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**CHANGES IN THE SWINE INDUSTRY:
U.S. and OHIO, 1960 - 1990**

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The material is selected from an address by Dr. Bobby D. Moser, Dean and Vice President for Agriculture at The Ohio State University, entitled "How Bright is the Future of Ohio's Swine Industry?" presented at the 1992 Professional Pork Producers' Symposium in the Dayton Convention Center, February 20, 1992. Single copies may be obtained by requesting ESO-1931, Department of Agricultural Economics and Rural Sociology, The Ohio State University, Columbus 43210.

INTRODUCTION

These tables and figures come from several sources. Some have been prepared specifically for this collection. Some have been used in other publications and manuscripts. Some have been updated periodically and used as classroom teaching aids for many years. But what brings them all together in this set has been the public response to an address by the senior author, and numerous requests for copies of projections seen on a screen during his presentation.

FIGURE 1

Figure 1 identifies the states and boundaries that sometimes are mentioned only as regions in the material that follows.

TABLE 1

Changes in slaughter hog marketings between 1960 and 1990 are shown for major producing states. During that period, total U.S. marketings increased 11.8 percent (bottom right). East North Central states did not share in that growth; West North Central states grew at about twice the national rate. Production in some states outside the cornbelt, North Carolina for example, increased very rapidly. Overall, the North Central states maintained their relative importance, accounting for 80 percent of U.S. marketings in both 1960 and 1990, but the position was maintained by rapid growth in WNC states that counterbalanced decline in ENC states. Those who seek to explain this decline cite higher grain prices in ENC states due to their more favorable location in global grain trade patterns, and also the ready availability of off-farm jobs for those who choose that alternative (compared to livestock production) as a means of supplementing household income.

