CHANGES IN THE NUMBER AND CHARACTERISTICS OF FARMS IN NORTH CAROLINA

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ABSTRACT

This report contains estimates of the number of new farms and the number of exits from farming in North Carolina for various periods of time between 1978 and 1992. Entrance and exit rates are based on the latest information provided by the Census of Agriculture about the total number of farms in each county as well as the number of years operators reported managing a given farm. Comparing characteristics of new farming operations with those that have existed for a longer period of time provides insights about some elements of the evolving structure of agricultural production in North Carolina.

The total number of farms in North Carolina decreased more than 40 percent between 1974 and 1992. The rate of turnover in farming operations between 1987 and 1992 was not as great, however, as during the previous decade. Substantial variation in the rates of change in farm numbers and the ratios of entrants to exits among counties indicate that factors influencing the number and turnover in farming operations have not operated uniformly throughout the state. Regional differences in farm number changes and total acres of farmland indicate more consolidation of farming operations in the eastern part of North Carolina relative to other parts of the state.

Much of the decrease in the number of farms in North Carolina has been concentrated among smaller farm size categories including those up to 220 acres in size. Nevertheless, nearly 60 percent of all new farms in North Carolina between 1978 and 1992 had less than 50 acres of farmland. Many new farms as well as those that have been in operation for longer periods of time appear to be part-time operations in that only a little over half of all farm operators in 1992 considered farming to be their principal occupation. An increasing proportion of farm operators, especially among those reporting farming as their principal occupation, are 65 years of age or older. This suggests increasing rates of management turnover in farming operations are likely. Considerably larger proportions of new farms, relative to farms that have been in operation for longer periods of time, are tenants. On the other hand, the largest proportion of continuing farming operations, especially among those with annual sales of farm products of $10,000 or more, were part owners.

Consistent with the continuing shift in composition of agricultural production in the state; an increasing share of new and continuing farms in North Carolina are livestock oriented. Nevertheless more than 3300, or 42 percent of all farms that began operations between 1987 and 1992 had 50 percent or more of their total receipts from cash grain or other field crops.

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R. A Schrimper[a]

INTRODUCTION

Changes in the number and size of farms in a particular geographical area are the result of many economic and noneconomic factors. This report presents information about the number of new farms and the number of exits from farming in North Carolina between 1978 and 1992. According to the Census of Agriculture, a farm is any place from which $1,000 or more of agricultural products are produced and sold (or normally would have been sold) during the survey year. In spite of changes in prices over time that imply different quantities of products required to satisfy the minimum amount of production or sales to be counted as a farm, the same definition has been used since 1974.

This study compares changes in the total number of farms as well as the ratio of entrants to exits for each county, region, and the entire state for different time periods. The number of new farming operations relative to those going out of business indicates the extent of management turnover in farming operations that is not readily apparent from analyzing trends in the total number of farms. Also comparing characteristics of the new farming operations with those that have been in operation for longer periods of time is useful to determine the extent to which new entrants have influenced the structure of farming operations in the state.

The number of new farms (or farms managed by new operators) in a given geographical area can be inferred from Census of Agriculture information about the number of years an operator has managed a given farm. The number of new farming entrants is considered to be farms that either did not exist, or at least had a different operator at the time of the previous Census of Agriculture. Adding the number of new entrants to the total number of farms in the previous Census of Agriculture and comparing that total with the number of farms in the succeeding census provides an estimate of the total number of exits from farming for a given period. Additional details about estimating total exits from farming and the number of entrants are available from a discussion of how corresponding estimates for 1978-1982 and 1982-1987 were obtained for North Carolina from Census of Agriculture information (Schrimper).

[a]The excellent assistance of Hui-Ping Chao who prepared most of the tabulations in this report is gratefully acknowledged. Comments of Jon Brandt, Dale Hoover and E. C. Pasour, Jr. on an earlier draft of this report were very useful.

The following sections of this report present information about recent changes in farm numbers in North Carolina. Initial attention is placed on changes in the total number of farms as well as the number of new farms and the number of exits from farming that have occurred in recent years for the entire state. Similarities and contrasts in these changes among the major North Carolina agricultural regions (Figure 1) are also discussed. Some highlights of the variation in exit and entrance behavior of farmers among the 100 counties in North Carolina are then noted. Final sections of the report compare characteristics of new farms with those that have been operating for longer periods of time.

FARM EXITS AND ENTRANTS

The total number of farms in North Carolina decreased by more than 40 percent between 1974 and 1992 (Table 1 and Figure 2).[1] The change in farm numbers between 1987 and 1992 (the latest Census of Agriculture) is equivalent to an annual decrease of just under 1500 farms or approximately four farms per day. The changes indicated by the latter numbers are considerably smaller than the rate of decrease during the previous decade. The annual rate of change in the total number of North Carolina farms between 1987 and 1992 is only about two-thirds the average annual rate of decrease during the previous five years. The 2.5 percent annual decrease in the number of farms between 1987 and 1992 is a little smaller than the annual rate of change between 1974 and 1982.

The change in total number of farms for any geographical area represents the net difference between the number of exits from farming and the number of new farming operations for a particular time period. The total number of exits from farming in North Carolina between 1987 and 1992 was nearly 3,100 per year (Table 2). Slightly over half of the exits during 1987-1992 were offset by new farming operations. These numbers indicate that the rate of management turnover in farming operations in North Carolina between 1987 and 1992 was not as great during the previous five years.[2] The lower turnover rate resulted from fewer exits from farming as well as a larger fraction of the exits being replaced by new farms. Approximately one of every 20 (3,094/59,284) farms in North

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[1]The number of North Carolina farms reported by the Census of Agriculture is 8.146 less than the number estimated for 1992 by the National Agricultural Statistical Service and published in *1995 North Carolina Agricultural Statistics*. Similar discrepancies in the number of farms reported by the two sources of data are not new. The USDA's and the Census of Agriculture's estimates of total U. .S. farms in 1992 differ by 169,000 (Gale). Presumably different data collection and estimation procedures are responsible for alternative values in that both sources use the same definition of a farm.

[2]Some approximations associated with missing or incomplete data and rounding errors account for the difference in the number of exits and entrants not always exactly matching the change in total number of farms.

Carolina ceased operations each year during 1987-1992. This is a slower exit

Figure 1. North Carolina agricultural regions.

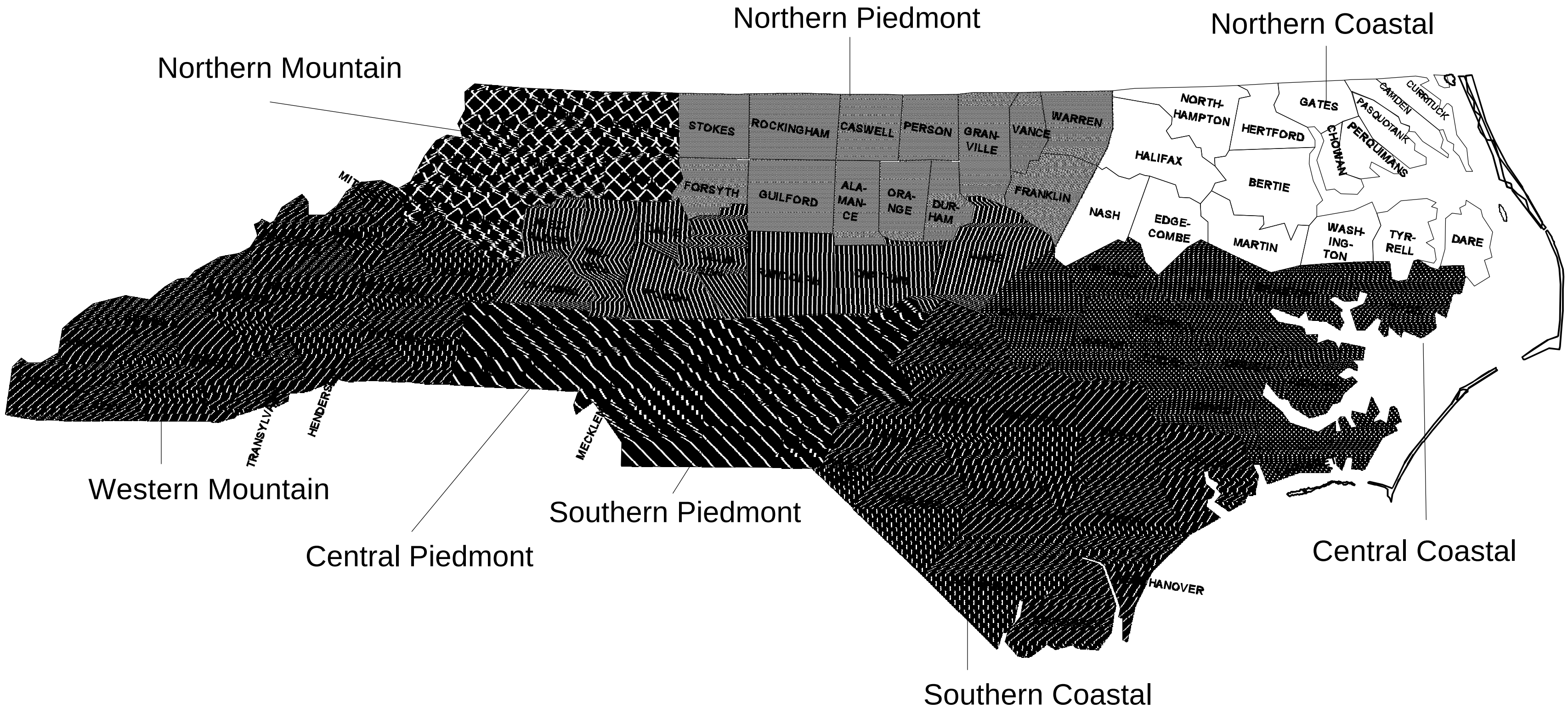


Table 1. Total number of farms in North Carolina and rates of change, 1974-1992.

Year	Number of Farms		Average Decrease Per Year	Annual Percent Change
1974	91,280			
		〉	2,393	2.6
1978	81,706			
		〉	2,229	2.7
1982	72,792			
		〉	2,701	3.7
1987	59,284			
		〉	1,486	2.5
1992	51,854			

Source: 1978, 1982, 1987 and 1992 Census of Agriculture.

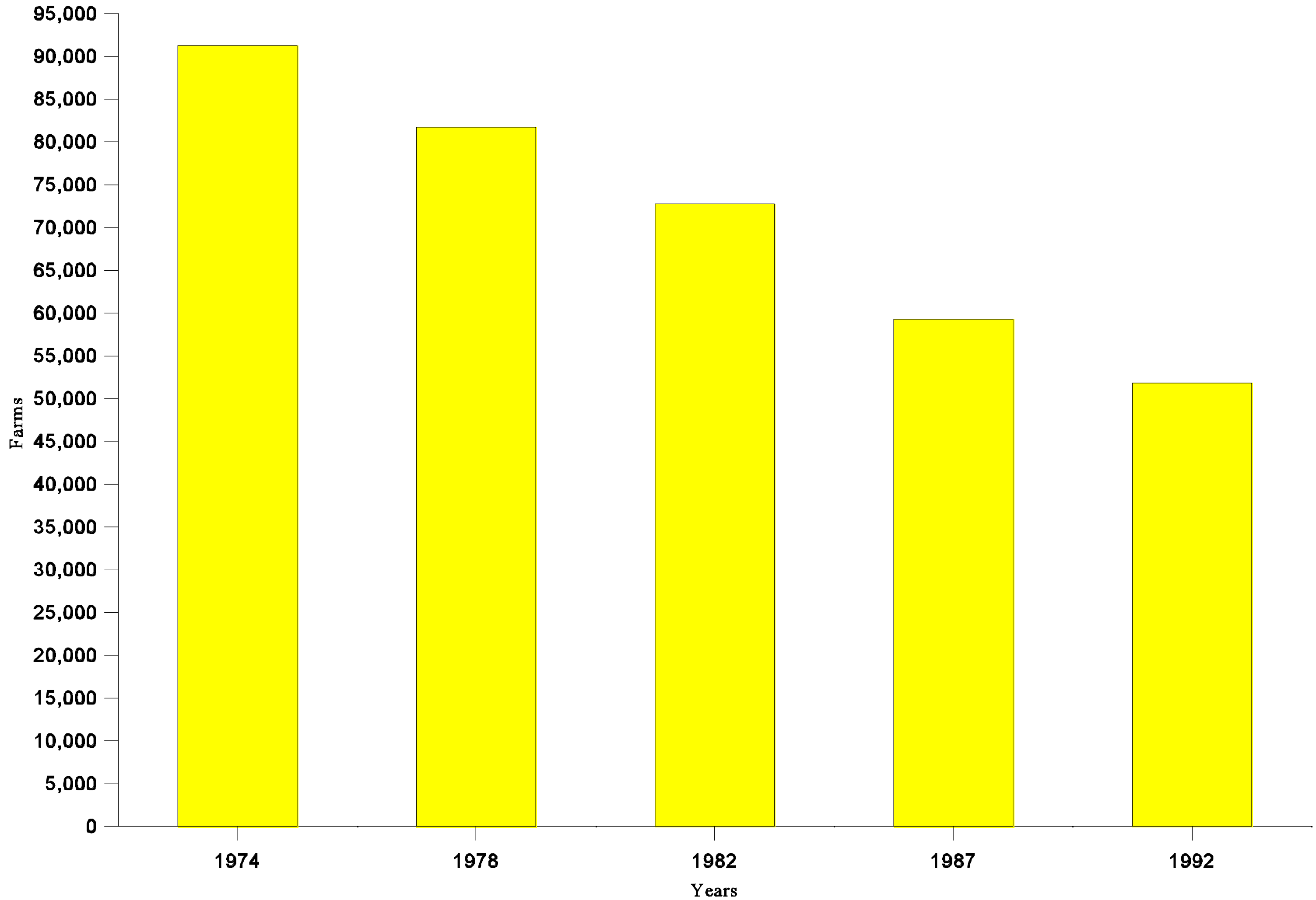
Table 2. Average annual number of new farms and exits for various regions of North Carolina, 1978-1992.

