-line bunks. Only 3.6% of the farms had some type of automated feeding system. The most common type of feed handling system was on-farm grinding and mixing. A total of 94.6% of the backgrounding and finishing operations had dirt lots, whereas 55.4% had concrete feeding aprons. Manure handling systems were split evenly between conventional systems, such as scrapers and loaders, and mounds in lots.

Total labor requirements in minutes per head per month for the four types of systems are shown in Table 6. The winter-grazing operation required the most labor at 15.71 minutes per head per month, although very little difference occurred between this program and the background-drylot and finishing systems. The summer-grazing operation had the lowest labor usage requirements at 7.51 minutes per head per month. Except for the summer-grazing operation, the daily activities of feeding and treating cattle required the most time.

Table 7 provides labor usage information for background-drylot systems by the number of feeders handled. Farms with more than 250 feeders required 6.64 minutes per head per month, or 37.1%, less labor than farms with fewer than 251 head. The largest labor reduction for operations with over 250 feeders was in the daily activities of feeding and treating cattle.

Swine Farrowing and Finishing

Table 8 provides information on the characteristics of the swine operations surveyed. Three major program types were analyzed, with the numbers of farms in each type as follows: farrow to finish--27 farms, farrow and sell feeder pigs--5 farms, and finish feeder pigs only--11 farms. Of the 43 farms surveyed, only two farms had completely purebred operations.

For the farrowing operations, the number of litters farrowed was 319 per year, with a total of 154 sows. This level of production represents 207 litters per sow. A total of 70.3% of the farms reported farrowing on a continuous basis, whereas 8.1 and 21.6% of the farms farrowed on programs of two and six times per year, respectively.

Totals of 81.3 and 87.5% of the farms had confinement facilities for their farrowing and nursery operations, respectively. Swine finishing also was primarily in confinement facilities, although 13 farms finished feeder pigs in dirt lots. The primary type of facility for the gestation program was a dirt lot, used on

71.9% of the farms. A portable grinding and mixing unit was the dominant feed handling system, and the most common feed distribution system was a portable mixer or feed wagon. Only 24.l% of the farms had a completely automated feeding system.

Table 9 provides information on the labor requirements for the average farm reporting a swine farrowing program, as well as by the number of litters farrowed. For the average sized farm, a total of 5.27 hours was required for the farrow-to-feeder pig program, with an additional 3.26 hours for finishing the litter of pigs to market weight. Farmers with more than 175 litters required 4.31 hours in the farrow-to-feeder pig program and an additional 2.63 hours for finishing the pigs to market weight. This level of labor usage was approximately 29.0% less than that required by farms farrowing 175 litters per year or fewer.

Labor requirements for finishing a feeder pig to market weight totaled 25.10 minutes as shown in Table 10. The total labor usage was divided fairly evenly between the daily, weekly, and yearly labor activities. The 11 farms that reported only a feeder-pig finishing program purchased an average of 630 feeder pigs per year.

Sheep Operations

Table 11 provides information on the characteristics of Kansas sheep farms surveyed. Eight commercial ewe and lambing operations were surveyed for labor usage, as well as seven farms with lamb finishing programs. A total of 174 ewes constituted the average ewe-lambing program, with 236 lambs dropped. All of the farms surveyed had a once-a-year lambing program, with 62.5% of the farms reporting a spring lambing program.

Table 12 provides information on the labor requirements for ewe and lamb operations. Labor requirements are divided into the categories of winter pasture, summer pasture, drylot, lambing, and finishing. Total hours per ewe per year were 2.693, with 77.1% of the total in the daily activities of feeding, treating, and checking ewes and lambs. Labor requirements for finishing a feeder lamb to market weight totalled 29.65 minutes (Table 13). Of this total, approximately 70.0% of the labor usage was in feeding, checking, and treating lambs and preparing facilities. The average number of feeder lambs finished was 236 head per farm.

LABOR REQUIREMENT COMPARISIONS

Table 14 provides a comparison of the new labor requirements for major livestock enterprises derived from this analysis to standards currently utilized by the Kansas Farm Management Association program to classify farms and those developed in a 1981 study by Buller, Langemeier, and Schobert (2). Except for hours per month for the winter-grazing system for beef cattle, the “derived hours” from this analysis were lower for all livestock enterprises than the standards currently being used or from previous research. The largest differences between the new labor standards and current standards were for the background-drylot and finishing-cattle feeding systems and then swine farrow-to-weaning. Overall, the derived labor requirements from this analysis were 24.7 and 18.2% lower than the current standards used by the Farm Management Association program and from previous research, respectively.

