combines represented 37 percent of all combines on farms. Manufacturing statistics for 1969 indicate that 27,000 self-propelled combines were produced compared with less than 1,000 of the pull-type combines.

Not only is the proportion of self-propelled combines increasing, but also the average size. Manufacturing data, as shown in table 8, indicates that one-half of the self-propelled combines made in 1964 had a header under 14 feet in size. In comparison, for 1969 two-thirds of the self-propelled combines had headers of 16 feet and over.

Table 8. Number of Self-Propelled Combines Manufactured, Number by Size of Header, Percent Distribution by Size of Header: 1962 to 1969

	Total manufactured	Size of header			Percent distribution			
		Under 14 feet	14 to 15 feet	16 feet and over	Total	Under 14 feet	14 to 15 feet	16 feet and over
1969.....	18,988	3,217	3,286	12,485	100	17	17	66
1968.....	26,586	4,733	5,520	16,333	100	18	21	61
1967.....	33,676	7,644	7,572	18,460	100	23	22	55
1966.....	36,329	8,684	10,007	17,638	100	24	28	48
1965.....	27,941	7,779	7,432	12,730	100	28	27	45
1964.....	25,888	13,214	6,380	6,294	100	51	25	24
1963.....	21,827	16,660	2,942	2,225	100	76	13	11
1962.....	16,199	7,809	4,432	3,958	100	48	27	25

Current Industrial Reports, Farm Machines and Equipment, Series M35A 1950-1969, U.S. Department of Commerce, Bureau of the Census.

Of the total 467,000 self-propelled combines reported in the 1969 census, 54 percent were reported as manufactured prior to 1965. The proportions of combines manufactured in 1965 or later vary greatly by State and region. In general, data for States in the corn and soybean producing acres indicate that more than half of the self-propelled combines were manufactured in 1965 or later. These data indicate that the development of corn heads for combines is resulting in the rapid replacement of corn pickers with self-propelled combines with corn heads on the larger corn producing farms. Proportionately, there were substantial increases in the number of self-propelled combines in the soybean producing States of the South. Much of this increase in combines is the result of large increases in the acreage of soybeans in these areas since 1964.

Cornpickers, Corn Heads for Combines, and Picker-Shellers

In recent years, there have been substantial technological changes in corn harvesting equipment. The development of corn heads for combines has made possible the rapid increase in the proportion of corn for grain harvested by field shelling methods.

Between 1964 and 1969, there was a decrease of 106,000 farms reporting cornpickers, corn heads, or picker-shellers and a decrease of 55,000 machines. At the same time, the acreage of corn harvested per machine increased from 78 to 83 acres and the bushels of corn per machine increased from about 4,900 to about 7,000 bushels. These figures reflect the increased size and efficiency of the new harvesting equipment.

Class 1 to 5 farms, which produced 91 percent of all corn harvested for grain also accounted for 93 percent of all cornpickers, corn heads, and picker-shellers. Between 1964 and 1969, there was an increase in the average number of machines per farm from 1.0 to 1.2 units. This increase is consistent with the increase in average acres of corn for grain per farm which changed from 50 to 64 acres.

Corn Heads for Combines

Data for corn heads were obtained separately for the first time in 1969, but only for farms with sales of $2,500 and over. For the 1964 census, corn-head attachments for combines were included with cornpickers. Corn heads first came into widespread use in the late 1950's; however, it was 1964 before corn heads were manufactured in numbers exceeding that of cornpickers. Corn heads now being manufactured range in size from 2-row to 6-row with 4-row being the most common. In comparison, most cornpickers manufactured are of the one- or two-row size.

In 1969, there were 184,000 corn heads on class 1-5 farms. By age, about three-fifths of the corn heads were reported as manufactured in 1965 or later. It is apparent from a comparison of data for corn heads with other cornpickers that corn heads are replacing cornpickers at a rapid rate. The one-step picking and shelling process provides a significant advantage to farmers in terms of labor and time. In addition, the farmer is able to obtain dual use of his basic combine.

Data by class of farm in the table below indicate that the proportion of corn heads to all corn harvesting machines increases as the size of farm sales increases.

	Cornpickers, corn heads, and picker-shellers (percent)	Corn heads (percent)	Cornpickers and picker-shellers (percent)	Average acres of corn for grain per farm reporting (acres)
Total	100.0	31.3	68.7	63.7
Class 1	100.0	47.6	52.4	159.3
Class 2	100.0	35.5	64.5	81.7
Class 3	100.0	27.1	72.9	50.3
Class 4	100.0	20.7	79.3	30.3
Class 5	100.0	15.9	84.1	19.0

Other Cornpickers and Picker-Shellers

In 1969, there were 404,000 other cornpickers or picker-shellers on class 1-5 farms. The vast majority of these were one- or two-row cornpickers either of the pull-type or tractor-mounted type. The number of picker-shellers manufactured is estimated to be low in proportion to the total number of cornpickers.

About 30 percent of these machines were reported as manufactured in the period 1965 or later, according to the census of agriculture. According to the manufacturing statistics, this may be a sizable overstatement of the actual number manufactured in 1965 and after. The data, by class of farm, show that cornpickers were more common on the smaller farms which, in general, cannot justify the large expenditures for a combine with a corn-head attachment. Approximately 56,000 class 1-5 farms were reported as having both a corn head and a cornpicker or picker-sheller.

Pickup Balers

In comparison to other types of equipment, the basic pickup hay baler has not changed drastically in recent years. However,