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Graphic and Statistical Summary of Hog Movements to and from Texas, 1923-1930

PRELIMINARY REPORT

By
FREDERICK A. BUECHEL
and
JOHN A. CLACK

BUREAU OF BUSINESS RESEARCH
The University of Texas
Austin, Texas

June, 1931

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P R E F A C E

Graphic and Statistical Summary of Hog Movements to and from Texas is the first of a series of preliminary reports on car-lot movements of livestock by Natural Regions. Similar reports will appear from time to time during the coming months pending the completion of the more detailed studies which will appear later in printed bulletins. It is believed that through the combination of the monthly statistical releases, preliminary mimeographed reports at irregular intervals, and finally detailed studies covering a period of years and involving a number of factors, the important elements of timeliness and completeness may best be attained.

This report is part of a broad program of the Bureau dealing with the business side of livestock and meat packing industries and with wholesale and retail distribution of meats. Studies have already been published analyzing the rail movements of cattle and of sheep and goats to and from Texas on the basis of livestock districts delineated by the United States Department of Agriculture. A bulletin on ranch accounting was also recently published by the Bureau.

A. B. Cox, Director

June, 1931

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INTRODUCTION

A period of business depression like that of the past two years is likely to emphasize certain weaknesses in our economic structure which under more normal conditions might pass unnoticed. This situation may account for the attention which is now being given by farmers, farm leaders, and business men to the need of a sounder foundation for Texas agriculture as well as a more secure basis for the industrial and commercial institutions built upon agriculture. The feeder-breeder movement, commercial dairy development, and expansion of the poultry industry are concrete illustrations of some of the forces which are at work for more permanent agriculture, industry, and commerce in the State.

As a result of these activities for the promotion of sounder agricultural and industrial conditions in the State, an urgent demand has arisen for reliable information upon which to base a program pointing toward progressive improvement. The Bureau of Business Research is attempting to aid leaders of this movement in a number of ways. A bulletin on The Natural Regions of Texas, by Elmer H. Johnson of this Bureau, has just been published, and is now available for distribution. Monthly statistical releases on livestock, poultry, and egg movements from Texas showing points of destination, and movements into Texas showing points of origin are being prepared by the Bureau in conjunction with the United States Department of Agriculture and the railroads of the State. A comprehensive study associating the statistics on commercial movements of all classes of livestock, poultry and eggs, and wool and mohair with the "natural regions" of the State from 1923 to 1930 is now in progress.

RAIL SHIPMENTS AND RECEIPTS OF HOGS IN TEXAS

The following data summarize the hog movements from and into Texas from 1923 to 1930 inclusive. Total rail shipments declined from a maximum in 1923 to a minimum in 1926, then increased to another high point

Year	Number of Hogs Shipped			Number of Hogs Received			Net Interstate Receipts
	Total	Intra-state	Inter-state	Total	Intra-state	Inter-state	
1930	332,589	210,326	122,063	329,781	210,216	119,655	2,408*
1929	426,088	278,884	147,204	408,201	284,382	123,819	23,395*
1928	349,982	265,394	84,498	392,850	260,498	132,352	47,854
1927	275,289	199,097	76,192	358,520	207,837	150,683	74,491
1926	101,118	77,411	23,707	311,657	82,779	228,878	205,171
1925	218,767	176,294	42,473	421,028	191,682	229,346	186,873
1924	242,891	172,246	70,645	569,750	167,849	401,901	331,256
1923	491,502	290,977	200,525	519,619	319,781	299,838	99,313

*Net Interstate shipments.

in 1929. A substantial decline from the 1929 figure occurred in 1930. When classified according to intrastate shipments and interstate shipments, it is to be noted that each class of shipments follows approximately the same general course as do total shipments.

Total rail receipts, the bulk of which arrived at the five large cities of the State, were greatest in 1924 and lowest in 1926. Receipts again reached a relatively high figure in 1929, but declined materially in 1930. After 1924, interstate receipts showed a consistent decline throughout the entire period, and in 1930 receipts from other states were less than 30 per cent as great as they were in 1924. Interstate receipts exceeded interstate forwardings from 1923 to 1928, the net interstate receipts during the entire period being almost 950,000. During the two years 1929 and 1930,

shipments out of the State exceeded shipments into the State by about 26,000.