FIGURE 1

UNITED STATES, BY GEOGRAPHIC DIVISION

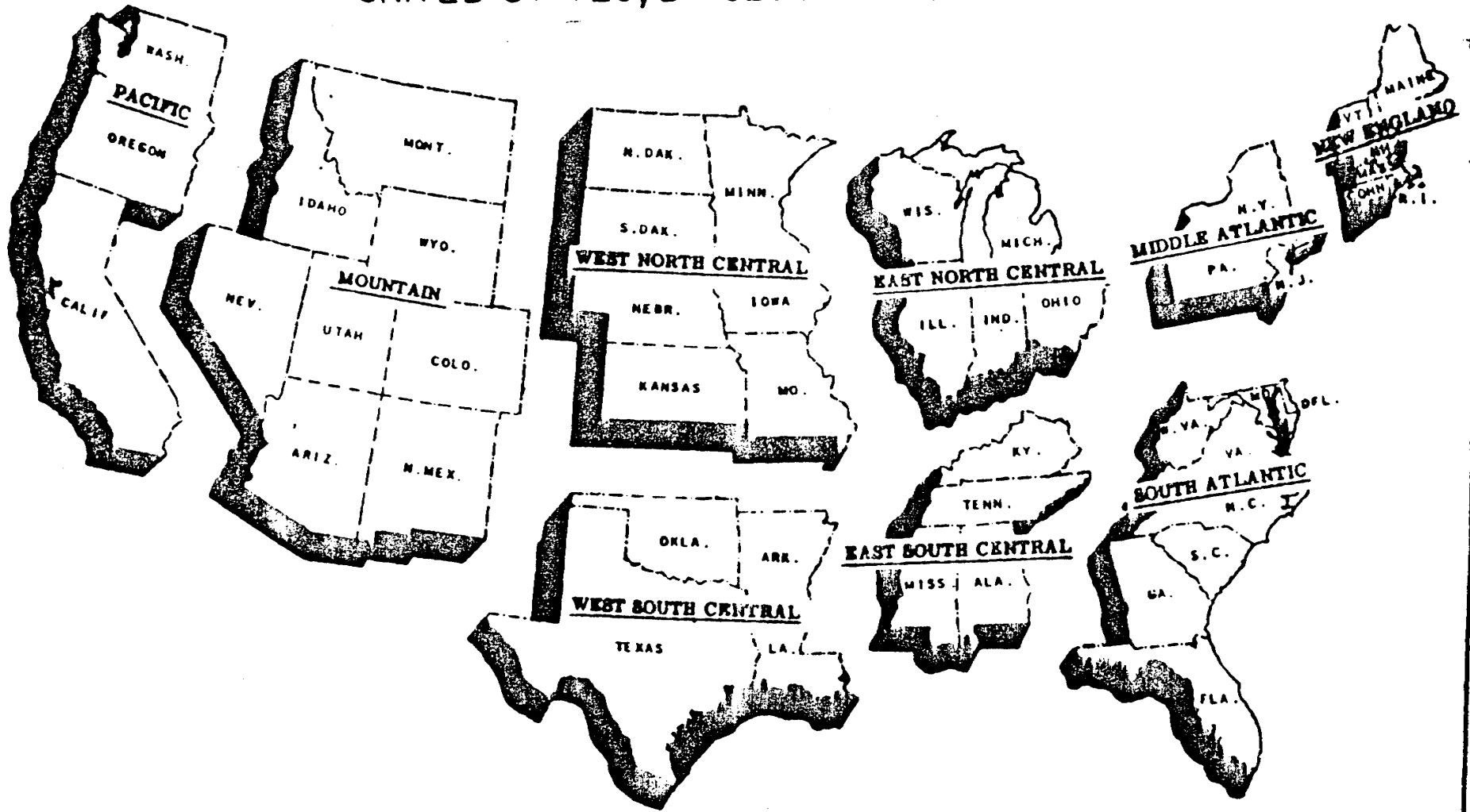


TABLE 1

THOUSANDS OF SLAUGHTER HOGS MARKETED,
AND PERCENTAGE CHANGE FROM 1960 TO 1990

Region and State	Slaughter Hog Marketings		1990 as % of 1960
	1960	1990	
(thousands)			
EAST NORTH CENTRAL			
Ohio	4,064	3,455	85.0
Indiana	7,348	7,166	97.5
Illinois	10,657	8,930	83.8
Michigan	1,096	2,014	183.8
Wisconsin	3,335	1,900	57.0
Total ENC	<u>26,494</u>	<u>23,465</u>	<u>88.6</u>
WEST NORTH CENTRAL			
Minnesota	5,660	7,685	135.8
Iowa	18,457	21,994	119.2
Missouri	5,709	4,485	78.6
North Dakota	487	429	88.1
South Dakota	2,236	3,027	135.4
Nebraska	3,577	6,917	193.4
Kansas	1,645	2,468	150.0
Total WNC	<u>37,771</u>	<u>47,005</u>	<u>124.4</u>
OTHER STATES			
Pennsylvania	593	1,424	240.1
North Carolina	1,527	5,044	330.3
Arkansas	496	1,391	280.4
TOTAL U.S.	<u>79,938</u>	<u>89,380</u>	<u>111.8</u>

Source: USDA

FIGURE 2

The United States is divided here into four regions, the boundaries for which can be determined from Figure 1. What appears in each region is 1990 percentages. These percentages refer to bars that are identified in the key: beginning inventory - marketings - slaughter - consumption. The percentages for the four regional bars for slaughter, for example (2 - 72 - 23 - 3 = 100) show the regional distribution of the national slaughter total. Comparable percentages for an earlier year, 1957, show that major changes have occurred in these regional distributions. The North Central region is notable for its industry dominance; it is the only region that exports both hogs and pork; all other regions import both hogs and pork.

What is most interesting to East North Central producers is the magnitude of the market for pork in the Northeast, which consumes 22 percent of the national pork supply but produces only 2 percent of it. Obviously, great tonnages of pork flow through ENC states from WNC states on their way to this Northeast market, and it seems equally clear that the Northeast provides a major market incentive for rapid growth in non-Cornbelt states like North Carolina. Some observers wonder if these trade patterns represent a missed opportunity for ENC states, like Ohio, where farm households may be inclined to abandon their hog-producing skills in favor of income supplements from nonfarm jobs. Perhaps one explanation lies in the apparent fact that swine production is changing rapidly from its traditional farm role as a supplementary enterprise and moving into the hands of interests prepared to make major financial and managerial commitments to large-scale production. All the material that follows constitutes a further investigation of this proposition.