Region	Time Periods								
	1978-1982			1982-1987			1987-1992		
	Entrants	Exits	Ratio of entrants to exits	Entrants	Exits	Ratio of entrants to exits	Entrants	Exits	Ratio of entrants to exits
Central Coastal	362	909	.40	234	680	.34	166	451	.37
North Coastal	276	647	.43	181	453	.39	115	296	.39
South Coastal	518	1,282	.40	357	870	.41	288	550	.52
North Mountain	312	420	.74	193	449	.43	188	284	.66
West Mountain	432	333	1.30	242	529	.46	241	398	.61
Central Piedmont	383	455	.84	250	503	.49	220	389	.57
North Piedmont	491	862	.57	294	768	.38	233	483	.48
South Piedmont	246	346	.71	168	364	.46	156	244	.64
Total[a]	3,019	5,254	.58	1,919	4,615	.41	1,607	3,094	.52

Source: Calculated from 1978, 1982, 1987 and 1992 Census of Agriculture.

[a]Regional and state totals may vary from the totals for smaller geographical entities because of rounding.

Figure 2. Total number of farms in North Carolina, 1974-1992.



rate than between 1978 and 1987 when one of every 15 or 16 farms quit operating.

There were fewer new farms during 1987-1992 than during 1982-1987 or 1978-1982. Decreases in the number of new farms in North Carolina, however, have not been as great as the decline in the number of exits. Between 1987 and 1992, nearly one of every 30 (1,607/51,854) farms in North Carolina involved a new operator. This is similar to the rate of entry observed for 1982-1987, but not as high an entry rate as during 1978-1982. In the latter period, the rate of entry was approximately one of every 24 (3,019/72,792) farms per year. These calculations may overestimate management turnover in farming to the extent that some farm operators move to a new location. At the same time, estimated numbers of entrants and exits based on census data exclude farming operations that are initiated after one census, but do not survive until the next.

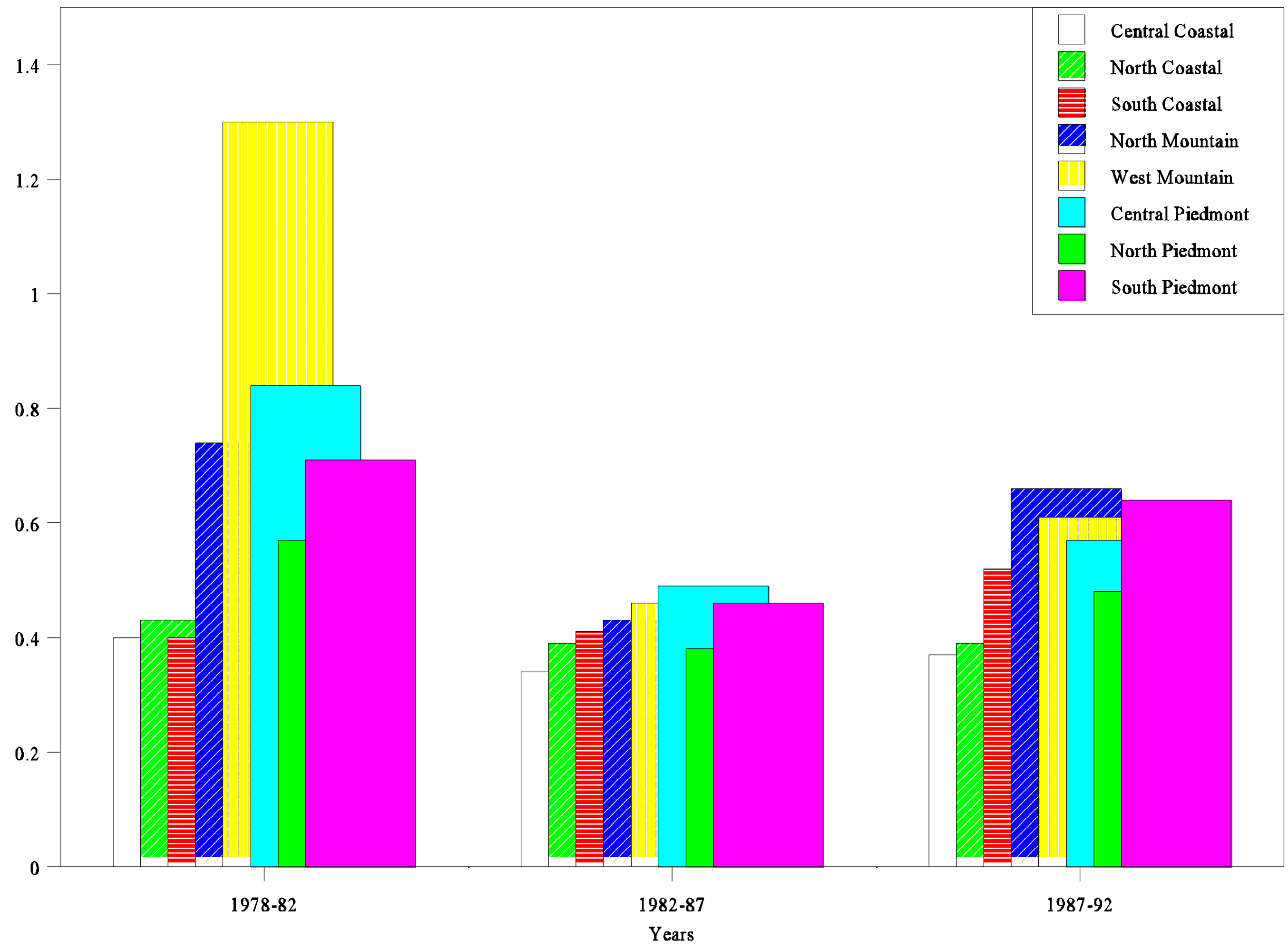
Between 1987 and 1992, there were slightly over five new entrants for every ten operators who quit farming in North Carolina (Table 2). During 1982 to 1987, the replacement rate was just over four new farms for every ten operations that went out of business. The replacement rate for 1987-1992 was a little lower than during 1978-1982 when there were nearly six new entrants for every ten that ceased operations.

Regional Variation

Variation among regional entrance to exit ratios in North Carolina for 1987-1992 was greater than 1982-1987, but less than 1978-1982 (Table 2 and Figure 3). The diversity of North Carolina's agricultural economy and geographical differences in off-farm work opportunities undoubtedly contribute to regional variation in changes in farm numbers and replacement ratios. The latter factor is especially important in that more than one-third of all North Carolina farms in 1992 had an operator who worked 200 or more days off the farm. Considering the census definition of a farm, many small farms may be more a place of residence than a source of income. If additional sources of income are available, farms with relatively small amounts of agricultural production may continue to exist primarily as a residence. Some evidence of this is that more than 50 percent of all farms in North Carolina reported gross sales of products valued at less than $10,000 in 1992, and approximately half of these had operators who worked 200 or more days off the farm.

The entrance to exit ratios of farms for 1987-1992 for all regions in North Carolina except the northern coastal area were higher than corresponding estimates for 1982-1987. The central coastal region had the fewest entrants relative to exits among the various areas of the state. This pattern also existed during the previous decade. A generally more prosperous agricultural economy during 1978-1982 and 1987-1992 relative to conditions during 1982-1987 may account for some differences in replacement ratios.

Figure 3. Ratio of farm entrants to exits for various regions of North Carolina, 1978-1992.



A smaller number of entrants relative to exits is consistent with additional consolidation and expansion of farming operations. Although the average number of acres per farm increased by nearly 25 percent between 1978 and 1992, very little change in the average size of farms occurred in some regions of North Carolina (Table 3 and Figure 4). The biggest changes in average farm size occurred in the three coastal regions and to a lesser extent in the northern piedmont. These four regions are also generally the ones with the lowest ratio of entrants to exits for each period (Table 2). Much smaller changes occurred in the average size of farms in other areas of the state.

The larger average size of farms in the three coastal regions is consistent with these areas accounting for more than 50 percent of the state's total farmland in 1992, but only a little over one-third of the total farms. A decreasing number of farms accompanied by little change in average farm size in other areas of the state implies similar proportional changes in farm numbers and total farm acreage (Table 4 and Figure 5).

Between 1978 and 1992, total farm land in North Carolina decreased a little more than 2 million acres, or nearly 19 percent. This does not include land set aside under commodity acreage programs or enrolled in the Conservation Reserve Program. All areas of the state contributed to this decrease in total acreage with the central and north coastal areas having the smallest proportional changes of 14 and 15 percent. The southern piedmont had the largest proportional change in farm land with a 27 percent decrease between 1978 and 1992.

County Highlights

Most, but not all, of the counties in North Carolina experienced a decline in farm numbers between 1987 and 1992 (Table 5). Graham is the only county in the state for which the number of farms in 1992 was the same as in 1987.

Six counties reported an increase in the number of farms or a greater number of entrants than exits over this five-year period. In five of these six counties, the change in number of farms amounted to an increase of only one, two, or three farms. In Anson County, however, the increase amounted to 28 farms, an increase of 9 percent. A good bit of the change in farm numbers in Anson County appears related to increased poultry production. In 1992, 100 of the 344 farms in Anson County reported producing poultry, 61 percent more than the number of poultry farms in 1987. Even though the total number of farms increased, the farmland acreage in Anson County decreased by 14,400 acres (16.9 percent) resulting in some interesting changes in the size distribution of farms. For example, the number of farms with 10 to 100 acres or 220 to 500 acres increased while the number of farms in all other size categories

Table 3. Average size of farms for various regions of North Carolina by region, 1978-1992.

Region	1978	1982	1987	1992
			acres	
Central Coastal	168	177	222	268
North Coastal[a]	242	284	339	395
South Coastal	132	153	177	197
North Mountain	91	90	98	100
West Mountain[b]	88	79	86	86
Central Piedmont	117	114	118	123
North Piedmont	122	127	144	159
South Piedmont	152	150	151	149
State Average	**137**	**142**	**160**	**173**

Source: 1982, 1987 and 1992 Census of Agriculture.

[a]Excludes Dare County because information not available in Census of Agriculture for all years.
[b]Excludes Clay and Swain counties because information not available in Census of Agriculture for all years.

Table 4. Land in farms for various regions of North Carolina, 1978-1992.

Region	1978	1982	1987	1992
			Acres	
Central Coastal	1,738,872	1,639,066	1,566,734	1,503,586
North Coastal[a]	1,904,946	1,817,864	1,699,707	1,622,212
South Coastal	1,984,524	1,843,574	1,676,222	1,605,989
North Mountain	765,742	716,007	650,759	614,952
West Mountain[b]	746,777	705,558	646,027	582,483
Central Piedmont	1,177,069	1,119,582	1,007,668	940,257
North Piedmont	1,577,619	1,456,760	1,316,583	1,256,137
South Piedmont	1,072,831	994,524	853,890	781,051
Total	**10,968,380**	**10,292,935**	**9,417,590**	**8,906,667**

Source: 1982, 1987 and 1992 Census of Agriculture.

[a]Excludes Dare County because information not available in Census of Agriculture for all years.
[b]Excludes Clay and Swain counties because information not available in Census of Agriculture for all years.

Figure 4. Average size of farms for various regions of North Carolina, 1978-1992.