Although the interstate transportation of hogs takes place almost entirely by rail, a considerable part of the movements within the State are made by truck. The number of hogs arriving at the five big markets of the State by truck is not shown in this report, but it is expected that at least a close estimate of truck receipts in the principal markets may be made as the series of livestock studies now under way progresses.

CONCENTRATION OF HOG RAIL MOVEMENTS IN THE NATURAL REGIONS OF TEXAS¹

Concentration of commercial hog production, as reflected by the five-year average hog shipments (1926-1930), occurs in several sections of the State (Figure 1). When this concentration is associated with the Natural Regions of Texas, it is found that most of the hogs of the State which are shipped by rail originate in the Western High Plains, Interior Dissected Plains, Southern Black Prairies, Grant Prairies, Llano Basin, Interior Coastal Prairies, and Lampasas Cut Plain. Considerable concentration of hog production also occurs to the north and east of the Black Prairies along the Red river.

The northern and middle portions of the Western High Plains (D-1 and D-1_a) embracing all or parts of Dallam, Hartley, Deaf Smith, Parker, Castro, Bailey, and Lamb counties show considerable development of commercial hog production. Farther south in Terry and Gaines counties of the same region some development also is indicated (Figures 1 and 2).

The northern portion of the Western High Plains (D-1) is a rolling country cut across by the wide and roughened groove of the Canadian River. It is a short grass country, but areas with deep sands underlain with subsoils of sandy clays were originally covered with tall grasses; some of these areas with deeper sands are now used for the production of corn (maize). Most of this region was in range until recently; at present, farming enterprises constitute an important factor in its economic life.

The middle portion of the Western High Plains (D-1_a) is similar to D-1, but its soils possess a higher content of sandy materials. Wheat and grain sorghums are the principal crops although cotton is increasing

1. Elmer H. Johnson, The Natural Regions of Texas, Bureau of Business Research. See Natural Regions map and legends at end of this bulletin for special names and symbols of regions.