WHOLE-FARM ANALYSIS

To test the overall accuracy of the new livestock labor standards derived from this analysis, a representative farm was formulated from the records of the Farm Management Association for southeast Kansas (3). Table 15 outlines the representative farm, which had 3,805 hours of available labor and consisted of 745 dryland crop acres and five major livestock enterprises. Total operator labor available per month was 219 hours. The labor hours for a half-time hired employee, which totalled 1,045 hours, were allocated evenly to each month.

If the labor standards represent actual livestock operations and field conditions, then the total labor available to handle production on the representative farm must be similar to the labor required as computed from the labor standards (4). Using the new livestock labor standards, total deficit operator and hired labor hours were 177, or an overall deficit of 47 hours with 130 hours of part-time hired labor available. Deficit hours of this magnitude are minor. Either the representative farm utilized fewer labor hours than those computed from the labor standards, or the half-time employee labor was hired primarily in the deficit labor months.

CONCLUSIONS

Livestock labor standards are used for farm planning, cost-of-production budgets, and enterprise analyses. Labor standards also are used as the only variable to classify farms in the Kansas Farm Management Association program. The labor requirements from this analysis were significantly lower for all livestock enterprises, except winter-grazing for beef cattle, than those currently used by the Kansas Farm Management Association program or developed from previous research.

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TABLE 1. CHARACTERISTICS OF KANSAS DAIRY-COW HERD OPERATIONS.

Number of Farms		50
Size of Herd/Production:		
Dairy Cows, Avg. No.		88
Cows Milked, Avg. No.		72
Pounds Milk/Cow/Year		17797
Percent Cows on Official Testing		88.6
Type of Facilities:	No. Farms	Avg. No. Stalls
Stanchion Barn	2	3
Herringbone Elevated Stalls	39	8
Walk-through Elevated Stalls	4	5
Side-Opening Elevated Stalls	5	6
Feed Handling System:[1]		Percent of Farms
On-Farm Grinding-Mixing		54.0
Custom Grinding-Mixing		38.0
Feed Purchased-Commercial Source		36.0
Large Round Bales		82.0
Upright Silo		66.0
Horizontal Silo		32.0
Small Bales		64.0
Chopped Hay		28.0
Silage Wagon		18.0
Other		2.0
Feed Distribution System:[1]		Percent of Farms
Feed Wagon		52.0
Automated Feeding		56.0
Hand-Feeding		20.0
Fence-Line Bunks		38.0
Bunks in Center Lot		34.0
Other Operations:		Percent of Farms
Calves Raised in Individual Pens		80.0
Calves Raised in Central Barn		20.0
Cows Fed while Milking		23.0
Cows Fed both while Milking and Outside		21.0
Cows Fed Outside		56.0
Artificial Insemination Used		92.0
All Natural Breeding		8.0
Liquid Manure System Used		26.0

[1] Percentages total to greater than 100 percent because some farms used more than one system.

TABLE 2. LABOR REQUIREMENTS FOR KANSAS DAIRY-COW HERD OPERATIONS, AVERAGE AND BY NUMBER OF DAIRY COWS.

Item	Number of Cows			
	<50	50 - 100	>100	Average
Number of Farms	7	31	12	50
	----------Average Number----------			
Dairy Cows	41	70	162	88
Cows Milked	35	57	132	72
Cows-Pasture[1]	20	20	18	20
Cows-Drylot[1]	33	58	168	81
	----------Hours per Cow per Year----------			
Labor Requirements:				
Daily Labor[2]				
Pasture	6.8	9.4	5.7	8.2
Drylot	34.7	26.7	22.0	26.7
Total	41.5	36.1	27.7	34.9
Weekly Labor[3]				
Pasture	.9	1.2	1.3	1.2
Drylot	4.3	3.5	3.0	3.5
Total	5.2	4.7	4.3	4.7
Yearly Labor[4]				
Pasture	1.5	2.0	1.1	1.6
Drylot	5.8	6.9	4.0	6.0
Total	7.3	8.9	5.1	7.6
Total Labor				
Pasture	9.2	12.6	8.1	11.0
Drylot	44.8	37.1	29.0	36.2
Total	54.0	49.7	37.1	47.2

[1]Days in pasture and drylot were standardized at 75 and 290, respectively.
[2]Includes milking as well as setup and cleaning and feeding cows, heifers, and calves.
[3]Includes feed purchasing and grinding, breeding and pregnancy checking, spraying and treating, checking pastures, and keeping records.
[4]Includes equipment and building maintenance, repairing fences, manure disposal, and other.

