

The average number of acres harvested per hour was calculated by dividing the total acres of corn, soybeans and small grains harvested by each combine by the total engine hours it was used. Thus, it includes time spend idling or moving from farm

to farm, as well as harvesting. Most of the corn harvesting heads were of the six-row or eight-row variety. The size of the soybean harvesting heads was more variable, with the largest percentage falling into the 17 to 22 foot wide category.

Table 2. Harvesting heads.

Corn Heads				Soybean Heads			
Size (HP)	Number	Percent	Acres Harvested Per Hour	Size (HP)	Number	Percent	Acres Harvested Per Hour
4-row	12	9%	2.5	13-16 foot	19	14%	3.3
6-row	66	48	3.6	17-22 foot	47	35	4.9
8-row	49	36	5.7	25 foot	28	21	6.4
12-row	10	7	10.8	30 foot	37	27	9.2
				35-36 foot	5	4	13.7
All	137	100%	4.8	All	136	100%	6.5

Grain Carts

Grain carts have become increasingly popular, to speed up harvesting by allowing the combine to be unloaded without stopping it. Two-thirds of the survey respondents owned a grain cart, and 18

percent owned more than one. The capacity of the carts varied from around 400 bushels to over 1,000 bushels. The larger carts tended to be newer, but had higher repair costs (Table 3).

Table 3. Grain carts.

Size (bushels)	Number	Percent	Capacity (bushels)	Age	Repair Cost 2006
385-480	18	17%	428	14.3	\$78
500-500	21	20	511	13.1	88
600-675	19	18	629	9.4	309
700-750	6	6	742	10.8	205
800-900	26	25	847	6.7	336
1000-1050	16	15	1,011	4.8	369
All	106	100%	689	9.7	\$236

Grain Wagons

Survey respondents owned an average of 2.7 grain wagons each (Table 4). The average age of all the wagons was over 14 years, with the smaller wagons

being the oldest. Repair costs, including tires, were modest, averaging only \$68 per wagon in 2006.

Table 4. Grain wagons.

Capacity	Number	Percent	No. Per Farm	Age	Repairs Costs Per Wagon 2006
200 to 350 bu.	135	41%	2.9	19	\$64
300 to 550 bu.	129	39	2.8	12.8	83
600 bu. or more	66	20	2.0	7.9	48
All	330	100%	2.7	14.4	\$68

Grain Trucks

More and more grain is being hauled in trucks rather than wagons, sometimes for long distances. Trucks were divided into straight trucks (single rear axle), tandem axle straight trucks, and semi-trailer trucks. Many grain trucks have had considerable years of service. The average ages for the straight trucks and tandem axle trucks were 30 years and 27 years, respectively! Sixty-two percent of the trucks reported were

semi-trailer trucks, and they had an average of over half a million miles on their odometers. However, the average number of miles they were driven in 2006 was only about 11,000, which indicates that many of them may have been used as over the road vehicles by their original owners. Truck owners spent an average of \$1,247 on repairs in 2006. Repair costs per mile were considerably lower for semi-trailer trucks than for the other types.

Table 5. Grain trucks.

Type	Number	Percent	Capacity (bushels)	Age	Odometer Miles Driven Miles	Repair Costs In 2006	Repair Costs in 2006	Repair Costs per Mile
Straight trucks	35	24%	415	30	121,165	2,810	\$1,170	\$0.63
Tandem axle	20	14	583	27	222,989	3,418	840	0.42
Semi-trailer	89	62	946	12	583,977	10,987	1,369	0.25
All	144	100%	769	19	416,586	7,877	\$1,247	\$0.37

Labor

The final section of the survey dealt with the number of people involved in harvesting, transporting, drying and storing grain. Just over two full-time people and another two part-time people were engaged in harvesting, on average. Assuming that the part-time

people worked half-time, on average, just over 3 full-time labor equivalents were used per harvesting operation. When the total number of acres harvested was considered, the median number of FTEs per 1,000 acres was 2.44, or, conversely, the median number of acres harvested per FTE was 410.

Table 6. Labor.

Number of people	Full-time	Part-time	Total FTEs*
Operating combines	1.1	0.3	1.3
Driving trucks	0.4	0.5	0.7
Pulling wagons or carts	0.5	0.8	0.9
Unloading and drying grain	0.1	0.3	0.3
Total	2.1	2.0	3.1

*Part time labor counted as 0.5 FTE

Summary

Harvesting grain is a complex operation involving multiple workers and units of equipment. Today's managers are challenged to find the proper set of

resources that will allow for efficient and timely collection, transportation and storage of the crop at a reasonable cost.

... and justice for all

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