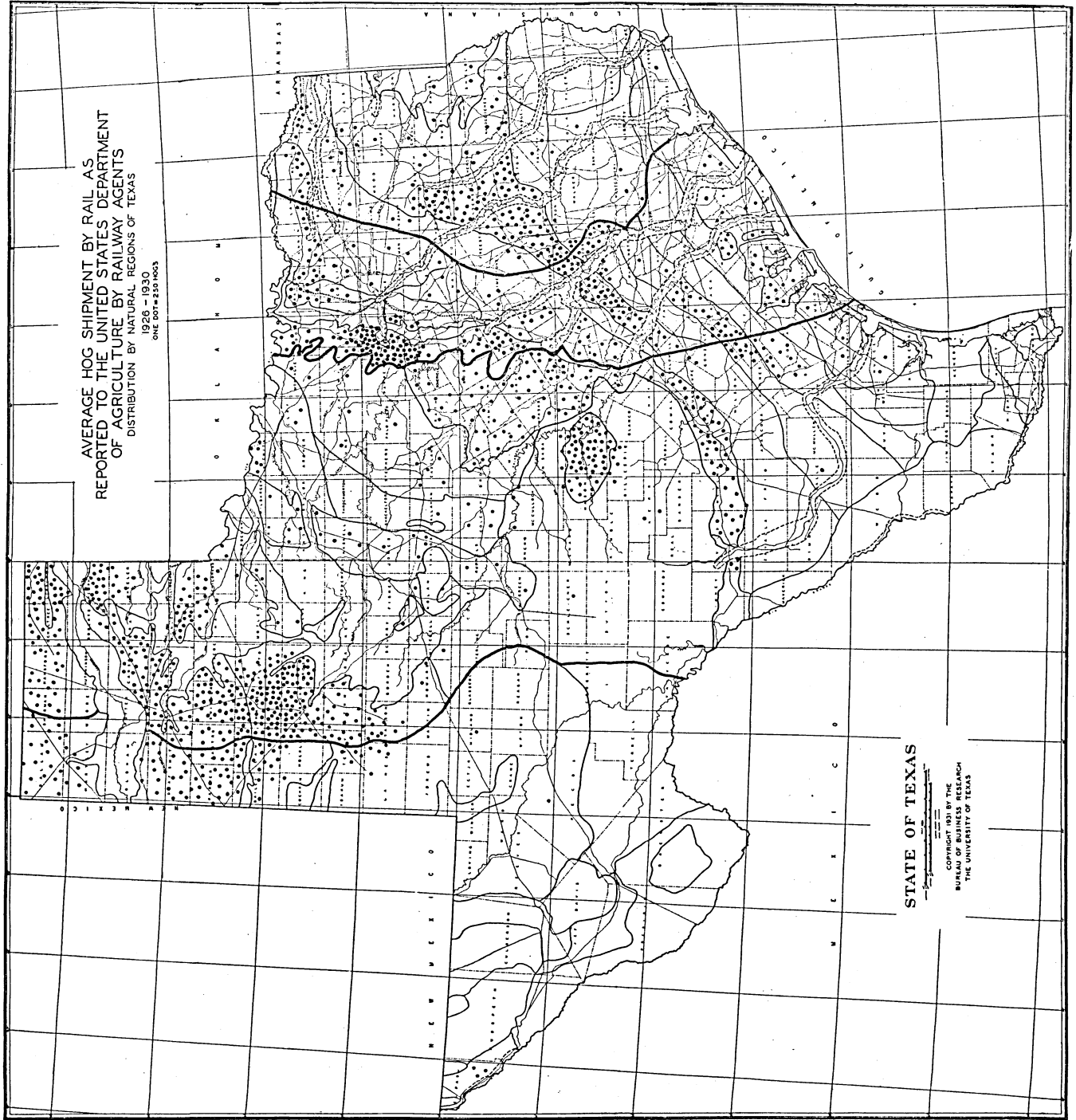


FIGURE 1

amounts has been extending westward into this region in recent years.

The northern and middle portion of the Eastern High Plains (Ca-1, Ca-3) includes some of the most important hog producing counties in the State. In the part of Ca-1 north of the Canadian river are Lipscomb, Ochiltree, Hansford counties, and part of Sherman County. In Ca-1, south of the Canadian river, the counties embraced in the region, either in whole or in part, are Roberts, Gray, Carson, Potter, Armstrong, Randall, Castro, Swisher, and Briscoe. A little to the south of this area is an important hog producing section, Ca-3, including Hale, Floyd, Lubbock, Crosby, Lynn and Dawson counties.

In the Red River Rolling Plains area (Ca-4) to the east of the Eastern High Plains and extending to the Oklahoma line are a number of counties of importance in hog production including Hemphill, Roberts, Wheeler, Donley, Collingsworth, Hall, and Childress counties. The soils in these areas have a high content of sand materials. This characteristic enables them to absorb the greater part of the rainfall and to store up this moisture; it also reduces run-off and thus alleviates erosion. These lands constitute good farming areas, the chief crops being cotton and grain sorghums.

Another region having considerable concentration of hog production is the Interior Dissected Plains (A-3). Counties contributing to commercial hog production in this region are Van Zandt, Smith, Henderson, Cherokee, Houston, Leon, Freestone, Robertson, and Madison. The extension of this region to the Southwest (B-6) includes Burleson, Lee, and Bastrop as important hog producing counties. The Interior Dissected Plains is a region whose soil materials are sands with some clays. The surface of the region is thoroughly dissected with flattish-topped uplands or erosion remnants whose