TABLE 3. CHARACTERISTICS OF KANSAS BEEF-COW HERD OPERATIONS.

Number of Farms	139
Size of Herd:	Average Number
Beef Cows	108
Replacement Heifers	17
Type of Operation:	Number
Purebred	10
Commercial	116
Both	13
Wintering Program:[1]	Percent of Farms
Wheat or Rye Pasture	17.4
Native or Established Grass	56.9
Stalk Fields	60.5
Other	34.4
Summer Program:	Percent of Farms
Native or Established Grass	98.5
Drylot	1.5
Distribution of Winter Supplement:[1]	Percent of Farms
Supplement-Grain:	
Overhead Bins	8.7
Feeder Wagon	32.8
Pickup	66.2
Roughage:	
Hay Barn Loafing Shed	2.1
Pasture Bale Hay	73.8
Bale Wagon	8.2
Silage Wagon	25.6
Other	15.4
Miscellaneous:	Percent of Farms
Spring Calving	50.8
Fall Calving	5.6
Spring/Fall Calving	43.6
Cows and Heifers Kept Separate	82.3

[1]Percentages total to greater than 100 percent because some farms used more than one system.

TABLE 4. LABOR REQUIREMENTS FOR KANSAS BEEF-COW HERD OPERATIONS, AVERAGE AND BY NUMBER OF BEEF COWS.

Item	Number of Cows <100	100-200	>200	Average
Number of Farms	72	48	19	139
	----------Average Number ----------			
Beef Cows	56	128	252	108
Cows-Winter Pasture[1]	57	132	275	113
Cows-Summer Pasture[1]	59	133	241	109
Cows-Drylot[1]	22	50	106	43
	----------Hours per Cow per Year ----------			
Labor Requirements				
Daily Labor[2]				
Winter Pasture	2.95	1.84	1.47	2.36
Summer Pasture	1.00	.59	.42	.78
Drylot	.77	.57	.36	64
Total	4.72	3.00	2.25	3.78
Weekly Labor[3]				
Winter Pasture	.79	.53	.23	.62
Summer Pasture	.84	.69	.37	.72
Drylot	.09	.11	.02	09
Total	1.72	1.33	.62	l.43
Yearly Labor[4]				
Winter Pasture	1.26	.90	.77	1.24
Summer Pasture	.79	.48	.36	.62
Drylot	.71	.26	17	31
Total	2.76	1.64	1.30	2.17
Total Labor				
Winter Pasture	5.00	3.27	2.47	4.22
Summer Pasture	2.63	1.76	1.15	2.12
Drylot	1.57	.94	.55	1.04
Total	9.20	5.97	4.17	7.38

[1]Days in winter pasture, summer pasture, and drylot were standardize at 150, 180, and 35, respectively.
[2]Includes feeding, hauling water, treating, and spraying.
[3]1ncludes checking pastures, buying and selling cattle, and maintaining records.
[4]Includes roundup, weaning, pregnancy checking, manure disposal, repairing fences and facilities, and other.

TABLE 5. CHARACTERISTIC OF KANSAS BEEF-CATTLE GROWING AND FINISHING OPERATIONS.