FIGURE 2. HOGS AND PORK: PERCENTAGE DISTRIBUTION OF INVENTORY, MARKETINGS, SLAUGHTER, AND PORK CONSUMPTION, 1990

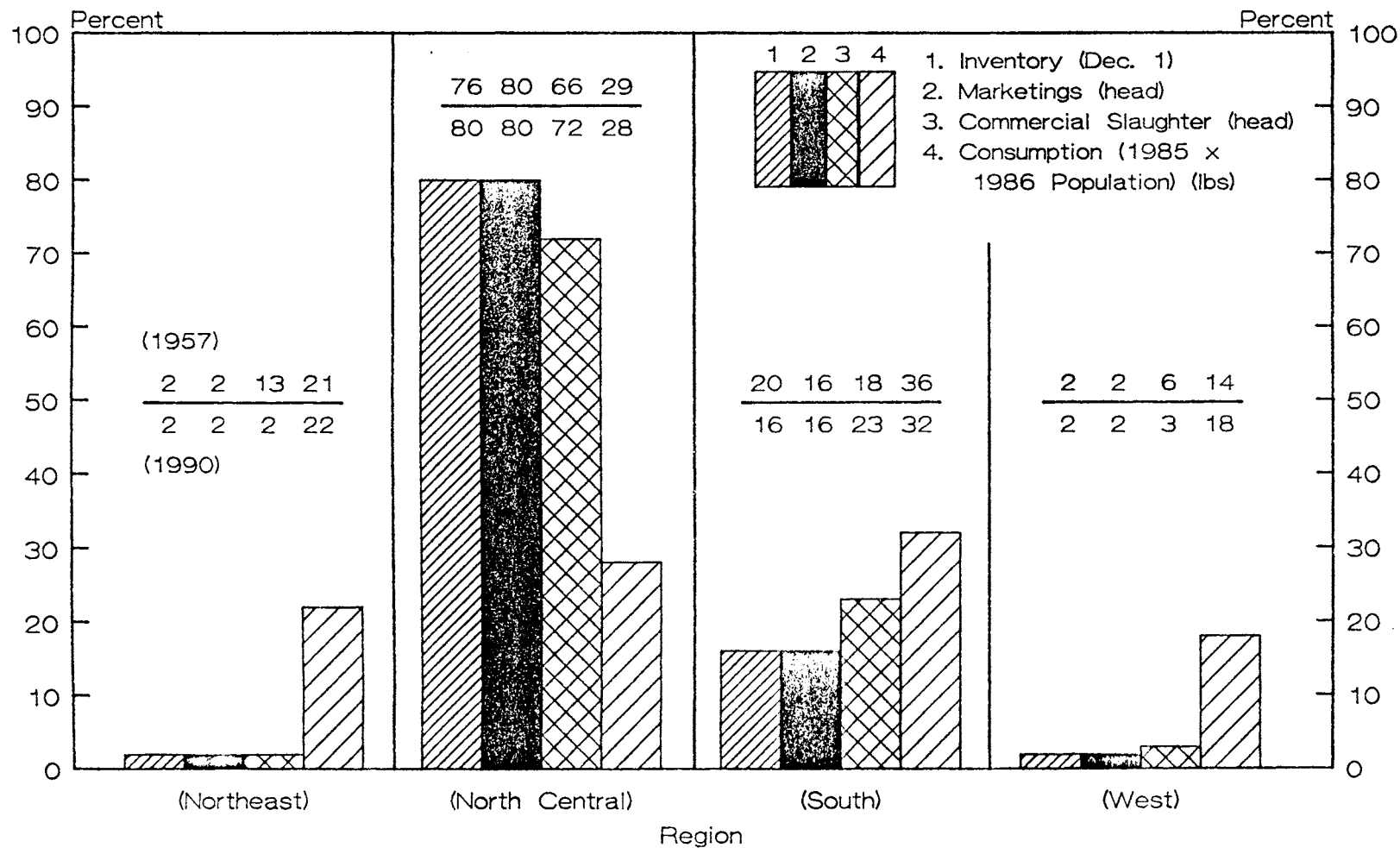


TABLE 2

That farm numbers in the U.S. have declined for most of this century is widely known. What is less well known is that, as remaining farmers become more specialized in their production, the numbers of farms devoted to any one enterprise falls even more rapidly than the national total. According to the Census, the number of farms producing hogs, for example, has dropped to 5 percent of the 1920 total in the U.S. and to 6 percent in Ohio. The Ohio share of all U.S. hog farms may have increased slightly during those years, perhaps because nonfarm income, common among Ohio farm households, helped to sustain farms that otherwise would have disappeared.

FIGURE 3

National increases in hog production, accompanied by decreasing farm numbers, means great increases in hog production per farm. Census data for Ohio provide an illustration.

TABLE 3

USDA data confirms the Ohio pattern of increased hog numbers per farm producing hogs. But comparisons with other states show that the Ohio pattern is remarkable not for its increase but for a rate of growth much slower than what appears to be the norm for vigorous hog-producing states, including North Carolina and neighboring Indiana.

FIGURE 4

Packer locations tend to change as hog production changes. This tendency is apparent in the bar chart, Figure 2. Figure 4 offers a state summary that shows where slaughter increases have been most rapid during 1960-1990. The net effect of peripheral growth outside the ENC states permits comparisons between the eastern Cornbelt and the hole in a donut.

TABLE 2
 NUMBER OF FARMS PRODUCING HOGS, U.S. AND OHIO,
 SELECTED YEARS, 1920-1991

Year	United States	Ohio	Ohio (as a % of U.S.)
1920	4,850,807	199,402	4.1
1940	3,766,675	144,555	3.8
1959	1,848,784	64,125	3.5
1970	871,200	30,000	3.4
1980 a/	670,350	23,000	3.4
1985 a/	391,000	15,000	3.4
1986	348,000	14,000	4.0
1987	331,620	14,500	4.4
1988	326,600	14,500	4.4
1989	306,210	14,200	4.6
1990	275,440	13,600	4.9
1991	256,390	13,000	5.1

a/ Note the rapid decline from 1980 to 1985, in both the U.S. and Ohio, and the increase in the Ohio share thereafter.