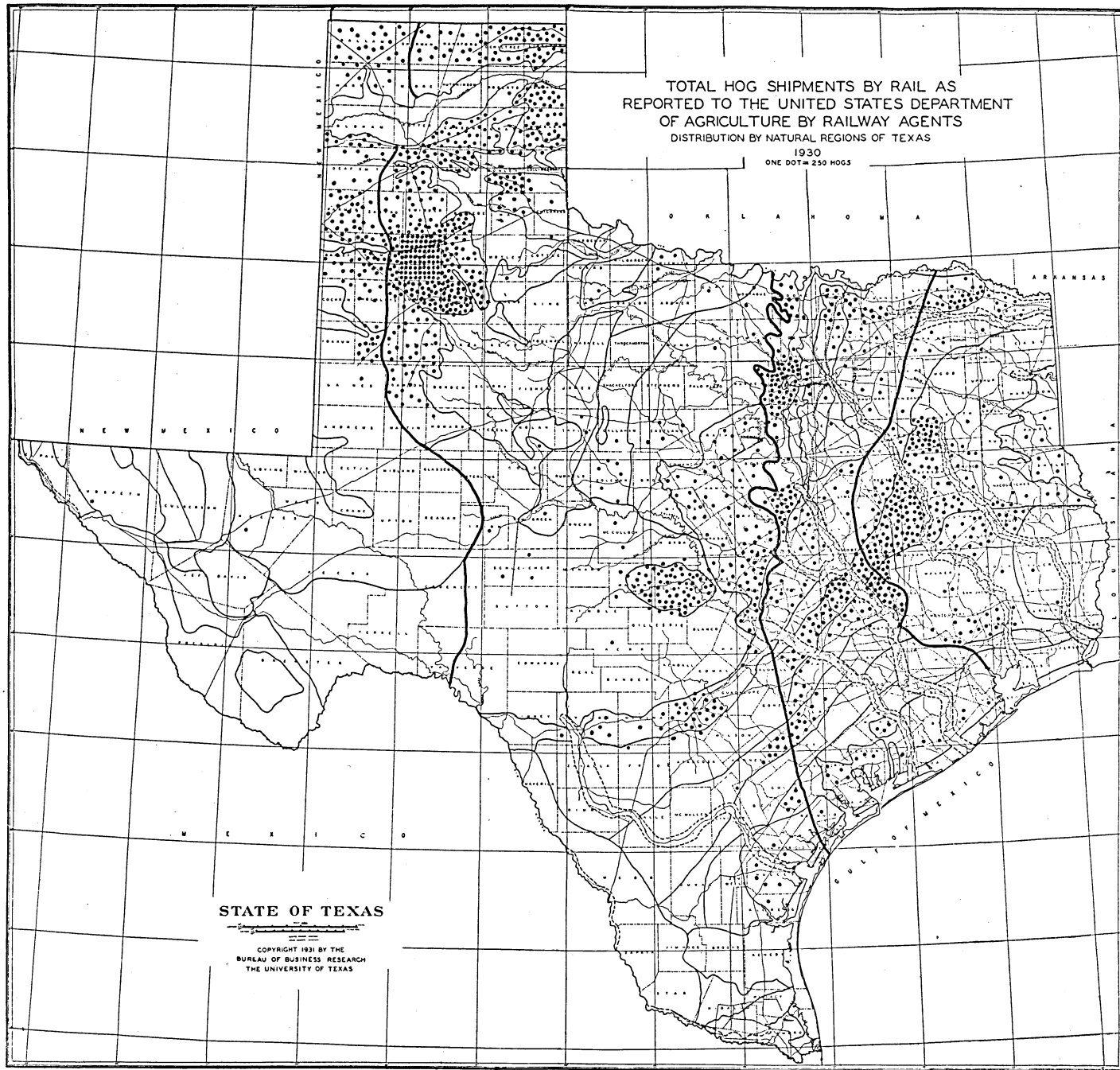


FIGURE 2

supporting materials are thick accumulations of iron ore which occur on the margins of these areas. The soils of the flattish uplands are generally deep sands underlain with subsoils of sandy clays. The soils of the sloping lands vary with the degree of slope and with the character of the geological materials on which they are formed. Along the southern margin of this region occur geological materials high in greensands, the weathering of which has produced the extremely red and fertile soils which have given rise to the term "red lands" of East Texas. These greensand materials are also high in lime content as well as in potash. The extension of A-3 to the Southwest consists of sandy outcrops of clayey materials (B-6). In general, these materials are non-limy and are timbered with hardwoods.

The Southern Black Prairies (Cc-2), an area of considerable hog concentration, is a narrow strip of land through Uvalde, Medina, Bexar, Guadalupe, and the edges of Hays, Caldwell, and Travis counties. It embraces the southern and southwestern extension of the Black Prairies into this portion of the sub-humid province. This strip of prairies is narrower than the northern Black Prairies region; it has, however, exposures of similar limestone rock materials and in addition it has deep outwash deposits in the wide stream valley lowlands which cut across the region from west to east. The outwash materials are limy in nature and have been brought down from the Edwards Plateau at the west by the action of erosion agencies. This region constitutes excellent farming country, except in those areas in which "hard" rock exposures occur at the surface or on which deep deposits of gravel materials have been left on some of the inter-stream divides. These non-farming areas as a rule are excellent for pasture purposes.