Type of operation	No. Farms	Avg. No. Head
Winter Grazing:		302
Grass	4	
Wheat Pasture/Grass	14	
Stalks/Grass	8	
Summer Grazing	54	268
Background-Drylot	56	337
Finishing:		487
Drylot	11	
Grain on Grass/Other	4	

Type of Forage Handling system:[1]	Percent of Farms
Upright Silo	7.2
Horizontal Silo	66.3
Large Round Bales	68.7
Small Bales	26.5
Chopped Hay	30.1
Other	3.6

Type of Feed Handling System:	Percent of Farms
On-Farm Grinding-Mixing	48.9
Custom Grinding-Mixing	24.5
Feed Purchased-Commercial	26.6

Type of Feed Distribution system:[1]	Percent of Farms
Silage Wagon	43.4
Bale Wagon	2.4
Feeder Wagon	43.4
Fence-Line Bunks	65.1
Hay Barn Loafing Shed	8.4
Front-End Loader	59.0
Pasture Bale Hay	13.3
Automated System	3.6
Bunks in Lot	49.4

Other operations	Percent of Farms
Type of Lots:[1]	
Dirt Lots	94.6
Concrete Lots	5.4
Concrete Feeding Aprons	55.4
Manure Handling Systems:	
Conventional	50.6
Mounds in Lots	49.4

[1]Percentage total to greater than 100 percent because some farms used more than one system.

TABLE 6: LABOR REQUIREMENTS FOR KANSAS CATTLE-FEEDING OPERATIONS, BY TYPE OF FEEDING PROGRAM.

Item	Winter Grazing	Summer Grazing	Background, Drylot	Finishing
Number of Farms	26	54	56	15
Avg. Number of Head	302	268	337	487
	----------Minutes per Head per Month ----------			
Labor Requirements:[1]				
Daily Labor[2]	8.02	1.83	9.35	6.10
Weekly Labor[3]	3.29	2.24	2.06	2.20
Yearly Labor[4]	4.40	3.44	3.24	4.14
Total	15.71	7.51	14.65	12.44

[1]Days for the winter-grazing, summer-grazing, background-drylot, and finishing operations were standardized at 120, 150, 105, and 150, respectively.
[2]Includes feeding and treating and worming cattle.
[3]1ncludes feed preparation, feed purchasing, buying and selling cattle, checking pastures, and maintaining records.
[4]Includes repairing lots and fences, building maintenance manure disposal, sorting and hauling, and other.

TABLE 7. LABOR REQUIREMENTS FOR KANSAS BACKGROUND, DRYLOT, CATTLE-FEEDING OPERATIONS, AVERAGE AND BY NUMBER OF HEAD.

	Number of Feeders		
Item	< 250	>250	Average
Number of Farms	27	29	56
Avg. Number of Feeders Fed	175	488	337
	----------Minutes per Head per Month ----------		
Labor Requirements:[1]			
Daily Labor[2]	11.61	7.26	9.35
Weekly Labor[3]	2.43	1.71	2.06
Yearly Labor[4]	3.86	2.29	3.24
Total	17.90	11.26	14.65

[1]Days for the finishing operation were standardized at 105.
[2]Includes feeding and treating and worming cattle.
[3]Includes feed preparation, feed purchasing, buying and selling cattle, and maintaining records.
[4]Includes repairing lots and fences, building maintenance, manure disposal, sorting and hauling, and other.

TABLE CHARACTERISTICS OF KANSAS SWINE OPERATIONS.

	Number of Farms
Type of operation	
Commercial	41
Purebred	2
Farrow to Finish	27
Farrow-Sell Feeder Pigs	5
Purchase Feeder Pigs	11
Size of Operation:	Average Number
Litters Farrowed	319
Sows in Herd	154
Feeder Pigs Sold	472
Market Hogs Sold	2048
Feeder Pigs Purchased	630
Feed Handling system:	Percent of Farms
Feed Purchased-Commercial	24.5
Stationary Grinding-Mixing	17.0
Portable Grinding-Mixing	58.5
Feed Distribution System:	Percent of Farms
Automated System	24.1
Portable Mixer or Feed Wagon	48.3
Hand Feeding	27.6
Number Times/Year Farrow	Percent of Farms
Two	8.1
Six	21.6
Continuous	70.3

Type of Facilities

	Number of Farms			
	Gestation	Farrow	Nursery	Finishing
Confinement	3	26	28	20
Individual Houses	1	4	1	0
Pasture	1	0	0	0
Dirt Lots	23	1	2	13
Slabs-Shelters	4	1	1	5