Source: U.S. Census for years before 1970 and Meat Animals (selected issues) USDA, for 1970 and subsequent years

Figure 3. Number of Farms With Hogs and Hogs Per Farm Reporting Hogs, Ohio, Census Year, 1910-1987.

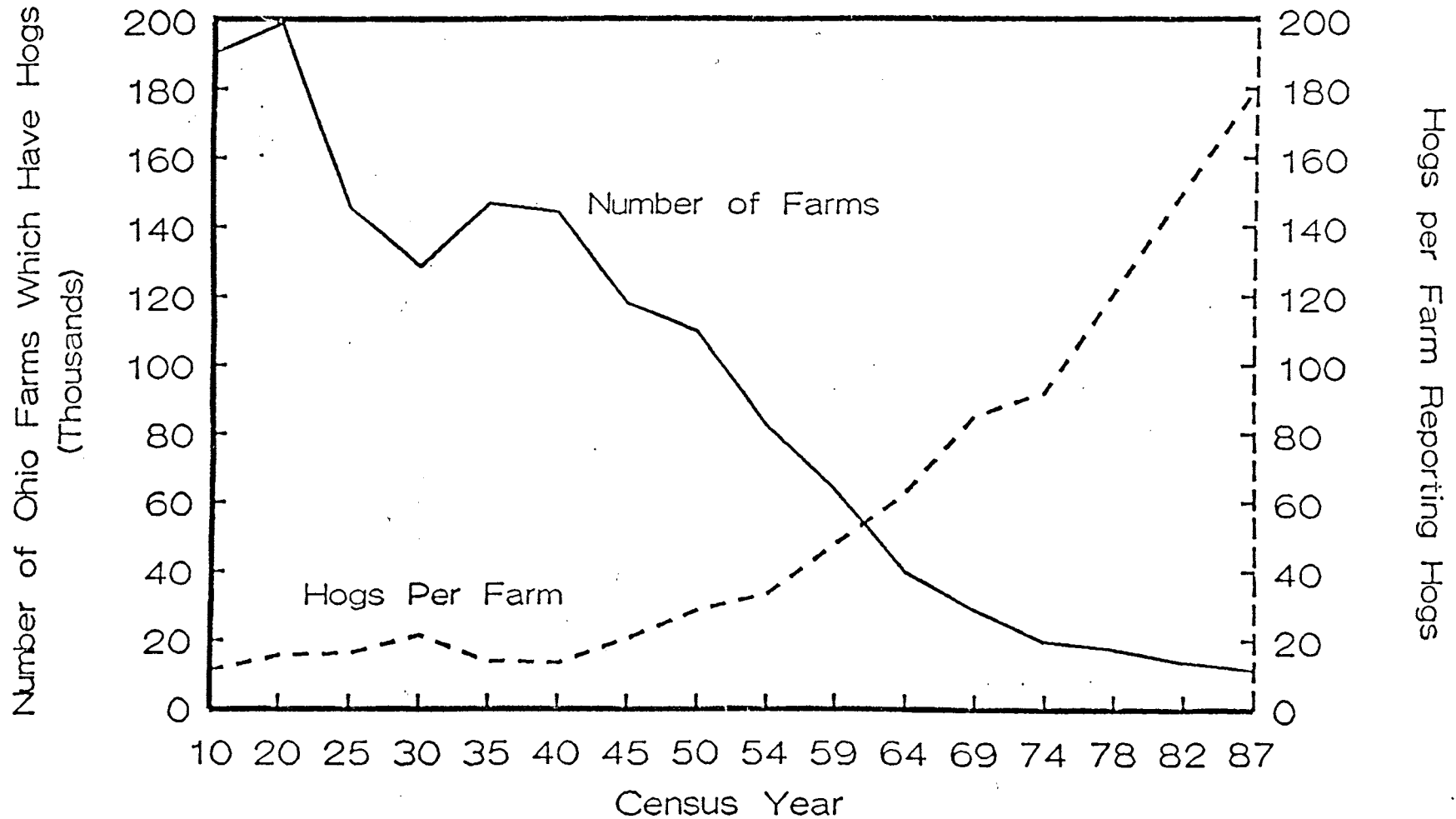


TABLE 3

HOG MARKETINGS PER FARM RAISING HOGS, 1960 - 1990

Year	OHIO	INDIANA	IOWA	NEBRASKA	NORTH CAROLINA ^a
1960	63	99	138	71	11
1970	130	187	221	162	41
1980	132	286	366	297	94
1985	209	356	531	402	208
1986	221	390	562	467	253
1987	224	440	535	488	305
1988	243	452	547	531	339
1989	264	474	609	542	416
1990	254	551	628	553	504

^a In 1990 there were 10,000 farms in North Carolina producing 5,044,000 hogs. Murphy Farms alone accounted for nearly two million of these hogs, somewhere between 35 and 40 percent.