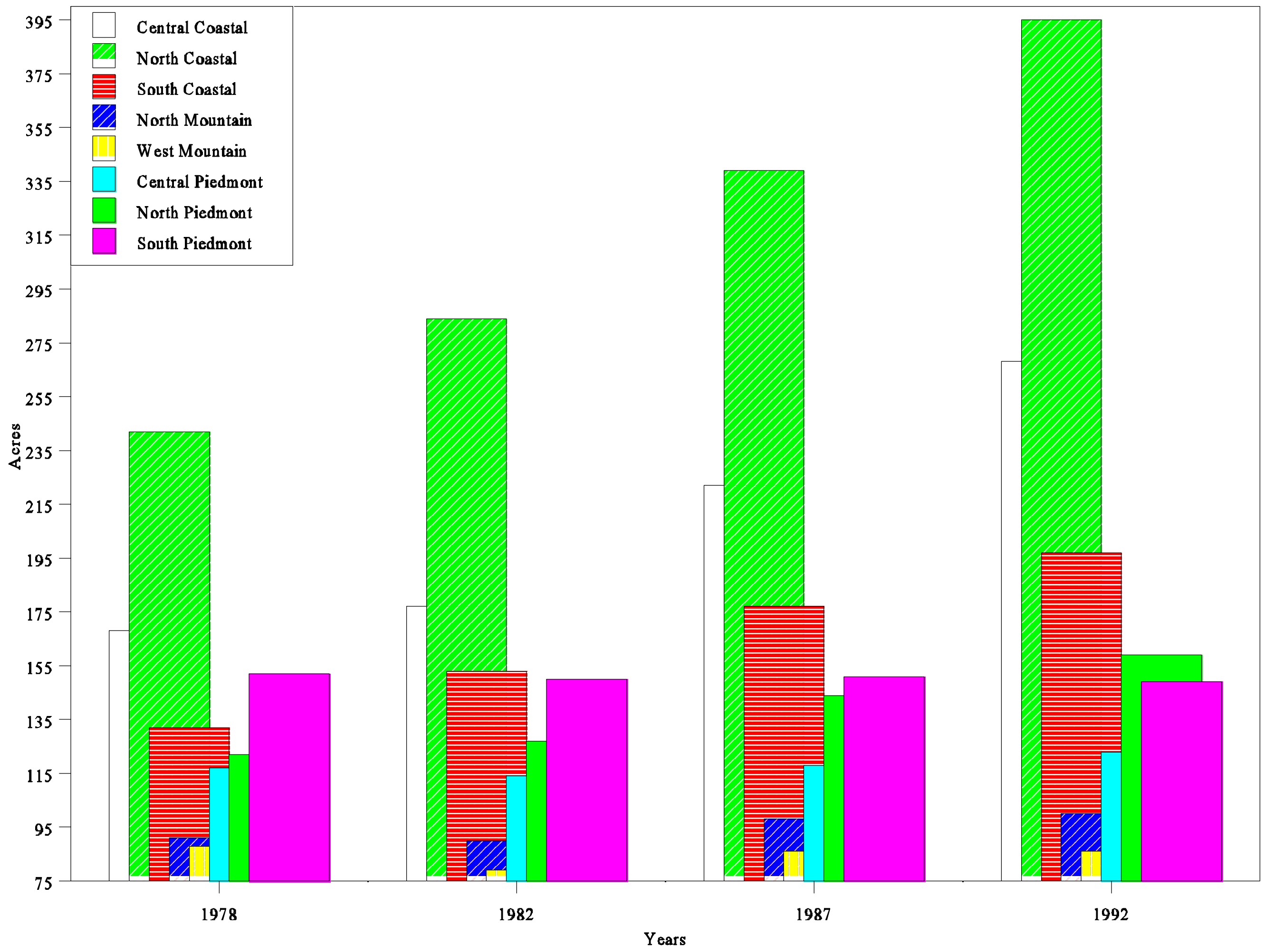


Figure 5. Land in farms in various regions of North Carolina, 1978-1992.

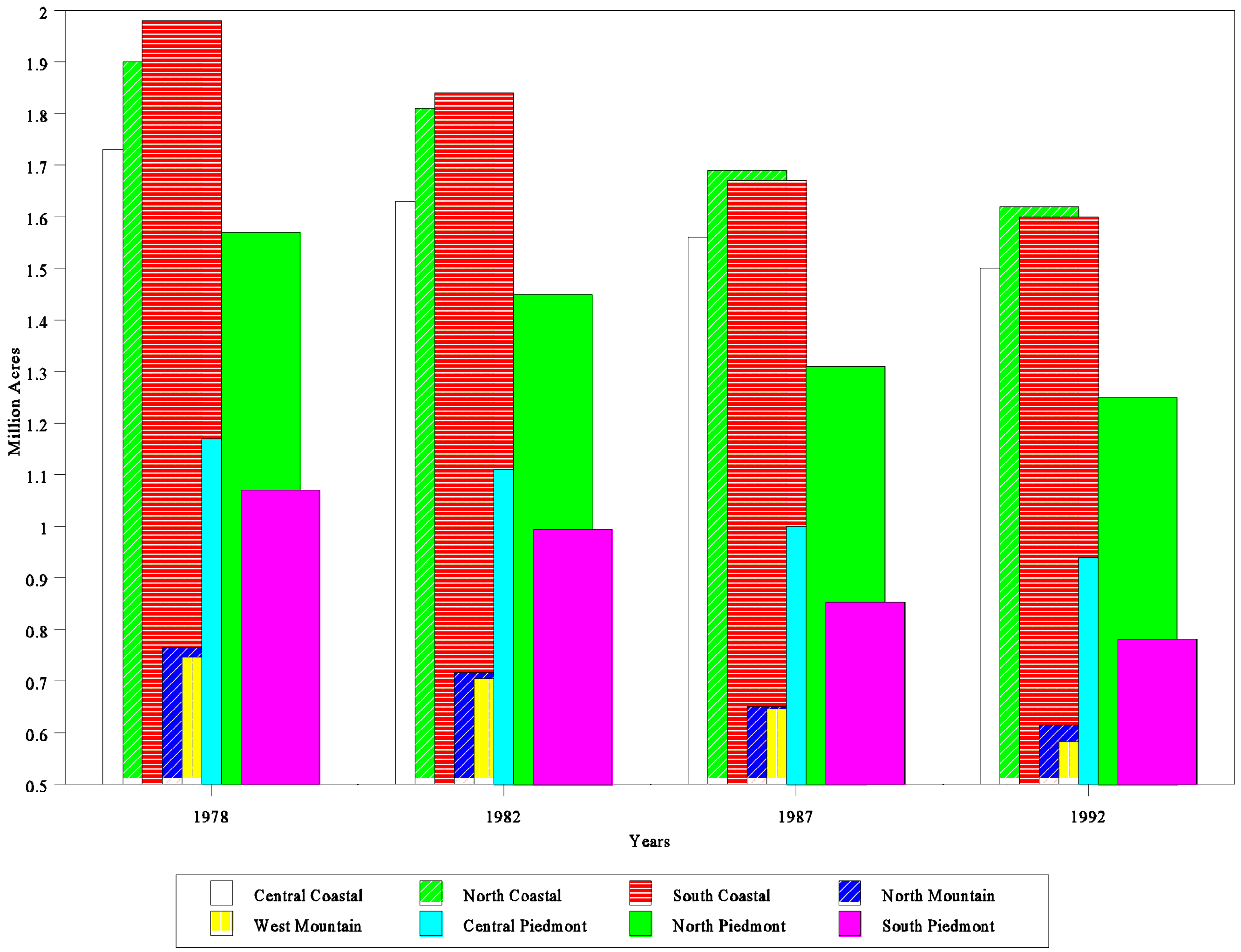


Table 5. Estimated annual entry and exit of farms in North Carolina counties, 1987-1992.

Region and county	No. of entrants per year	No. of exits per year	Ratio of entry to exit	Percent entrants[a]	Percent exits[a]	Percent change[a]
Central Coastal						
Beaufort	12	49	0.24	11	45	-34
Carteret	3	5	0.60	14	22	-8
Craven	9	25	0.36	12	34	-22
Greene	12	32	0.38	13	35	-22
Hyde	4	10	0.40	15	33	-18
Johnston	43	104	0.41	14	33	-20
Jones	6	16	0.38	13	37	-24
Lenoir	16	43	0.37	13	36	-23
Pamlico	2	3	0.67	12	17	-5
Pitt	17	51	0.33	12	38	-26
Wayne	30	65	0.46	15	33	-18
Wilson	12	47	0.26	10	41	-31
Total[c]	**166**	**451**	**0.37**	**13**	**36**	**-23**
North Coastal						
Bertie	15	37	0.41	15	36	-21
Camden	4	6	0.67	20	34	-14
Chowan	4	12	0.33	10	31	-21
Currituck	3	6	0.50	16	33	-16
Dare	0	0	NA[b]	0	0	NA[b]
Edgecombe	11	25	0.44	13	31	-18
Gates	6	17	0.35	14	37	-23
Halifax	9	25	0.36	11	32	-21
Hertford	5	21	0.24	12	44	-33
Martin	11	31	0.35	10	29	-19
Nash	17	43	0.40	13	34	-21
Northampton	13	27	0.48	16	33	-17
Pasquotank	3	8	0.38	8	20	-12
Perquimans	6	15	0.40	11	30	-18
Tyrrell	3	8	0.38	15	37	-22
Washington	5	14	0.36	11	27	-16
Total[c]	**115**	**296**	**0.39**	**13**	**32**	**-20**
South Coastal						
Bladen	21	43	0.49	16	33	-17
Brunswick	6	24	0.25	12	45	-33
Columbus	41	86	0.48	17	35	-18
Cumberland	14	31	0.45	14	32	-18
Duplin	49	83	0.59	17	29	-12
Harnett	20	44	0.45	12	27	-15
Hoke	7	11	0.64	19	30	-11
New Hanover	3	2	1.50	19	15	5
Onslow	15	17	0.88	17	20	-3
Pender	11	24	0.46	15	33	-17
Robeson	48	105	0.46	18	39	-21
Sampson	48	75	0.64	17	27	-10
Scotland	6	5	1.20	23	21	2
Total[c]	**288**	**550**	**0.52**	**16**	**31**	**-15**

Table 5 cont.

Region and county	No. of entrants per year	No. of exits per year	Ratio of entry to exit	Percent entrants[a]	Percent exits[a]	Percent change[a]
North Mountain						
Alleghany	15	20	0.75	15	20	-5
Ashe	28	58	0.48	13	26	-13
Avery	7	8	0.88	13	15	-2
Caldwell	10	17	0.59	14	25	-11
Surry	45	54	0.83	17	21	-4
Watauga	21	35	0.60	14	25	-11
Wilkes	36	49	0.73	15	21	-6
Yadkin	27	43	0.63	13	21	-8
Total[c]	**188**	**284**	**0.66**	**15**	**22**	**-7**
West Mountain						
Buncombe	34	54	0.63	15	24	-9
Burke	12	15	0.80	17	22	-5
Cherokee	6	15	0.40	11	31	-20
Clay	5	10	0.50	16	29	-13
Graham	5	5	1.00	17	17	0
Haywood	25	45	0.55	14	26	-12
Henderson	17	33	0.51	15	30	-15
Jackson	5	15	0.33	12	34	-22
McDowell	9	17	0.53	21	39	-18
Macon	7	13	0.54	12	21	-9
Madison	48	74	0.65	19	30	-11
Mitchell	12	18	0.67	18	26	-8
Polk	5	11	0.45	14	32	-18
Rutherford	14	22	0.64	14	23	-9
Swain	4	4	1.00	24	23	1
Transylvania	3	7	0.43	9	20	-11
Yancey	30	40	0.75	21	29	-8
Total[c]	**241**	**398**	**0.61**	**16**	**27**	**-11**
Central Piedmont						
Alexander	15	32	0.47	13	29	-16
Catawba	11	23	0.48	10	21	-11
Chatham	32	39	0.82	17	21	-4
Davidson	18	54	0.33	10	28	-18
Davie	14	29	0.48	12	25	-13
Iredell	35	48	0.73	15	20	-5
Lee	11	19	0.58	17	30	-13
Randolph	38	50	0.76	14	19	-4
Rowan	19	33	0.57	12	21	-9
Wake	28	62	0.45	15	34	-19
Total[c]	**220**	**389**	**0.57**	**14**	**24**	**-10**

Table 5 cont.

Region and county	No. of entrants per year	No. of exits per year	Ratio of entry to exit	Percent entrants[a]	Percent exits[a]	Percent change[a]
North Piedmont						
Alamance	21	40	0.53	14	26	-12
Caswell	19	40	0.47	14	31	-17
Durham	8	23	0.35	20	57	-37
Forsyth	19	37	0.51	14	27	-13
Franklin	15	38	0.39	12	32	-20
Granville	25	49	0.51	16	31	-15
Guilford	25	59	0.42	12	28	-16
Orange	9	27	0.33	10	28	-18
Person	13	29	0.45	13	28	-15
Rockingham	27	58	0.47	14	30	-16
Stokes	37	53	0.70	17	24	-7
Vance	6	19	0.32	10	30	-20
Warren	8	10	0.80	13	16	-3
Total[c]	**233**	**483**	**0.48**	**14**	**28**	**-14**
South Piedmont						
Anson	11	5	2.20	17	8	9
Cabarrus	9	21	0.43	10	23	-13
Cleveland	22	45	0.49	14	29	-15
Gaston	7	16	0.44	12	25	-13
Lincoln	10	21	0.48	11	23	-12
Mecklenburg	7	20	0.35	11	33	-22
Montgomery	11	12	0.92	23	25	-2
Moore	20	32	0.63	14	22	-8
Richmond	8	7	1.14	19	16	3
Stanly	15	20	0.75	14	18	-4
Union	34	44	0.77	16	21	-5
Total[c]	**156**	**244**	**0.64**	**14**	**22**	**-8**
North Carolina[c]	**1,607**	**3,094**	**0.52**	**14**	**28**	**-14**

Source: Calculated from 1987 and 1992 Census of Agriculture.