TABLE 9. LABOR REQUIREMENTS FOR KANSAS SWINE OPERATIONS, AVERAGE AND BY NUMBER OF SWINE LITTERS

Item	Number of Litters Farrowed < 175	Number of Litters Farrowed > 175	Average
Number of Farms	18	14	32
	----------Average Number ----------		
Litters Farrowed	106	594	319
Sows in Herd	51	287	154
	----------Hours per Litter ----------		
Labor Requirements:[1]			
Gestation			
Daily Labor[2]	1.22	.98	1.12
Weekly Labor[3]	.37	.11	.26
Yearly Labor[4]	.34	.21	.29
Total	1.93	1.30	1.67
Farrow-to-Weaning			
Daily Labor[2]	1.89	1.51	1.72
Weekly Labor[3]	.30	.06	.19
Yearly Labor[4]	.47	.30	.40
Total	2.66	1.87	2.31
Nursery			
Daily Labor[2]	.94	.92	.93
Weekly Labor[3]	.22	.04	.14
Yearly Labor[4]	.26	.18	.22
Total	1.42	1.14	1.29
Finishing			
Daily Labor[2]	1.14	.91	1.04
Weekly Labor[3]	.97	.91	.94
Yearly Labor[4]	1.65	.81	1.28
Total	3.76	2.63	3.26
Total Labor	9.77	6.94	8.53

[1]Days for the gestation, farrow-to-weaning, nursery, and finishing phases were standardized at 170, 35, 40, and 120, respectively.
[2]Includes feeding, treating, and cleaning facilities.
[3]Includes feed purchasing, feed preparation, buying and selling hogs, and maintaining records.
[4]Includes repairing lots, building maintenance, manure disposal, breeding and hauling, and other.

TABLE 10. LABOR REQUIREMENTS FOR KANSAS FEEDER-PIG FINISHING OPERATIONS.

Number of Farms	11
Avg. Number of Feeder Pigs Fed	630
	Minutes per Pig
Labor Requirements:[1]	
Daily Labor[2]	7.72
Weekly Labor[3]	7.57
Yearly Labor[4]	9.81
Total	25.10

[1]Days for the finishing operation were standardized at 120.
[2]Includes feeding, treating, and cleaning facilities.
[3]Includes feed preparation, feed purchasing, buying and selling hogs, and maintaining records.
[4]Includes repairing lots, building maintenance, manure disposal, hauling, and other.

TABLE 11. CHARACTERISTICS OF KANSAS SHEEP OPERATIONS.

	Number of Farms
Type of Operation:	
Commercial	8
Purebred	0
Ewe-Lambing	8
Purchase Feeder Lambs	7
Size of operation:	Average Number
Ewes in Flock	174
Lambs Dropped	236
Lambs Marketed	193
Feeder Lambs Purchased	236
Type of Feeding system	Percent of Farms
Forage Feeding:	
Silage	0
Dry Forage	90.0
Other	10.0
Type Lots:	
Fence-Line Bunks	50.0
Bunks in Lots	50.0
Feed Preparation:	
On-Farm Grinding-Mixing	60.0
Custom Grinding-Mixing	40.0
Feeding Lambs:	
Hand Fed	40.0
Self Feeders	60.0
Type of Lambing system:	Number of Farms
Lambing Program:	
Once a Year	8
Twice Yearly	0
Accelerated	0
Lambing Pens:	
Elevated	0
On Ground	8
Lambing Time	
Spring	5
Fall	2
Other	1

TABLE 12. LABOR REQUIREMENTS FOR KANSAS EWE AND LAMBING SHEEP OPERATIONS.

Number of Farms	8
	Average Number
Ewes in Flock	174
Ewes-Winter Pasture[1]	164
Ewes-Summer Pasture[1]	186
Ewes-Drylot[1]	189
Ewes-Lambing[1]	157
Lambs Finished[1]	207
	Hours per Ewe per Year
Labor Requirements:	
Daily Labor[2]	
Winter Pasture	.167
Summer Pasture	.398
Drylot	.652
Lambing	.519
Finishing	.341
Total	2.077
Weekly Labor[3]	
Winter Pasture	.019
Summer Pasture	.071
Drylot	.085
Lambing	.029
Finishing	.098
Total	.302
Yearly Labor[4]	
Winter Pasture	.065
Summer Pasture	.071
Drylot	.081
Lambing	.042
Finishing	.055
Total	.314
Total Labor	
Winter Pasture	.251
Summer Pasture	.540
Drylot	.818
Lambing	.590
Finishing	.494
Total	2.693

[1]Days on winter pasture, summer pasture, drylot, lambing, and finishing phases were standardized at 120, 120, 110, 30, and 90, respectively.
[2]Includes feeding, treating and worming, preparing facilities, and checking ewes.
[3]Includes feed preparation, feed purchasing, checking pastures, buying and selling sheep, and maintaining records.
[4]Includes repairing lots and facilities, docking and shearing, manure disposal, and other.