Source: ERS, USDA

FIGURE 4
 STATES WHERE THE 1960–1990 INCREASE
 IN HOG MARKETINGS IS THE LARGEST

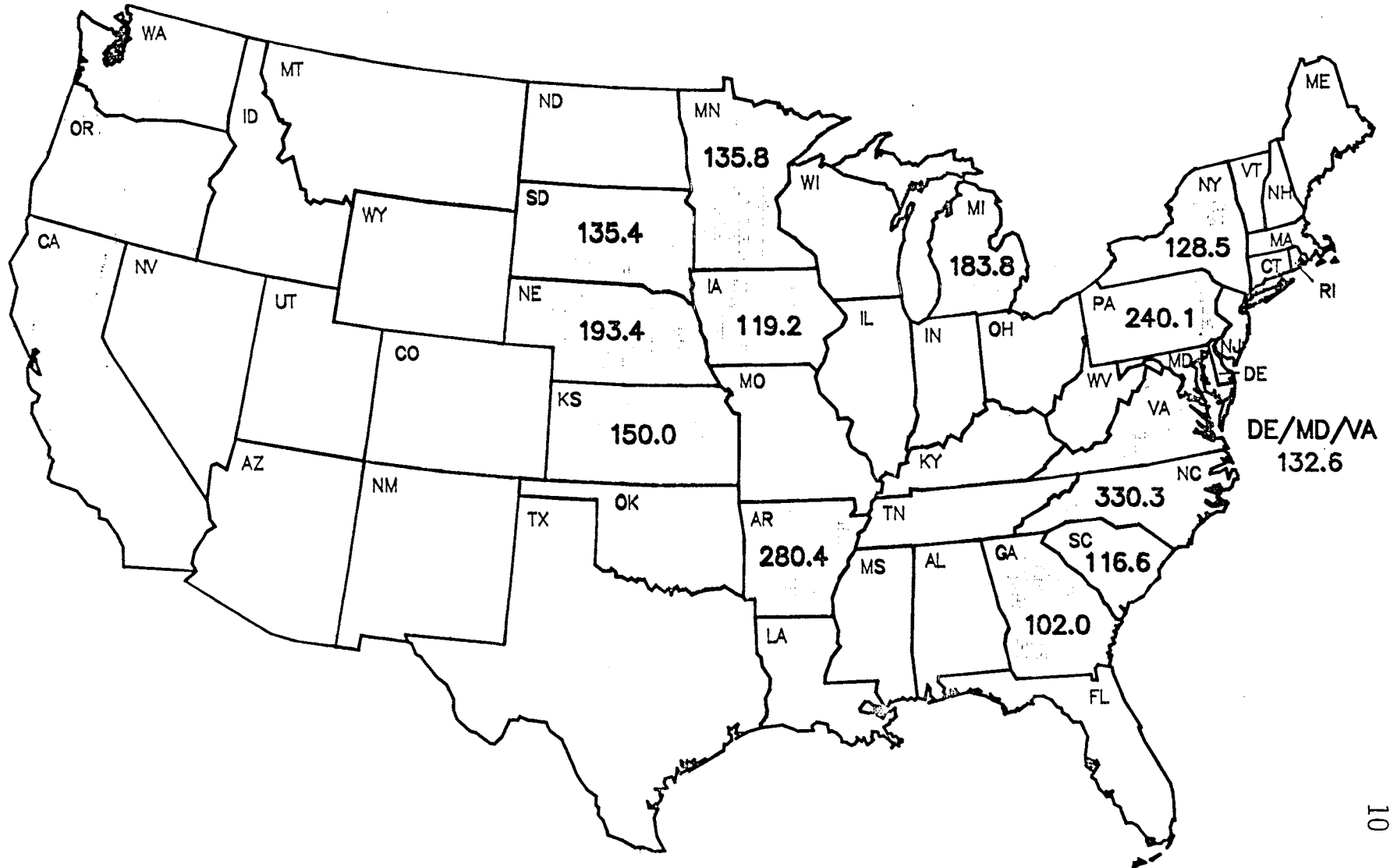


FIGURE 5

Specific locations for the 20 largest hog slaughtering plants in 1990 appear in Figure 5.