[a]Percentages were calculated using the total number of entrants and total exits for the entire period relative to the average of the 1987 and 1992 number of farms.

[b]NA = Not Applicable.

[c]Regional and state totals may vary because of rounding.

decreased. This suggests that some of the smaller farms in this county increased in size despite the decrease in the county's total farmland acreage. It is difficult to tell from secondary data how much of the increase in the number of farms with 220 to 500 acres occurred because of expansion by smaller farms or a reduction in acreage by some of the larger farming operations.

Among the 93 counties in North Carolina with fewer farms in 1992 than 1987, Johnston County had the largest number of exits averaging 104 per year. At the same time, Johnston County averaged 43 new farms per year resulting in a higher replacement ratio and a smaller percentage change in total number of farms than several other counties. Johnston County also had the highest number of exits from farming per year among North Carolina counties during 1978-1982 as well as 1982-1987 (Schrimper).

The lowest farm replacement ratios during 1987-1992 in North Carolina were observed for Beaufort and Hertford counties, followed very closely by Brunswick and Wilson.[3] There was approximately one entrant for every four exits from farming in these four counties between 1987 and 1992.

Durham County had the greatest percentage decrease in number of farms between 1987 and 1992. A change of 37 percent resulted from an exit rate of 57 percent and an entrance rate of 20 percent. These values indicate considerable turnover in farming operations in Durham County. The only other counties in the state for which the change in farm numbers exceeded 30 percent (based on the average number of farms in 1987 and 1992) were Beaufort, Hertford, Brunswick, and Wilson.

CHARACTERISTICS OF ENTRANTS AND CONTINUING OPERATIONS

The final part of this study includes comparisons of several characteristics of new farms with those that had operated for longer periods of time. As indicated earlier, a new farm is one that did not exist, or at least had a different operator than at the time of the previous Census of Agriculture. Comparisons by size of farm, principal occupation and age of operator, value of sales, kind of ownership, type of business organization, and kind of farming enterprise are possible only at the state level because of data availability.

Farm Size.

The distribution of new farms as well as continuing farming operations in North Carolina among different size categories has remained fairly stable over time despite a reduction in the number of farms (Table 6 and Figures 6 and 7). Nearly 60 percent of the new farms in North Carolina during 1978-1992 were less than 50 acres. Around 36 or 37 percent of continuing farming operations consistently have had less than 50 acres. It is not surprising that larger proportions of continuing farming operations than new

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[3]The comparison excludes Dare County because of the small number of farms involved.

Table 6. **Farm size by entrants and continuing farming operations in North Carolina, 1978-1992.**

	1978-1982		1982-1987		1987-1992	
Acres	**Entrants**	**Continuing Operations**	**Entrants**	**Continuing Operations**	**Entrants**	**Continuing Operations**
			Percent			
1-9	19.2	7.1	18.4	7.0	18.7	7.2
10-49	41.3	30.0	39.4	28.7	39.4	28.9
50-99	18.8	23.5	19.6	22.9	18.6	22.2
100-219	13.7	21.5	13.3	21.7	13.7	21.0
220-499	5.1	12.0	6.2	12.4	6.2	12.3
500-999	1.4	4.2	2.1	5.0	2.3	5.4
1,000 or more	0.5	1.7	1.0	2.3	1.1	3.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
			Number of Farms			
1-9	2,382	4,298	1,808	3,445	1,534	3,117
10-49	5,140	18,146	3,871	14,217	3,230	12,622
50-99	2,343	14,133	1,931	11,325	1,520	9,703
100-219	1,706	12,965	1,308	10,707	1,125	9,152
220-499	638	7,231	612	6,134	510	5,363
500-999	172	2,511	209	2,467	191	2,373
1,000 or more	64	1,022	99	1,151	89	1,325
Total	**12,445**	**60,306**	**9,838**	**49,446**	**8,199**	**43,655**

Source: Calculated from 1982, 1987 and 1992 Census of Agriculture.

Figure 6. Distribution of entrants by size of farming operations in North Carolina.

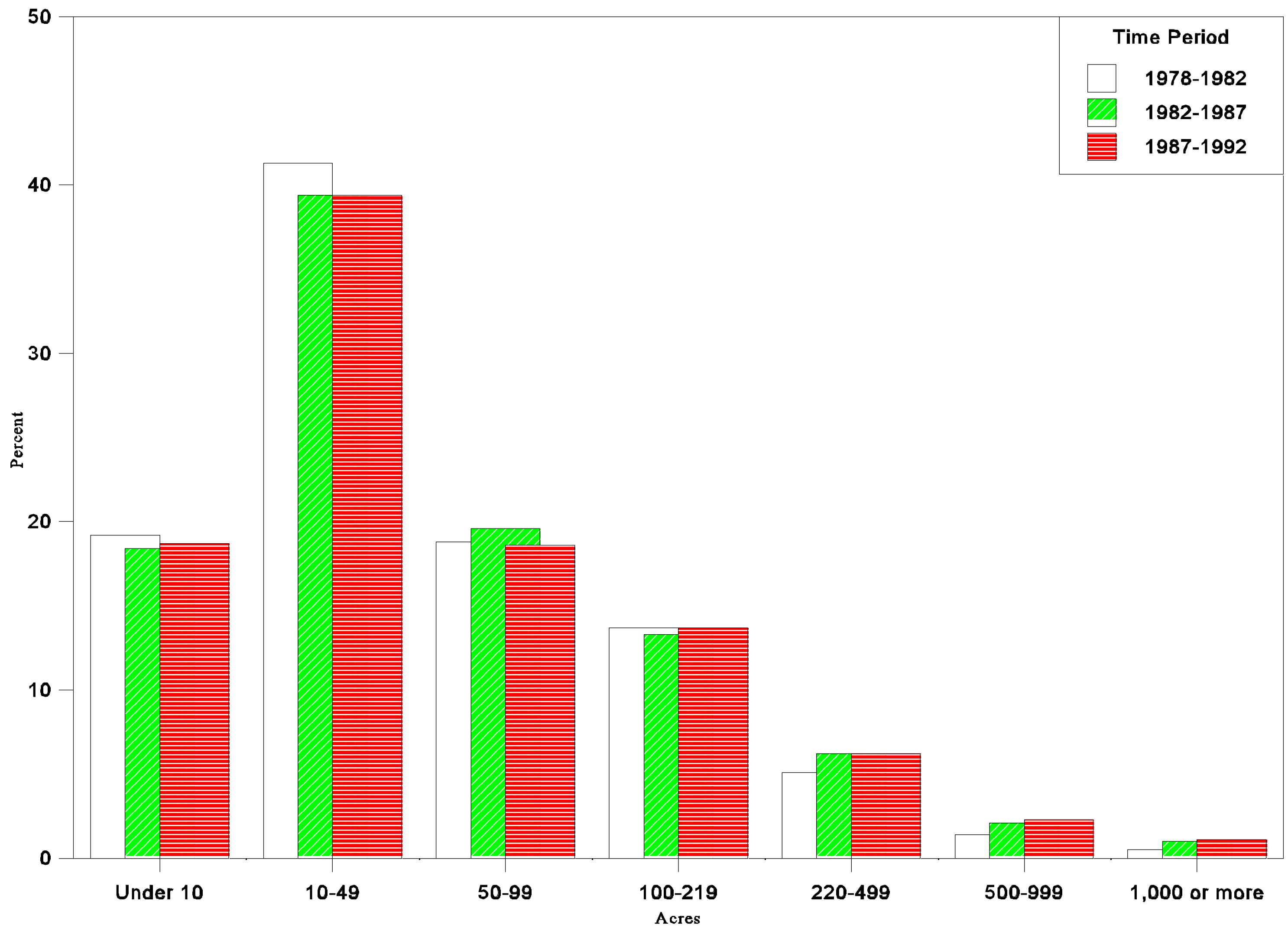
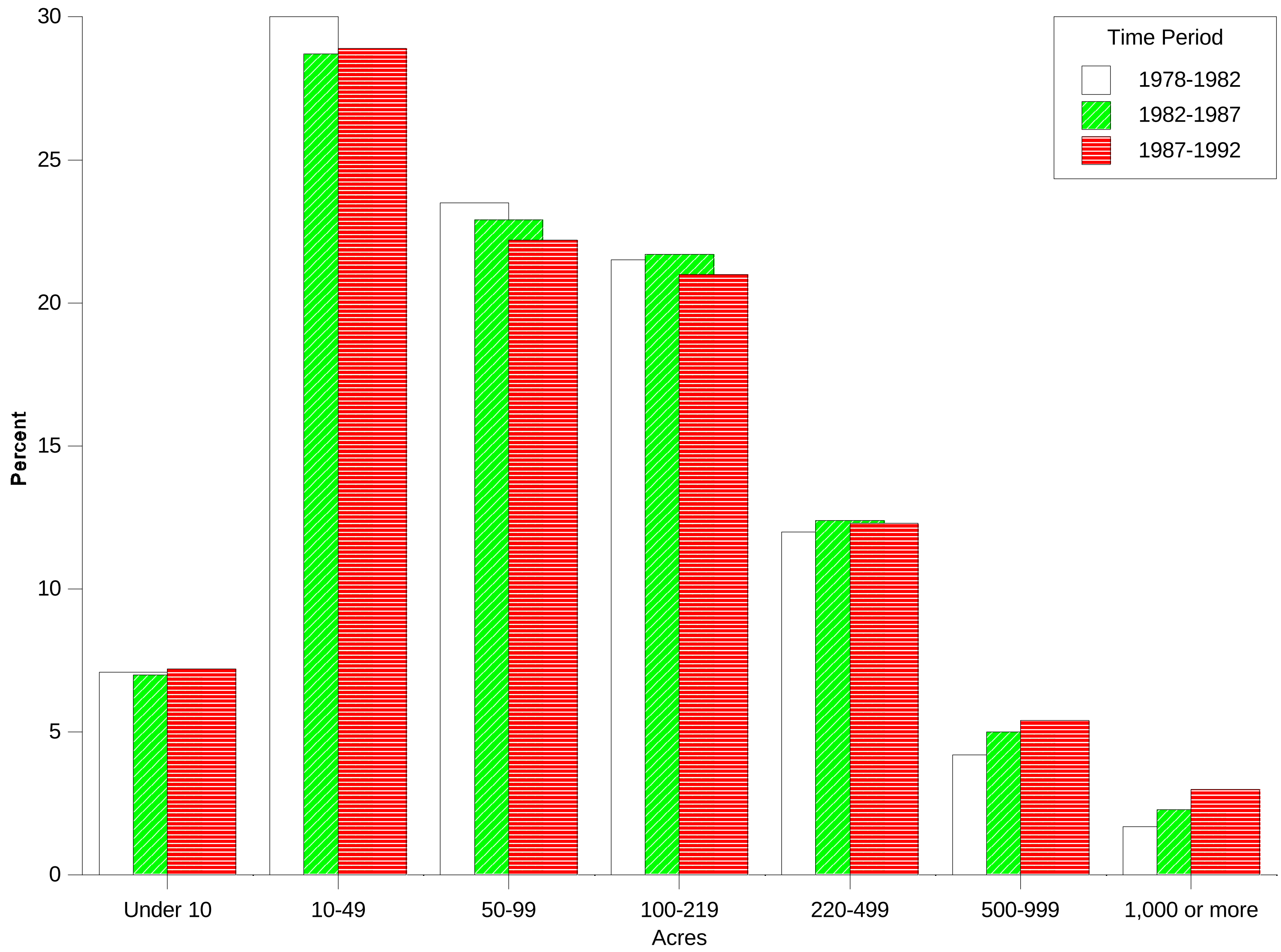


Figure 7. Distribution of continuing farms by size in North Carolina for selected periods of time.



entrants have 50 acres or more in view of differences in the amount of time to acquire acreage.

The 220 acre or more category has consistently accounted for less than 10 percent of new farms. Much of the decrease in the total number of farms over time has been concentrated among smaller farm size categories including those up to 220 acres. Each of the size categories with less than 220 acres for 1987-1992 had fewer than three-fourths the number of entrants and continuing operations than during 1978-82. Even though some of the larger categories had a decreased number of farms, the percentage changes were not as great as for the groups with less than 220 acres. The only group with a consistent increase in number of farms over time was continuing farming operations with 1000 or more acres.

Principal Occupation and Age of Operator.

A large proportion of new farms as well as continuing operations appear to be part-time farms. Less than 40 percent of the new farms during 1987-1992 reported farming as their principal occupation (Table 7). A larger proportion of continuing farming operations appear to be more agriculturally oriented, but only 55 percent reported farming to be the principal occupation. The proportions of new and continuing farming operations reporting farming as their principal occupation in North Carolina have been relatively stable between 1978 and 1992. Additional comparisons of Census of Agriculture data indicate that 75 percent of the total farm land in North Carolina in 1992 was managed by operators who considered farming to be their principal occupation. This was a slight increase from the 71 percent of total farm land in 1978 operated by individuals who reported farming as their principal occupation.