The Interior Coastal Prairies (B-8) is a narrow strip cutting

through a number of counties from which a considerable volume of rail shipments of hogs is made. Edges of Fayette, Colorado, Gonzales, Lavaca, DeWitt, and Karnes counties are included. This area is made up of rolling strips of country developed on limestone and limy clays. Interbedded sandstones occur along with the limy materials. The region is more deeply and more closely dissected than are typical areas of the northern Black Prairies. As a result, this region possesses much less in the way of constructional topography than do the Black Prairies. Due to the care of the farmers and the types of land utilization practiced, this is an important agricultural section of the State.

The Grand Prairies (B-1) is an elongated strip of prairies passing through McLellan, Bosque, Johnson, Tarrant, Denton, and Cooke counties from which rail shipments of hogs in considerable volume were reported. The region is underlain with outcrops of "hard" limestone strata. Dissection has produced wide prairie areas, but the general landscape is somewhat more angular than that of the northern Black Prairies (B-3). Originally, all of these lands were prairies. For years it was an important grazing district; now its grazing areas are confined to the rougher lands with shallower soils whereas the deeper soil areas are generally farmed. These deeper soils are black in color, are high in lime, and are very fertile.

The Llano Basin (Cb-2) is an erosional lowland in the Llano river basin from which large shipments of hogs are made annually. Most of Llano County and parts of Mason, Gillespie, and Burnet counties are included in the area. Although the area is timbered, it is chiefly devoted to ranching, and in its general economic aspects it is similar to the northern part of the Edwards Plateau. Hogs are allowed to run at large, and they subsist