TABLE 13. LABOR REQUIREMENTS FOR KANSAS FEEDER - LAMB FINISHING OPERATIONS.

Number of Farms	7
Avg. Number of Feeder Lambs Fed	236
	Minutes per Lamb
Labor Requirements:[1]	
Daily Labor[2]	20.45
Weekly Labor[3]	5.90
Yearly Labor[4]	3.30
Total	29.65

[1]Days for the finishing operation were standardized at 90.
[2]Includes feeding, treating, and worming, preparing facilities, and checking lambs.
[3]Includes feed preparation, feed purchasing, buying and selling lambs, checking pastures, and maintaining records.
[4]Includes repairing lots, building maintenance, shearing, manure disposal, and other.

TABLE 14. DERIVED LABOR STANDARDS FOR LIVESTOCK ENTERPRISES.

Livestock	Unit	1994 Derived Hours[1]	Hours[2]	1980 Derived Hours[3]
Dairy Cows	Cow	47.20	60.00	53.70
Beef Cows	Cow	7.40	8.00	8.70
Swine (Farrow-Wean)	Litter	5.30	9.00	7.30
Swine (Farrow-Finish)	Litter	8.60	12.90	11.20
Feeder Pigs	Head	.40	.50	.50
Ewes	Ewe	2.70	4.00	4.00
Feeder Lambs	Head	.50	.75	.75
Cattle Feeding			Hours per Month	
Winter Grazing	Head	.25	.15	1.35
Summer Grazing	Head	.15	.15	1.35
Background-Drylot	Head	.25	.70	.25
Finishing	Head	.20	.70	.10

[1]Rounded
[1]Labor standards for livestock enterprises utilized currently by the Kansas Farm Management and K-MAR-105 Association.
[3]Source (2).

TABLE 15. LABOR REQUIREMENTS FOR A REPRESENTATIVE FARM FROM SOUTHEAST KANSAS USING NEW LIVESTOCK LABOR STANDARDS.[1]

Livestock (Head/Litters):[2]	
Beef cows	48
Dairy Cows	8
Swine Litters	27
Beef Feeders	133
Swine Feeders	227

Dryland Crops (Acres):[3]	
Wheat	222
Corn	49
Grain Sorghum	146
Soybeans	249
Sorghum Silage	11
Alfalfa Hay	16
Other Hay	52
Total Acres	745

Labor Available (Hours):	
Operator	2630
Hired Labor	1045
Part-Time Labor	130
Total Hours	3805

Custom Harvest (Acres):	
Wheat	210

Month	Operator Labor Hours[4]	Hired Labor Hours[5]	Available Labor Hours	New Standards Hours Required	New Standards Deficit Hours
January	219	88	307	118	0
February	219	88	307	121	0
March	219	88	307	116	0
April	219	88	307	255	0
May	219	88	307	252	0
June	219	88	307	304	0
July	219	88	307	267	0
August	219	88	307	263	0
September	219	88	307	338	31
October	219	88	307	412	105
November	219	88	307	348	41
December	219	88	307	121	0
		Deficit Labor Hours			177
		Part-Time Labor Hours Available[6]			130
		Surplus (Deficit) Labor Hours			(47)

[1]Source (3).
[2]For swine, sows were assumed to farrow two times a year. Beef and swine feeders were divided into three equal lots with 120 days feeding for each lot.
[3]Source (4). Custom work for crops was assumed to be 80.0% of machine hire, with all custom work allocated to wheat harvest.
[4] Operator labor was assumed to be 210 hours per month. The representative farm had 1.05 operators.
[5] A year-round hired employee providing 1045 hours of labor was assumed based on the hired labor expense.
[6] Part-time hired labor hours were calculated using a $8.00 per hour wage rate.

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