The proportion of entrants as well as continuing farms with an operator 65 years of age or older has been increasing over time in North Carolina (Table 7 and Figures 8 and 9). This is especially true among continuing farming operations for which farming is the operator's principal occupation. For example, among continuing operations for which farming was their principal occupation, the proportion of operators 65 or older increased from 26.0 percent to 38.5 percent between 1978-1982 and 1987-1992. The 65 and older age group accounted for only 5.5 percent of the entrants during 1978-1982 who considered farming as their principal occupation, but 11.9 percent in 1987-1992. The increasing proportions of older farm operators suggest an increase in the rate of management turnover in farming operations is likely.[4]

The proportion of operators 34 years of age or younger has decreased over time among entrants and continuing operations regardless of principal occupation. The proportion of operators 35 to 54 years of age has been consistently smaller among those for which farming is their principal occupation relative to those with some other primary

[4] The age distribution of farm operators may not accurately reflect the age structure of all decision makers in the industry because the Census of Agriculture considers only the oldest operator in the case of partnerships and corporations.

Table 7. Principal occupation and age distribution of entrants and continuing farming operations in North Carolina, 1978-1992.

	1978-1982		1982-1987		1987-1992	
Principal occupation and age	**Entrants**	**Continuing operations**	**Entrants**	**Continuing operations**	**Entrants**	**Continuing operations**
			Percent			
Farming						
‹25	15.7	0.8	8.8	0.3	9.0	0.3
25-34	30.0	9.2	27.1	6.8	23.0	5.1
35-44	20.5	14.5	22.9	13.9	21.5	14.2
45-54	14.4	20.9	17.1	17.9	18.1	17.7
55-64	13.9	28.6	15.1	27.4	16.5	24.2
65 and older	5.5	26.0	9.0	33.7	11.9	38.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Nonfarming						
‹25	5.8	0.5	4.1	0.2	4.5	0.3
25-34	25.0	8.1	23.1	6.5	19.1	4.3
35-44	29.0	20.6	32.9	20.3	30.4	18.9
45-54	25.2	25.0	22.2	27.1	27.1	28.7
55-64	10.9	27.3	12.1	27.3	13.1	26.4
65 and older	4.1	18.5	5.6	18.6	5.8	21.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
			Number of Farms			
Farming						
‹25	804	280	340	89	285	73
25-34	1,536	3,183	1,045	1,813	730	1,248
35-44	1,048	5,017	880	3,730	682	3,427
45-54	740	7,257	660	4,797	572	4,276
55-64	712	9,904	580	7,350	524	5,858
65 and older	280	9,005	345	9,058	378	9,323
Total	**5,120**	**34,645**	**3,850**	**26,837**	**3,171**	**24,205**
Nonfarming						
‹25	408	144	225	46	210	51
25-34	1,748	2,097	1,270	1,493	896	852
35-44	2,028	5,345	1,810	4,693	1,425	3,733
45-54	1,764	6,489	1,220	6,266	1,268	5,687
55-64	760	7,097	665	6,300	616	5,226
65 and older	284	4,822	310	4,299	272	4,242
Total	**6,992**	**25,994**	**5,500**	**23,097**	**4,687**	**19,791**

Source: Calculated from 1982, 1987 and 1992 Census of Agriculture.

Figure 8. Distribution of entrants and continuing farming operations in North Carolina by age for those with farming as principal occupation.

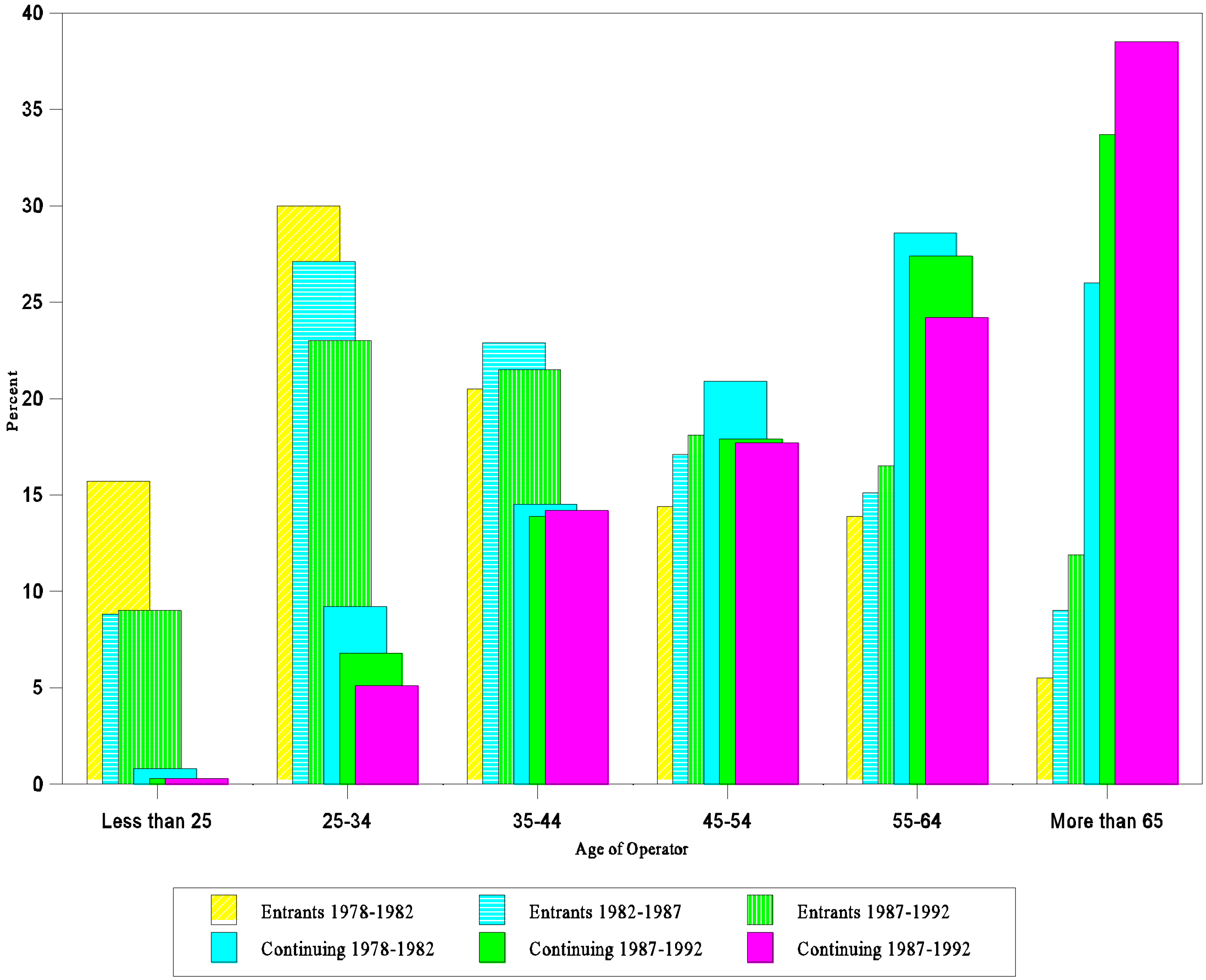
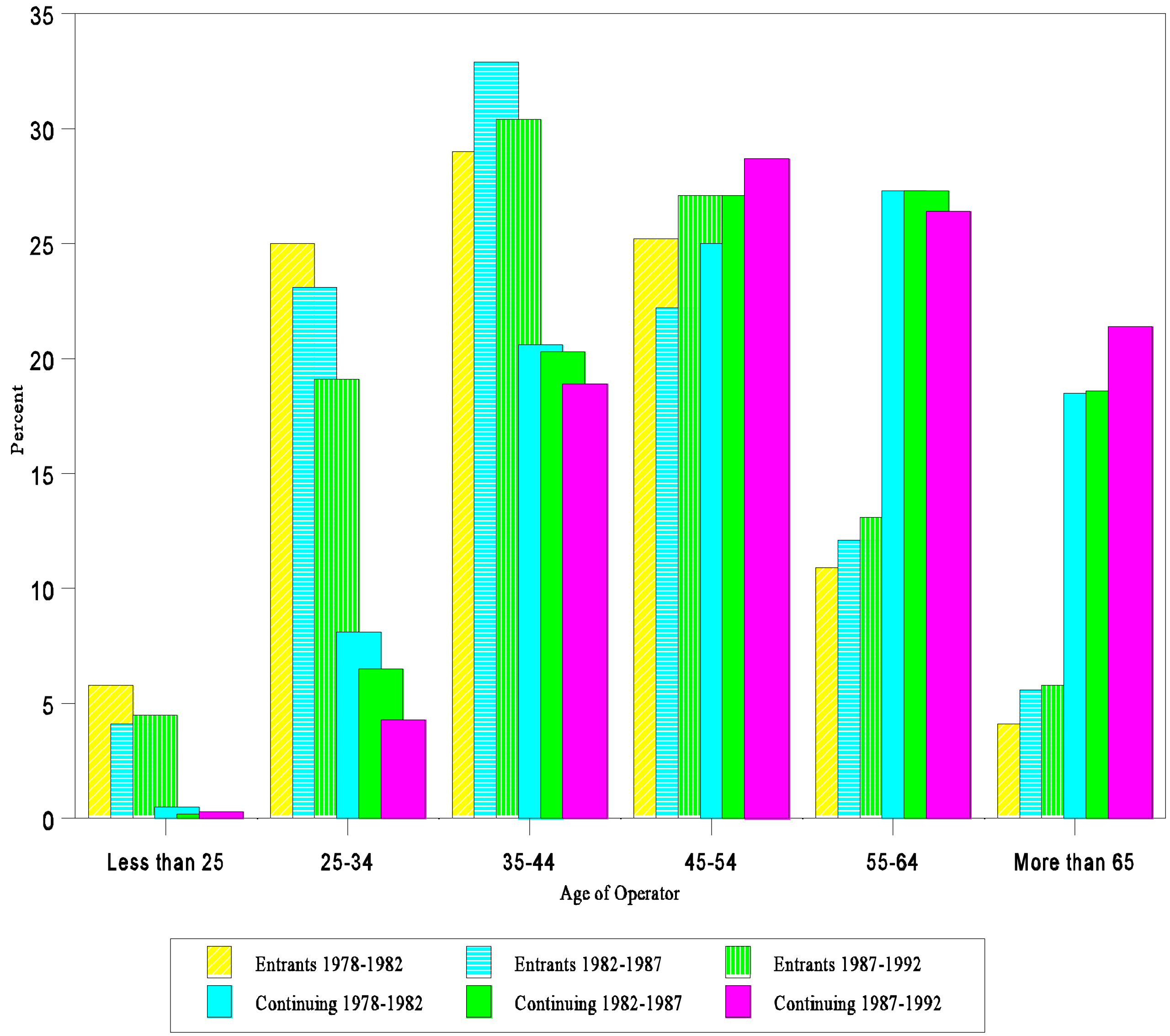


Figure 9. Distribution of entrants and continuing farming operations in North Carolina by age for those with nonfarming as principal occupation.



occupation. The proportion of continuing farming operations with operators 55-64 years of age did not increase over time, but is much higher than for entrants regardless of occupation.

Value of Sales.

Although the Census of Agriculture reports the number of farms in different sales value categories, it is difficult to interpret changes in the number or percentage distributions for different time periods because of how price changes affect the nominal value of sales. Nevertheless, the proportional distributions of entrants and continuing operations by value of sales are fairly similar (Table 8 and Figure 10). The proportion of new farms with sales less than $10,000 was somewhat greater than the proportion of continuing farms with similar value of sales. The number, as well as the proportion, of new farms and continuing farming operations with total sales of $250,000 or more has increased over time. The latter group, however, accounted for less than 10 percent of all farms in 1992.

Ownership Status.

Full ownership continues to be the most common type of tenure status especially among farms with sales of less than $10,000 in North Carolina (Table 9 and Figures 11 and 12). Among continuing operations with sales of $10,000 or more, partial ownership is more frequently observed than full ownership. Renting or tenant status is much more common among new farms than continuing operations regardless of the amount of sales. Slightly less than one of every four of the new farms in 1987-1992 with sales over $10,000 was a tenant. Among continuing operations with sales over $10,000, the corresponding proportion of tenancy was about one of every ten farms. The proportion of tenants among entrants during 1987-1992 with sales of less than $10,000 was 17.1 percent. This is more than three times greater than the percent of continuing farming operations with sales of $10,000 or more who were tenants.

Type of Business Organization.

Entrants and continuing farming operations in North Carolina are very similar in terms of alternative types of business organization (Table 10 and Figure 13). Individual or family ownership is by far the most popular kind of farm business organization, accounting for more than eight of every ten farms in North Carolina. The proportion of farms that are incorporated has increased over time, but still accounts for a rather small number of farms relative to other kinds of business organization. Partnerships have been a little more popular among entrants than farms that have operated for longer periods of time.

Kind of Farming Enterprise.

The distributions of entrants and continuing farming operations by type of farm reflect the increasing importance of animal production in the state relative to cash grain and field crop production (Table 11). Nevertheless, the crop categories continue to

Table 8. Value of sales of farm products by entrants and continuing farming operations in North Carolina, 1978-1992.