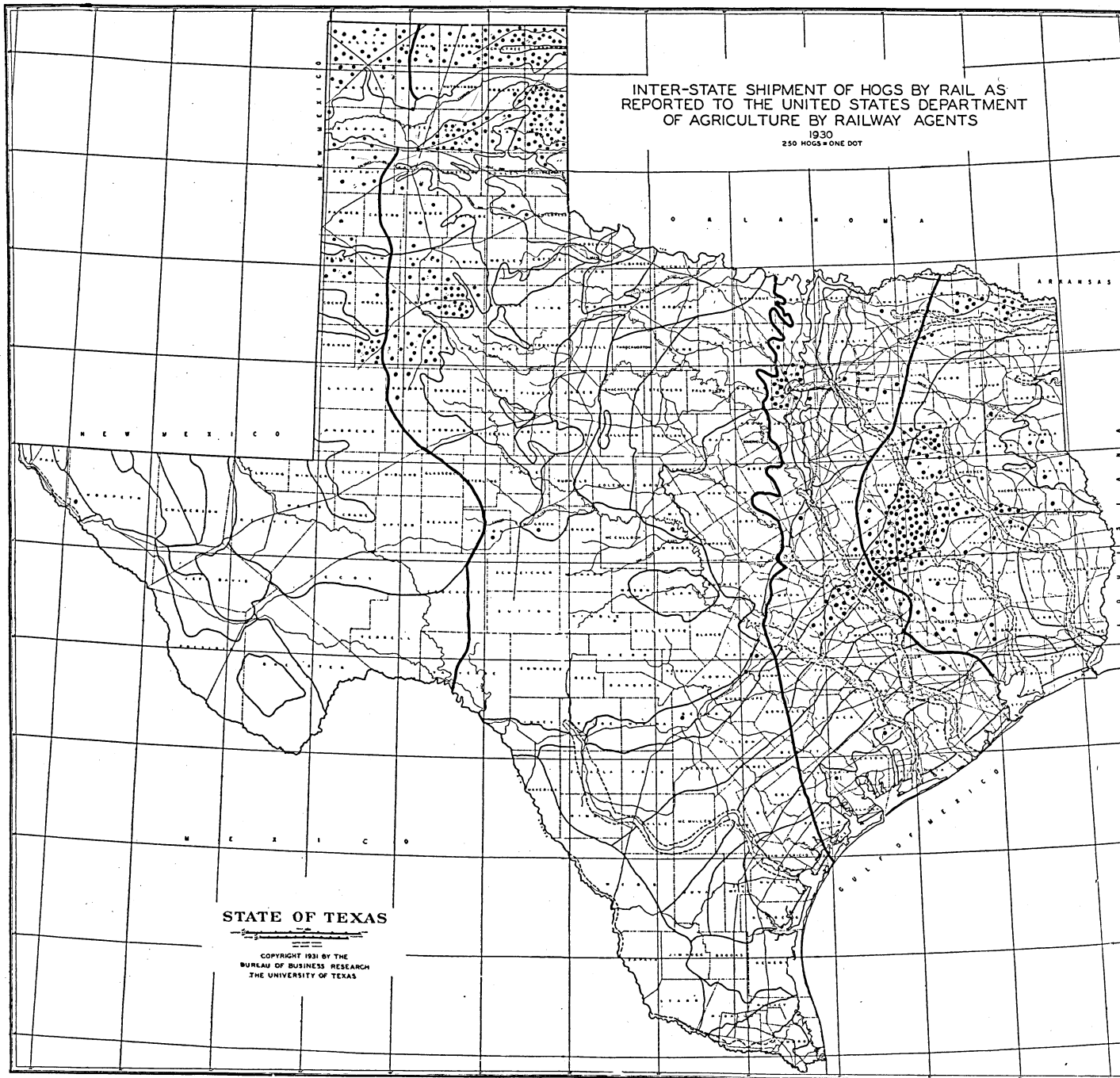


FIGURE 3

primarily on acorns which exist in abundance.

The Lampasas Cut Plain (Ca-11) is a region of considerable importance in hog production although concentration of shipments is not as great as in most of the other regions to which reference has been made. The region includes all or part of Lampasas, Burnet, Travis, Williamson, Bell, Coryell, Hamilton, Mills, Brown, Comanche, Erath, Hood, and Bosque counties. It is a limestone region in which the deep and thorough dissection has produced a variegated topography dominated by the occurrence of wide valley lowlands, flat-topped erosional remnants (mesas), and the slopes, generally steep, extend from the mesas uplands to the valley lowlands. Before dissection, it was a northward continuation of the Edwards Plateau. A large share of the region is devoted to ranching; however, in the valley lowlands, areas with alluvial accumulation occur. These constructional areas with their rolling surface and deeper soils constitute excellent farming lands.

On the northern fringe of the Northern Black Prairies region (B-3) and extending eastward beyond this region for some distance (A-1 and A-2), a considerable concentration of hog shipments is to be observed. Parts of Grayson, Collin, Fannin, Lamar, Red River, and Bowie counties are included in this belt. The Northern Black Prairies region comprises a wide strip of lands which constitute the major agricultural region of the State and one of the most important individual regions to be found anywhere. Its capacity for producing an abundance of feed crops should make it an important potential area for fattening livestock, including hogs. At present, however, the region is rather distinctive for the relative sparcity of commercial hog production except in the narrow strip on the northern border referred to above.