TABLE 4

The relationship of slaughter capacity to hog production in Ohio in the second half of the 20th Century appears in Table 4. The relationship between Ohio hog prices and strong Ohio grain prices is strained further as slaughter capacity declines and shipment distances for hogs increase.

FIGURE 6

The age of Ohio packing plants and the decline in slaughter capacity is accompanied by a sense of concern among interested observers about future decisions affecting packing plant locations and activities.

FIGURES 7 and 8

Changes in the location and density of Ohio hog production are evident in contour maps of county hog inventories. The effects of urbanization are apparent, and the consequences of highway development on land use, nonfarm residential encroachment, and farm family mobility to nonfarm employments can be inferred.

SUMMARY

Investments are being made in organizational, financial, and managerial assets that are capable of changing the identity of the swine industry. Producers are assessing their commitment to an industry whose future may bear little resemblance to its past. There are alternatives for Ohio producers that tempt and excuse their departure from the industry. But there is also, on the other hand, the appearance of unprecedented reward for successful

FIGURE 5

U.S. Hog Slaughter Plants

20 Largest Plants, 1990



TABLE 4
HOG MARKETING AND COMMERCIAL SLAUGHTER
IN OHIO, 1950-1990

Year	Hogs Marketed (000)	Commercial Slaughter (000)	Slaughter as % of Marketings
1950	4,484	3,833	85.5
1960	4,064	4,558	112.2
1970	3,911	4,263	109.0
1980	3,045	5,244	172.2
1985	3,131	4,252	135.8
1986	3,094	3,659	118.3
1987	3,251	2,874	88.4
1988	3,522	3,008	85.4
1989	3,744	3,039	81.2
1990	3,455	2,575	74.5