Value of Sales	1978-1982 Entrants	1978-1982 Continuing Operations	1982-1987 Entrants	1982-1987 Continuing Operations	1987-1992 Entrants	1987-1992 Continuing Operations
			Percent			
$500,000 or more	0.8	1.1	1.3	1.9	3.4	4.1
$250,000 to 499,999	1.8	2.9	2.9	3.8	4.2	5.6
$100,000 to 249,999	5.6	9.2	5.3	8.8	5.9	9.1
$40,000 to 99,999	9.2	12.0	8.0	10.0	8.0	9.8
$20,000 to 39,999	9.5	10.1	8.1	8.9	8.2	9.3
$10,000 to 19,999	12.2	11.7	10.7	11.3	11.1	11.7
$5,000 to 9,999	15.2	13.0	14.2	14.1	13.3	13.5
$2,500 to 4,999	14.7	13.5	16.4	13.9	15.6	13.7
〈 2,500	31.0	26.5	33.1	27.3	30.3	23.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
			Number of Farms			
$500,000 or more	96	645	130	954	274	1,814
$250,000 to 499,999	212	1,786	280	1,897	337	2,473
$100,000 to 249,999	672	5,567	520	4,337	474	3,970
$40,000 to 99,999	1,096	7,302	775	4,951	647	4,274
$20,000 to 39,999	1,128	6,169	785	4,428	667	4,065
$10,000 to 19,999	1,460	7,095	1,040	5,624	896	5,129
$5,000 to 9,999	1,812	7,908	1,375	6,969	1,076	5,892
$2,500 to 4,999	1,756	8,202	1,595	6,866	1,262	5,988
〈 2,500	3,705	16,141	3,215	13,543	2,445	10,171
Total	**11,937**	**60,815**	**9,715**	**49,569**	**8,078**	**43,776**

Source: Calculated from 1982, 1987 and 1992 Census of Agriculture.

Figure 10. Distribution of entrants and continuing farming operations in North Carolina by value of sales.

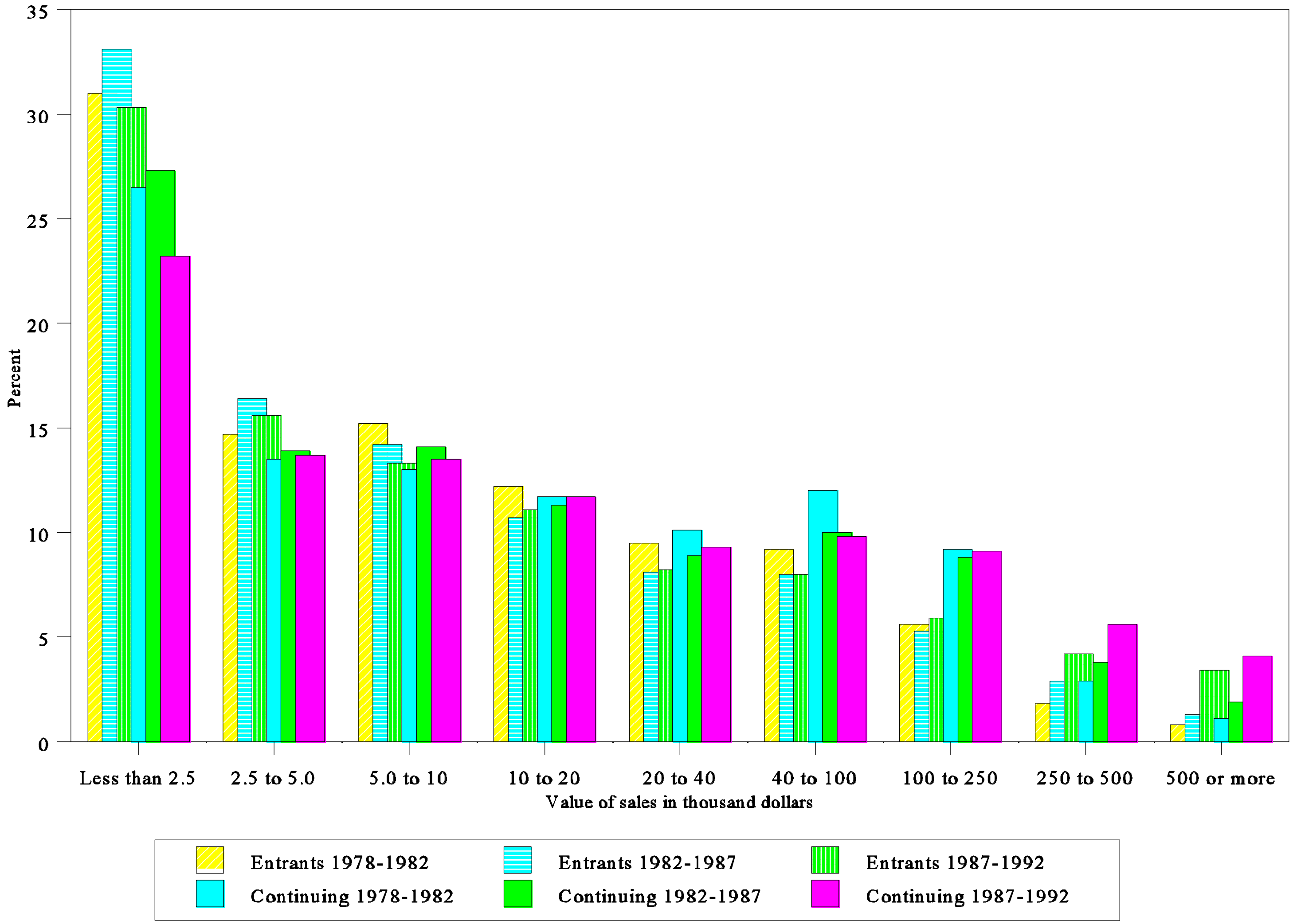


Table 9. Tenure characteristics of entrants and continuing farming operations in North Carolina, 1978-1992.

Tenure status	1978-1982 Entrants	1978-1982 Continuing operations	1982-1987 Entrants	1982-1987 Continuing operations	1987-1992 Entrants	1987-1992 Continuing operations
			Percent			
All farms						
Full owners	49.8	57.5	55.8	59.0	54.1	56.8
Part owners	25.9	33.0	23.3	33.5	25.2	35.5
Tenants	24.3	9.5	20.9	7.5	20.7	7.7
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Farms with sales of $10,000 or more						
Full owners	36.6	37.9	40.5	40.3	45.5	40.7
Part owners	31.4	48.8	36.1	49.0	28.7	48.9
Tenants	32.0	13.3	23.4	10.7	25.8	10.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Farms with sales of less than $10,000						
Full owners	58.2	74.8	66.5	73.6	60.2	72.6
Part owners	22.5	19.1	14.4	21.4	22.7	22.3
Tenants	19.3	6.1	19.1	5.0	17.1	5.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
			Number of Farms			
All farms						
Full owners	5,988	34,898	5,445	29,219	4,350	24,892
Part owners	3,116	20,058	2,275	16,599	2,023	15,549
Tenants	2,912	5,779	2,035	3,711	1,666	3,374
Total	**12,016**	**60,735**	**9,755**	**49,529**	**8,039**	**43,815**
Farms with sales of $10,000 or more						
Full owners	1,708	10,841	1,625	8,745	1,507	8,829
Part owners	1,464	13,926	1,450	10,635	952	10,626
Tenants	1,492	3,797	940	2,326	855	2,251
Total	**4,664**	**28,564**	**4,015**	**21,706**	**3,314**	**21,706**
Farms with sales of less than $10,000						
Full owners	4,280	24,057	3,820	20,474	2,843	16,063
Part owners	1,652	6,132	825	5,964	1,071	4,923
Tenants	1,420	1,982	1,095	1,385	811	1,123
Total	**7,352**	**32,171**	**5,740**	**27,823**	**4,725**	**22,109**

Source: Calculated from 1982, 1987 and 1992 Census of Agriculture.

Figure 11. Distribution of entrants and continuing farming operations in North Carolina by tenure status for farms with sales of less than $10,000.

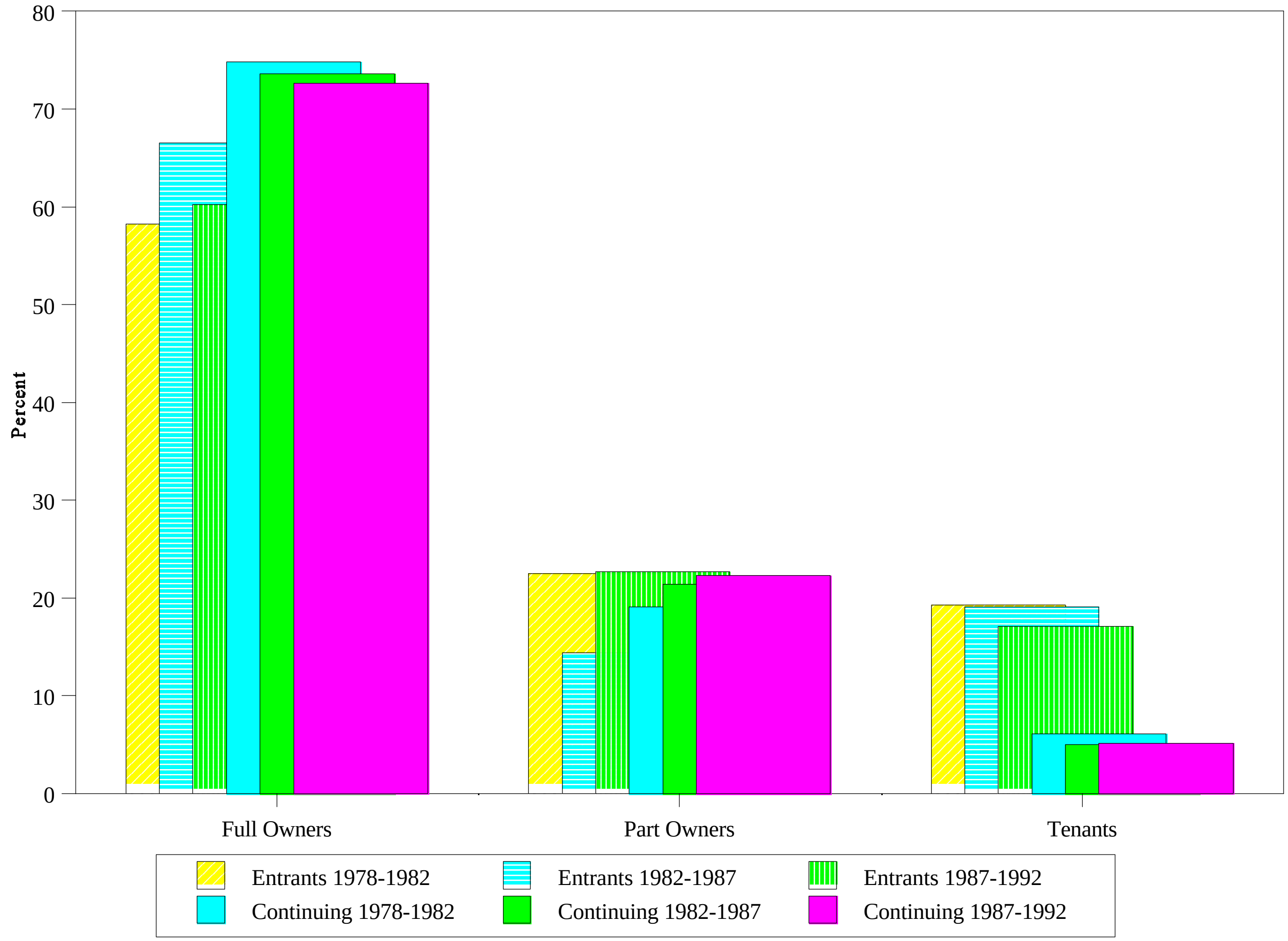


Figure 12. Distribution of entrants and continuing farming operations in North Carolina by tenure status for farms with sales of $10,000 or more.