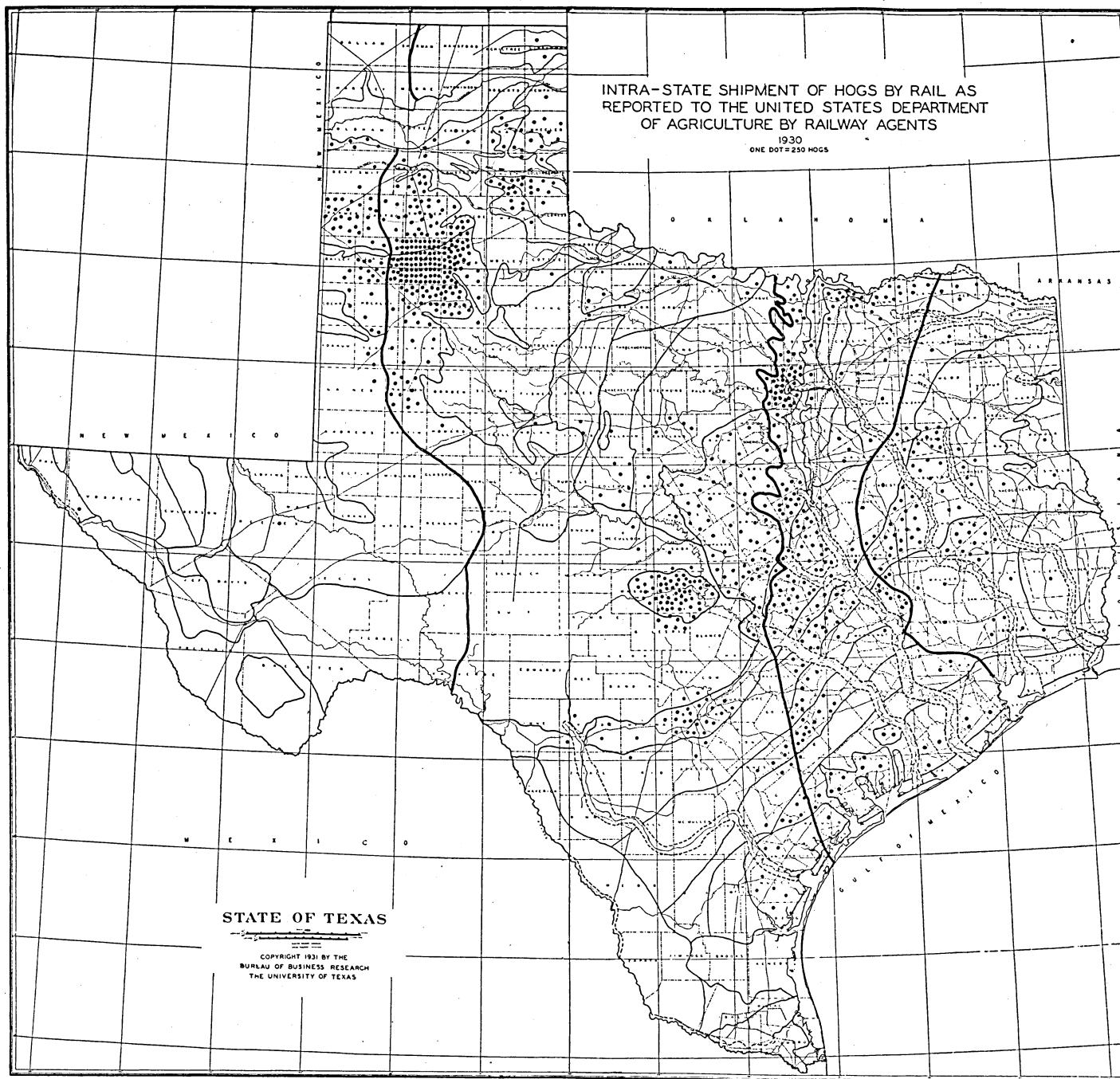


FIGURE 4

INTERSTATE MOVEMENT OF HOGS

Interstate Shipments

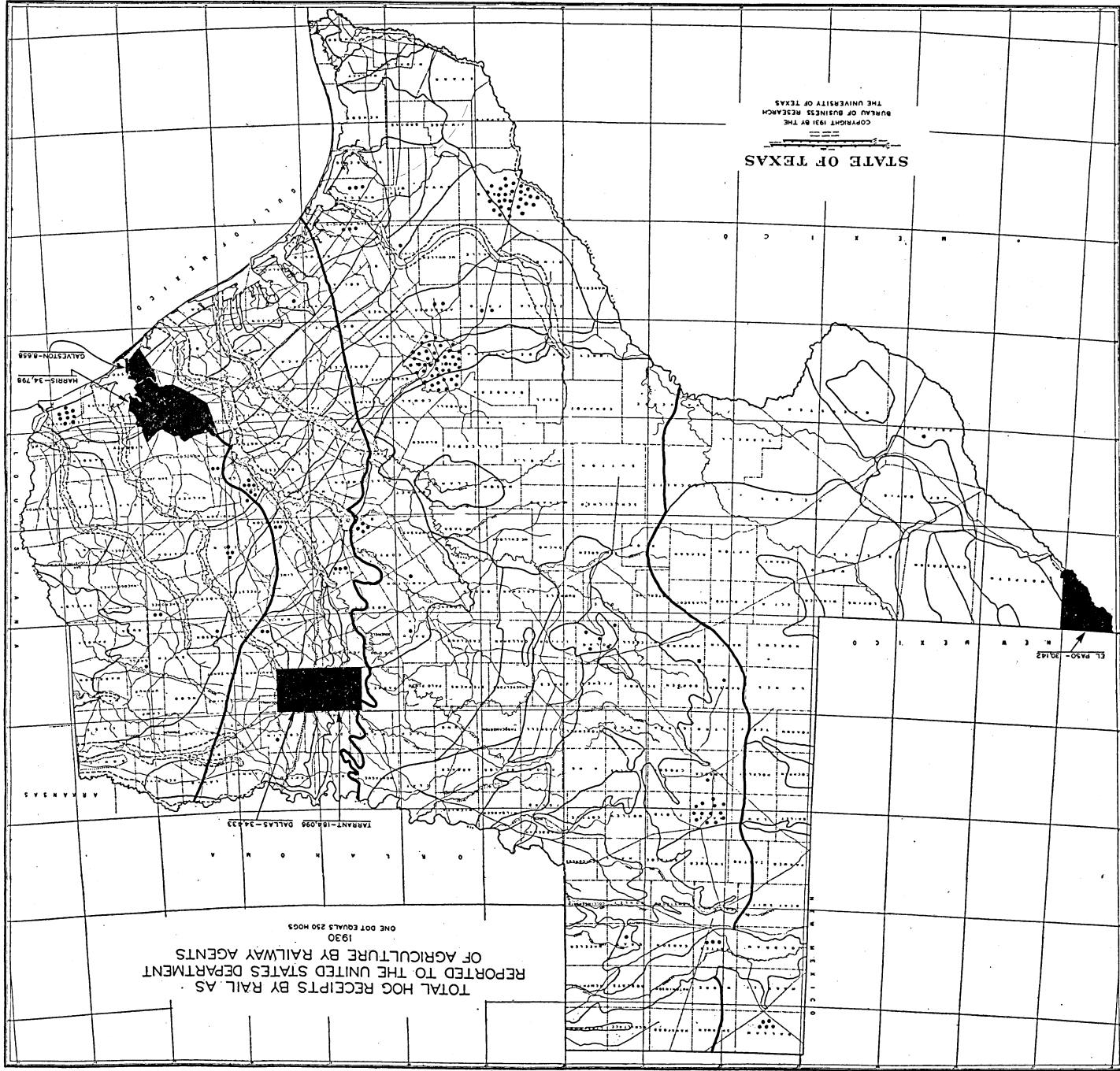
Swine shipped to points outside of Texas originate mainly in the more northerly and middle areas of the western and eastern High Plains and the Red River Rolling Plains in the Panhandle, in the Interior Dissected Plain of East Texas, and in a small area in the northeastern part of the State along the Red river. The concentration of shipments in Tarrant County probably represents, to a large extent, reconsignments to other markets rather than production in that area (Figures 1 and 3).

The destinations of shipments from these areas are of interest. Practically all of the shipments from the northern portion of the Western High Plains are made to Los Angeles, while those from the middle portion of this region are more evenly divided between Los Angeles and Wichita with scattering shipments to Kansas City and other midwestern markets.

Shipments to Los Angeles from the northern portion of the Eastern High Plains constitute a much smaller proportion of total shipments than is the case for the area immediately to the west; a considerable proportion from this portion of the Eastern High Plains move to Wichita, Kansas City, and other mid-western markets. The middle portion of the Eastern High Plains sends a still smaller proportion to Los Angeles as most of the shipments go to Wichita, Oklahoma City, and Kansas City.

The largest percentage of hogs from the northern portion of the Red River Rolling Plains region are shipped to Los Angeles, although Wichita ranks a close second and Oklahoma City receives shipments at irregular intervals.