Source: USDA

FIGURE 6

Age Distribution of Slaughter Plants Ohio, by Percent, 1992

Age of Plant

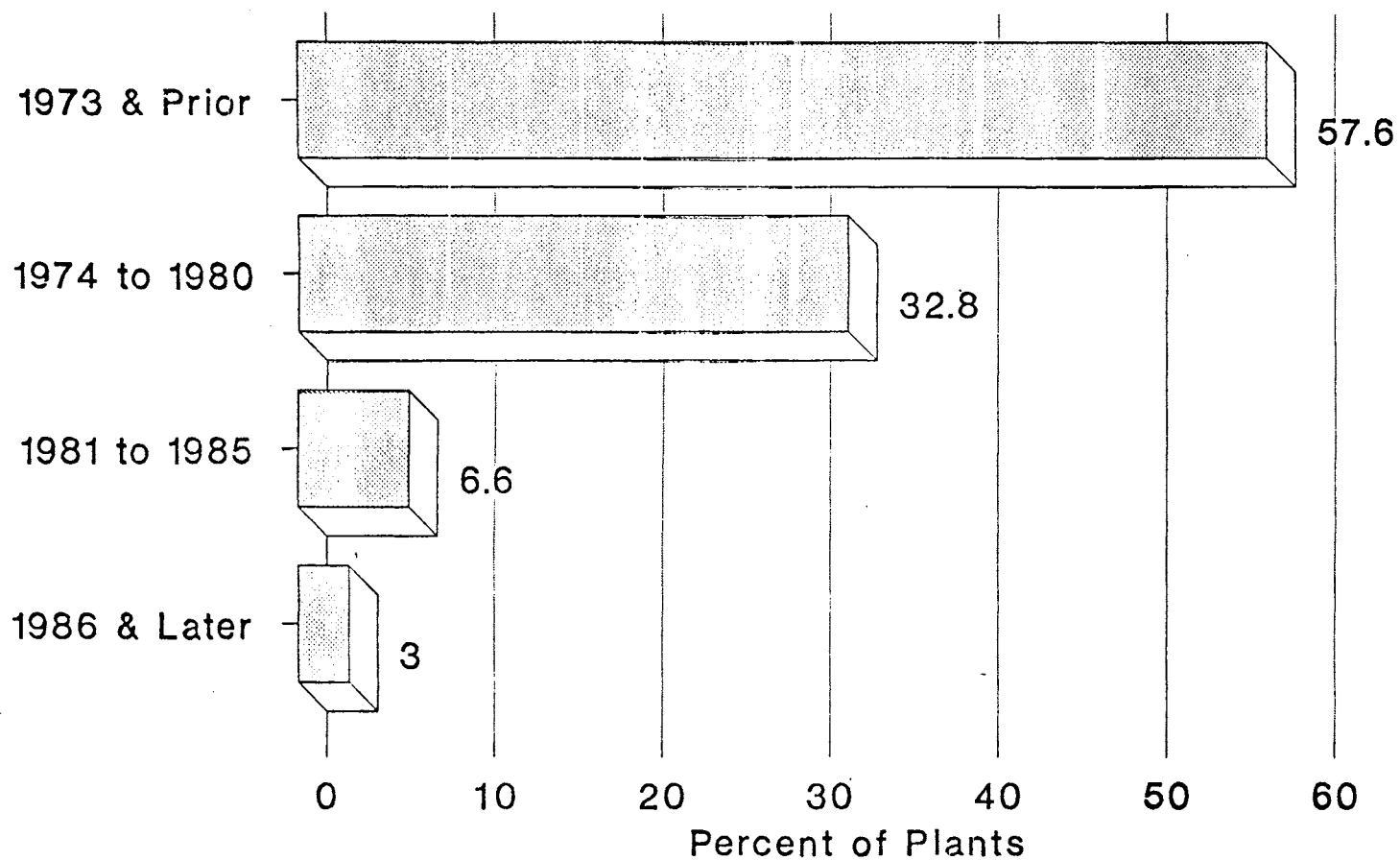
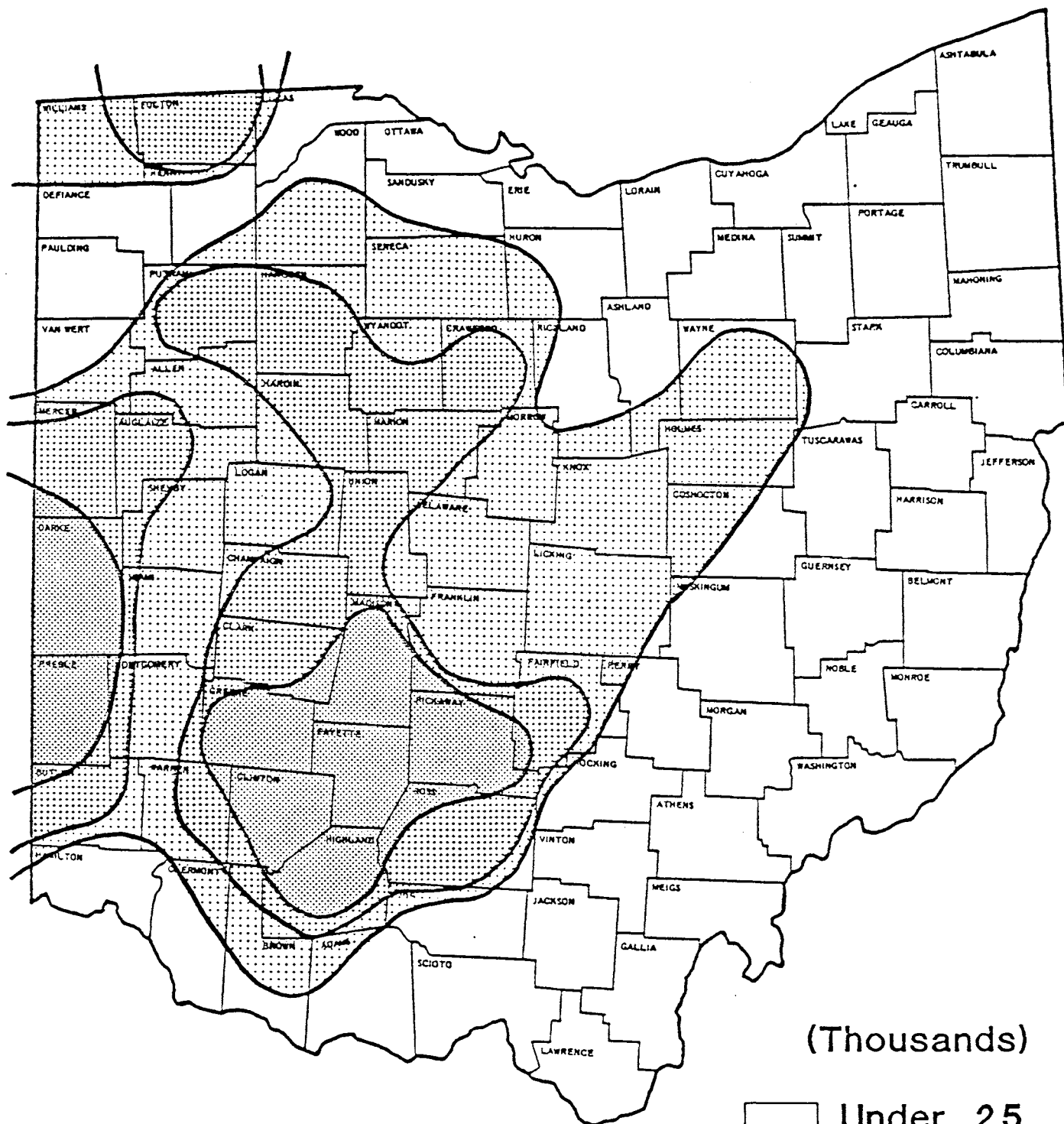