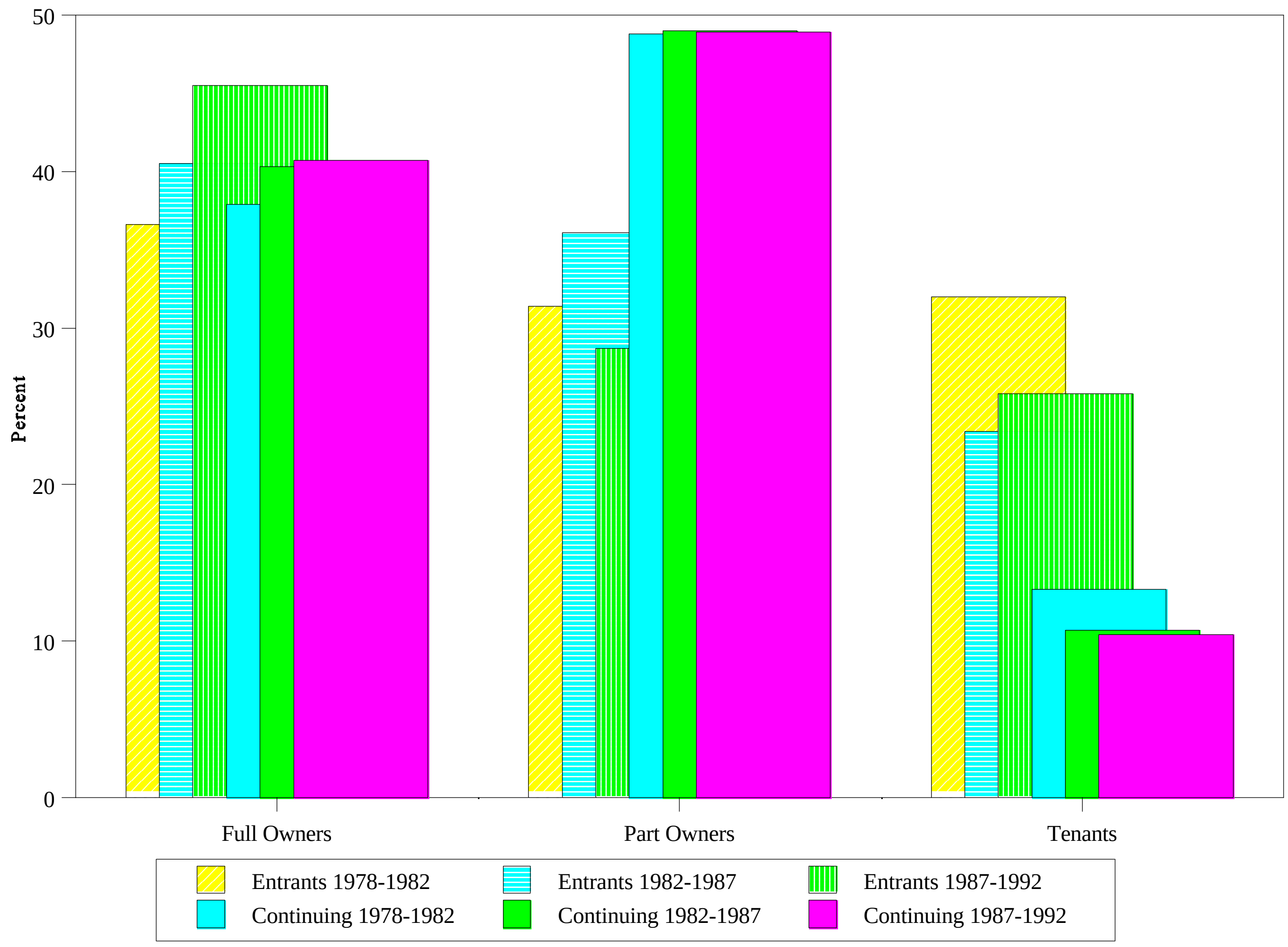


Table 10. **Type of business organization of entrants and continuing farming operations in North Carolina, 1978-1992.**

Type of business organization	1978-1982 Entrants	1978-1982 Continuing operations	1982-1987 Entrants	1982-1987 Continuing operations	1987-1992 Entrants	1987-1992 Continuing operations
			Percent			
Individual or family	86.3	88.5	86.0	88.8	84.1	87.9
Partnerships	11.1	9.5	10.3	8.5	11.3	8.8
Corporations[a]	1.9	1.7	3.0	2.2	3.7	2.9
Others	0.7	0.3	0.7	0.5	0.9	0.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
			Number of Farms			
Individual or family	10,392	53,758	8,235	44,163	6,748	38,525
Partnerships	1,340	5,752	990	4,248	906	3,844
Corporations[a]	224	1,001	285	1,070	298	1,291
Others	84	200	65	228	69	173
Total	**12,040**	**60,711**	**9,575**	**49,709**	**8,021**	**43,833**

Source: Calculated from 1982, 1987 and 1992 Census of Agriculture.

[a]Includes cooperatives, estate, trust, institutions, etc.

Figure 13. Distribution of entrants and continuing farming operations in North Carolina by type of business organization.

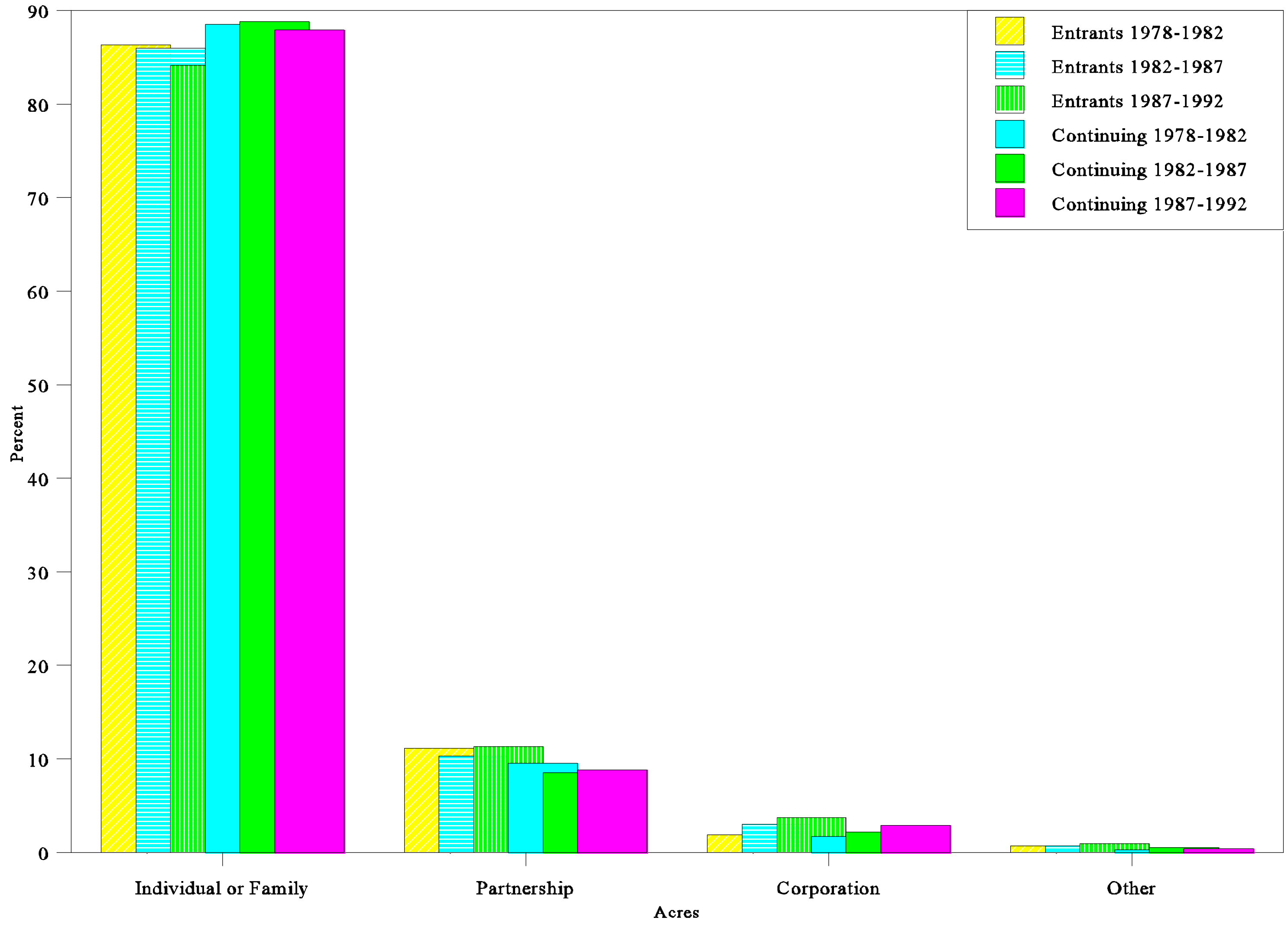


Table 11. Type of farm by entrants and continuing farming operations in North Carolina, 1978-1992.

Type of farm	1978-1982 Entrants	1978-1982 Continuing operations	1982-1987 Entrants	1982-1987 Continuing operations	1987-1992 Entrants	1987-1992 Continuing operations
			Percent			
Crop						
Cash grain	20.1	17.7	14.5	11.4	10.1	10.6
Field crops, other than cash grain	36.4	38.8	32.2	35.9	31.7	33.9
Vegetables & melons	2.9	1.6	2.8	1.8	3.0	2.0
Fruits & tree nuts	1.4	1.3	1.9	1.8	1.8	1.9
Hort. specialities	1.9	1.3	3.9	1.9	4.1	3.2
General farms, primarily crop	4.5	3.6	4.1	4.8	3.1	4.3
Livestock						
Livestock, other than dairy, poultry, etc.	23.0	26.8	26.2	31.6	30.2	32.2
Dairy	1.4	2.1	1.1	2.1	1.2	1.8
Poultry & eggs	5.2	5.0	6.9	6.2	7.8	6.8
Animal specialities	2.7	1.1	5.9	2.0	6.4	2.7
General farms, primarily livestock	0.5	0.7	0.5	0.5	0.6	0.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
			Number of Farms			
Crop						
Cash grain	2,468	10,712	1,395	5,656	811	4,640
Field crops, other than cash grain	4,456	23,465	3,105	17,838	2,532	14,863
Vegetables & melons	352	996	275	898	237	868
Fruits & tree nuts	132	810	180	884	147	845
Hort. specialties	228	783	365	945	324	1,390
General farms, primarily crop	556	2,176	400	2,371	246	1,896
Total	**8,192**	**38,942**	**5,720**	**28,592**	**4,297**	**24,502**
Livestock						
Livestock, other than dairy, poultry, etc.	2,812	16,224	2,520	15,715	2,411	14,149
Dairy	172	1,287	110	1,022	95	805
Poultry & eggs	632	2,996	665	3,097	625	2,971
Animal specialities	332	685	565	992	515	1,183
General farms, primarily livestock	60	417	45	241	48	253
Total	**4,008**	**21,609**	**3,905**	**21,067**	**3,694**	**19,361**
All Foods	**12,200**	**60,551**	**9,625**	**49,659**	**7,991**	**43,863**

Source: Calculated from 1982, 1987 and 1992 Census of Agriculture.

account for a larger proportion of all farms than the livestock categories (Figure 14). Cash grain and other field crops farms accounted for more than 40 percent of new farms and continuing farming operations during 1987-1992. The total number of new cash grain and other field crop farms for 1987-1992 was almost as large as the number of entrants for all of the livestock categories. Although cash grain production continues to be an important source of revenue, the percent of new entrants and continuing operations in this category has declined sharply over time. For example, one of every five new farms in North Carolina during 1978-1982 was a cash grain farm. In 1987-1992, the corresponding ratio of new cash grain farms was one of every ten new farms in the state. The change in the proportion of cash grain farms among continuing farms was not as large as in the case of entrants.

The number of new farms producing fruit, vegetables, or other horticultural specialties has been fairly constant since 1978, but account for an increasing proportion of all new crop farms in North Carolina (Figure 15).[5] The number of continuing farming operations producing fruits and vegetables also has been more stable than all of the other crop categories. The number of continuing farms in the horticultural specialty category increased from 783 in 1978-82 to 1390 in 1987-92.

Among North Carolina livestock farms, the animal specialty category has increased in importance, but accounts for a relatively small number of entrants and continuing farming operations (Figure 16).[6]. The total number of dairy farms (entrants and continuing operations) decreased by 559 or 38 percent between 1982 and 1992. This was approximately the same percentage change that occurred in the total number of general livestock farms during the same period. On the other hand, the number of new and continuing poultry and egg farms was fairly stable over all three time periods considered between 1978 and 1992.

SUMMARY AND CONCLUSIONS

The number of farms in North Carolina decreased by nearly 1500 per year between 1987 and 1992, but the rate of management turnover in farming operations was not as great as during the previous decade. The decreased rate of turnover resulted from fewer exits from farming as well as a larger fraction of exits being replaced by new farmers compared to 1982-1987. Consistent with increasing size and consolidation of farms, the rate of decline in total number of farms was much greater than the percentage decrease in total acres.

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[5]The horticultural specialty category includes production of bedding plants, bulbs, florist greens, flower and vegetable seeds, flowers, foliage, fruit stocks, nursery stock, ornamental plants, shrubbery, sod, mushrooms, and vegetables grown under cover.

[6]The animal specialty category includes production of fur bearing animals, rabbits, horses, ponies, bees, fish in captivity except fish hatcheries, worms and laboratory animals.

Figure 14. Distribution of entrants and continuing farming operations in North Carolina among crop and livestock categories.

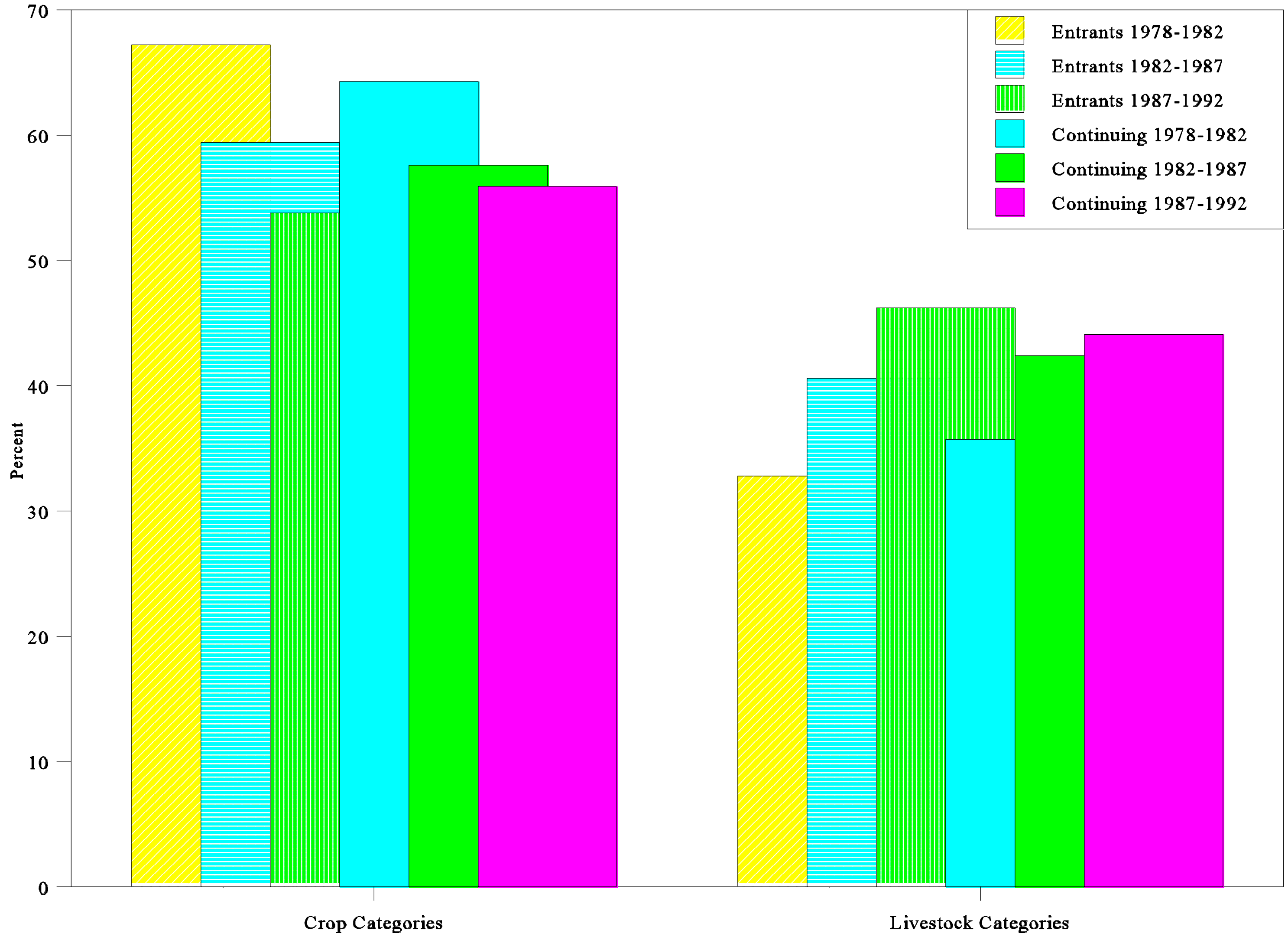

70
60
50
40
30
20
10
0
Percent
Crop Categories
Livestock Categories
Entrants 1978-1982
Entrants 1982-1987
Entrants 1987-1992
Continuing 1978-1982
Continuing 1982-1987
Continuing 1987-1992

Figure 15. Distribution of entrants and continuing farming operations in North Carolina by type of crop farm.

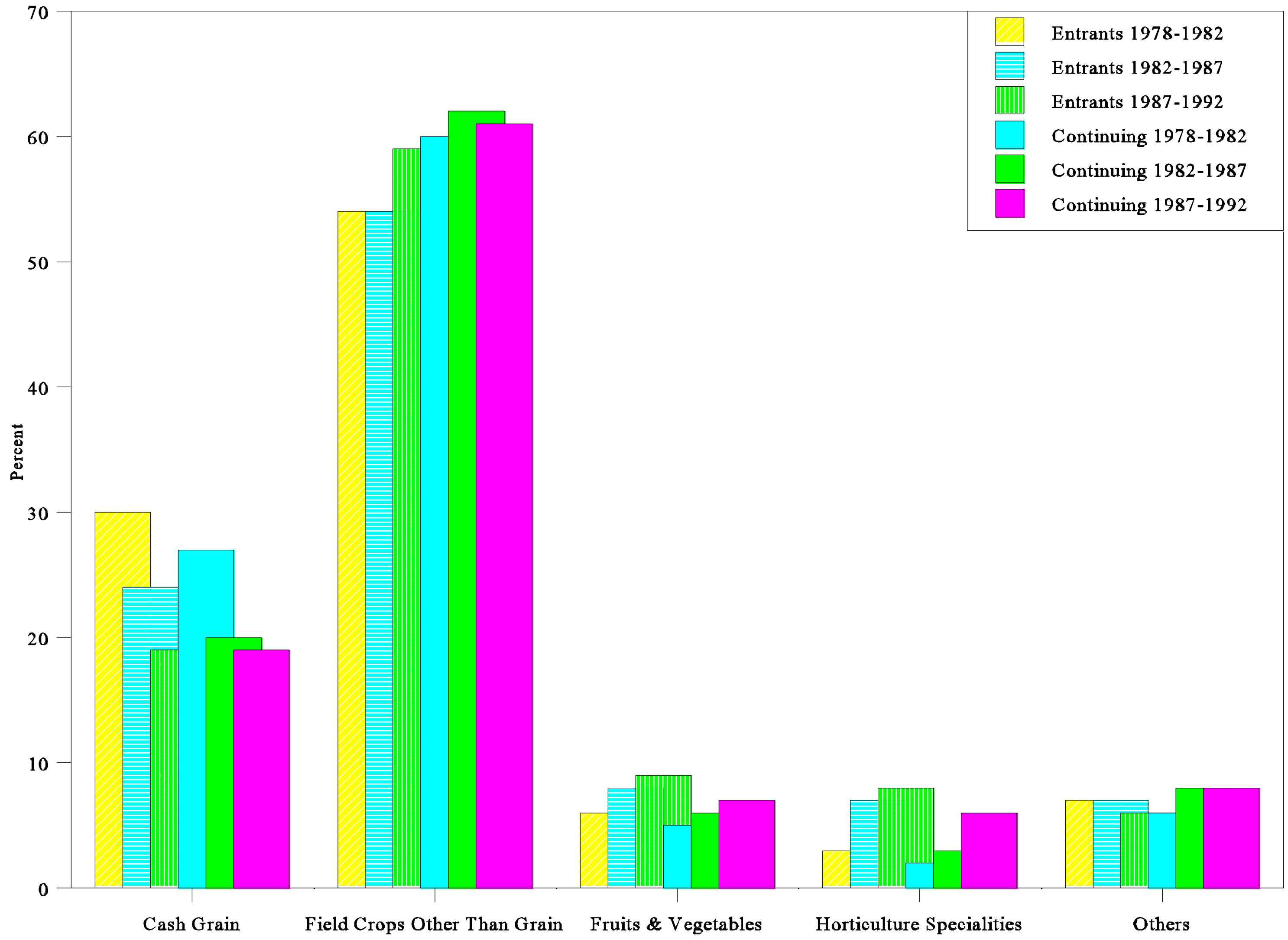
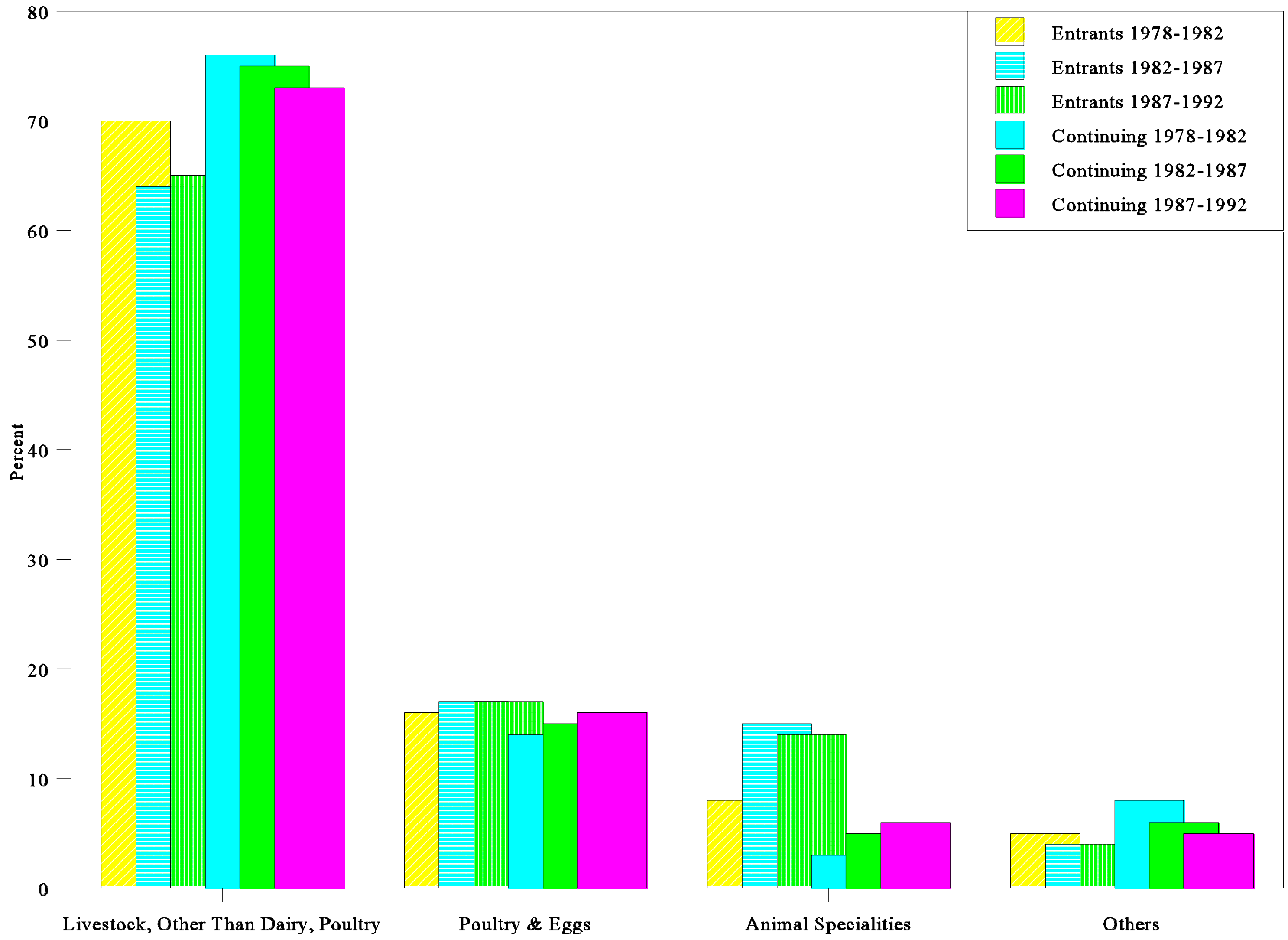


Figure 16. Distribution of entrants and continuing farming operations in North Carolina by type of livestock farm.



Regional differences in entrance to exit (or replacement ratios) and changes in total acres of farmland suggest considerable consolidation of farming operations in the eastern part of North Carolina relative to other parts of the state. Substantial variation in the rate of change in farm numbers and the replacement ratios among the 100 counties indicate that the factors influencing the number and average size of farms have not operated uniformly across the state.

An increasing proportion of North Carolina farm operators, especially those for which farming is their principal occupation, are 65 years of age or older suggesting increasing rates of management turnover in the future. A majority of the new farms in North Carolina during 1987-1992 had less than 50 acres, and operators who did not consider farming to be their principal occupation. The proportion of new entrants as well as continuing farming operations in the 220 acreage and greater category has been increasing over time. Renting or tenant status continues to be more common for entrants than continuing farm operators, especially those with sales of $10,000 or more. Actually, part owners rather than full owners or tenants constitute the highest proportion of continuing farming operations with sales of $10,000 or more. The proportion of farms in North Carolina that are incorporated is small but increasing. The vast majority of North Carolina farms are family owned. The distributions of entrants and continuing operations by type of farm reflect the increasing importance of animal production relative to cash grain and field crop production in the state. The latter two categories, however, accounted for about the same proportion of new farms as all of the animal categories during 1987-1992 in North Carolina.

The evidence suggest that new farms as well as those that have operated for longer periods of time have both been responsible for changes in the evolving structure of agricultural production in North Carolina. The large number of small, and presumably part-time, farms in North Carolina, serving primarily as a place of residence rather than as a source of income, undoubtedly accounts for considerable similarity in many characteristics of new farms with those that have existed for longer periods of time. A higher proportion of new farms however have less acreage and sales of farm products and do not consider farming to be their principal occupation. Intergenerational and other ownership transfers of agricultural assets and managerial responsibilities means that the composition and the total number of farms in North Carolina are likely to continue to change over time.

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