FIGURE 7

HOGS AND PIGS ON FARMS, JANUARY 1, 1961

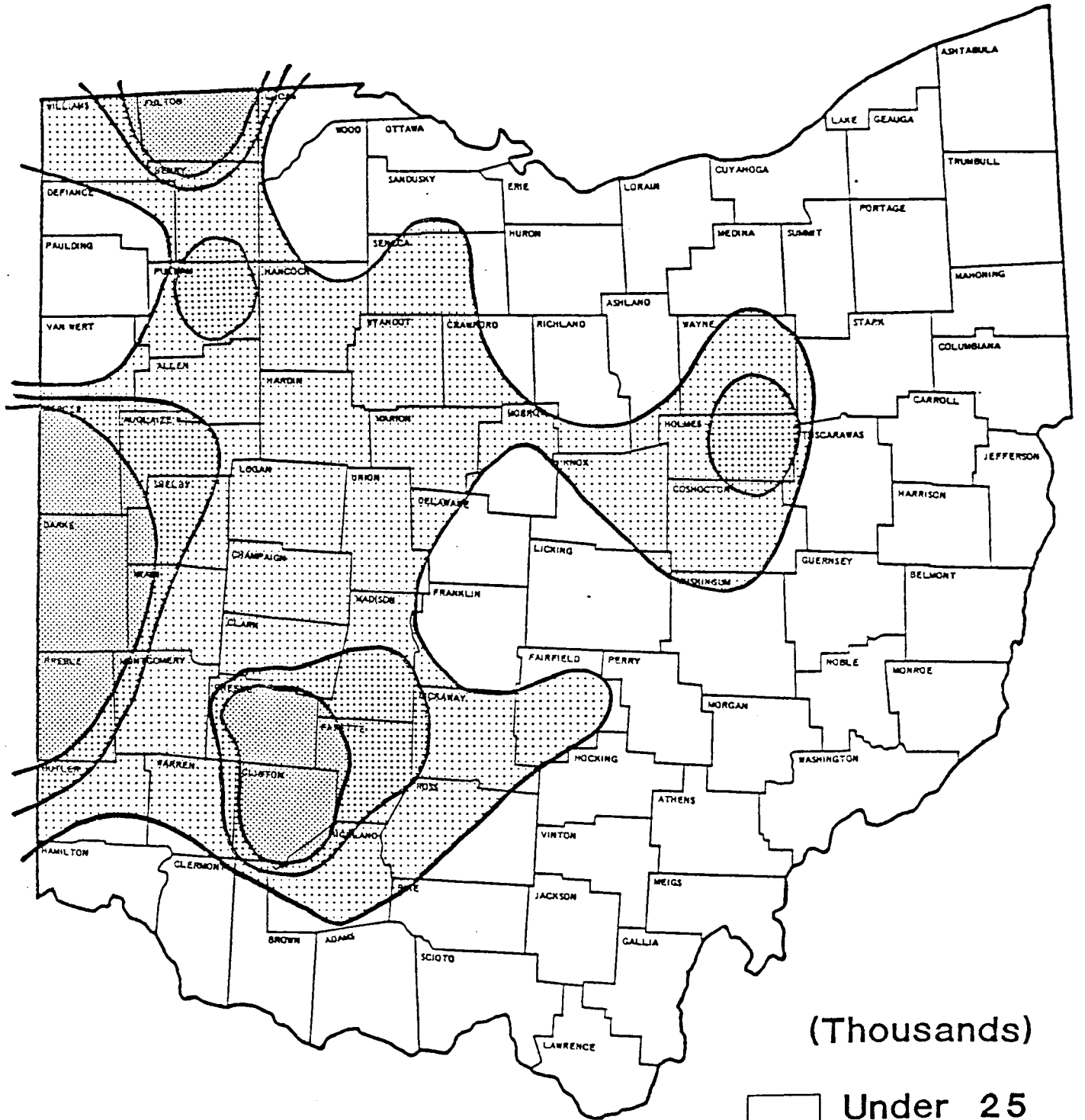


(Thousands)





- Under 25
- 25 - 49
- 50 - 74
- 75 or more

State Total - 2,599,000

HOGS AND PIGS ON FARMS, DECEMBER 1, 1990



(Thousands)

-  Under 25
-  25 - 49
-  50 - 74
-  75 or more

State Total - 2,000,000

development of an Ohio swine industry that shares in the abundance of the adjacent Northeast market.

Intelligence and determination have been primary ingredients in cases of successful transition to new production and slaughter arrangements, and these have captured the attention of the industry. The Ohio industry now stands at a crossroad, choosing its future.