FIGURE 5



The Interior Dissected Plain of East Texas is the second most important region from which hogs are shipped to out-of-State points. Shipments from this region are distributed among a much larger number of destinations than are forwardings originating in the Panhandle. Besides consignments to the large markets such as Kansas City, Wichita, and New Orleans, shipments are also made to other points in Missouri, Kansas, and Louisiana as well as to points in Iowa, Illinois, and Nebraska. Apparently hogs shipped from this region are to a large extent feeder stock destined to the northern corn belt for finishing before being sent to market for slaughter.

Seasonal Variation in Interstate Hog Shipments:- Shipments of hogs to points outside of Texas show a marked seasonal variation. From about 103 per cent of normal in January, shipments reach 172 per cent of normal in March, then drop to 60 per cent of normal in July, increasing to slightly below normal in September and declining rapidly to about 50 per cent of normal in December (Figure 6).

The curve formed by plotting the monthly index of variation described above does not always coincide closely with the curve formed by plotting the monthly figures of shipments when the latter are plotted by individual years (Figures 6 and 7). In 1923, the curves are fairly similar; however, there is much less similarity in 1924 and almost none from 1925 to 1928 during which period interstate shipments were very light. In 1929 and 1930, a close resemblance exists between the curve showing the index of seasonal variation and the one showing actual monthly forwardings.

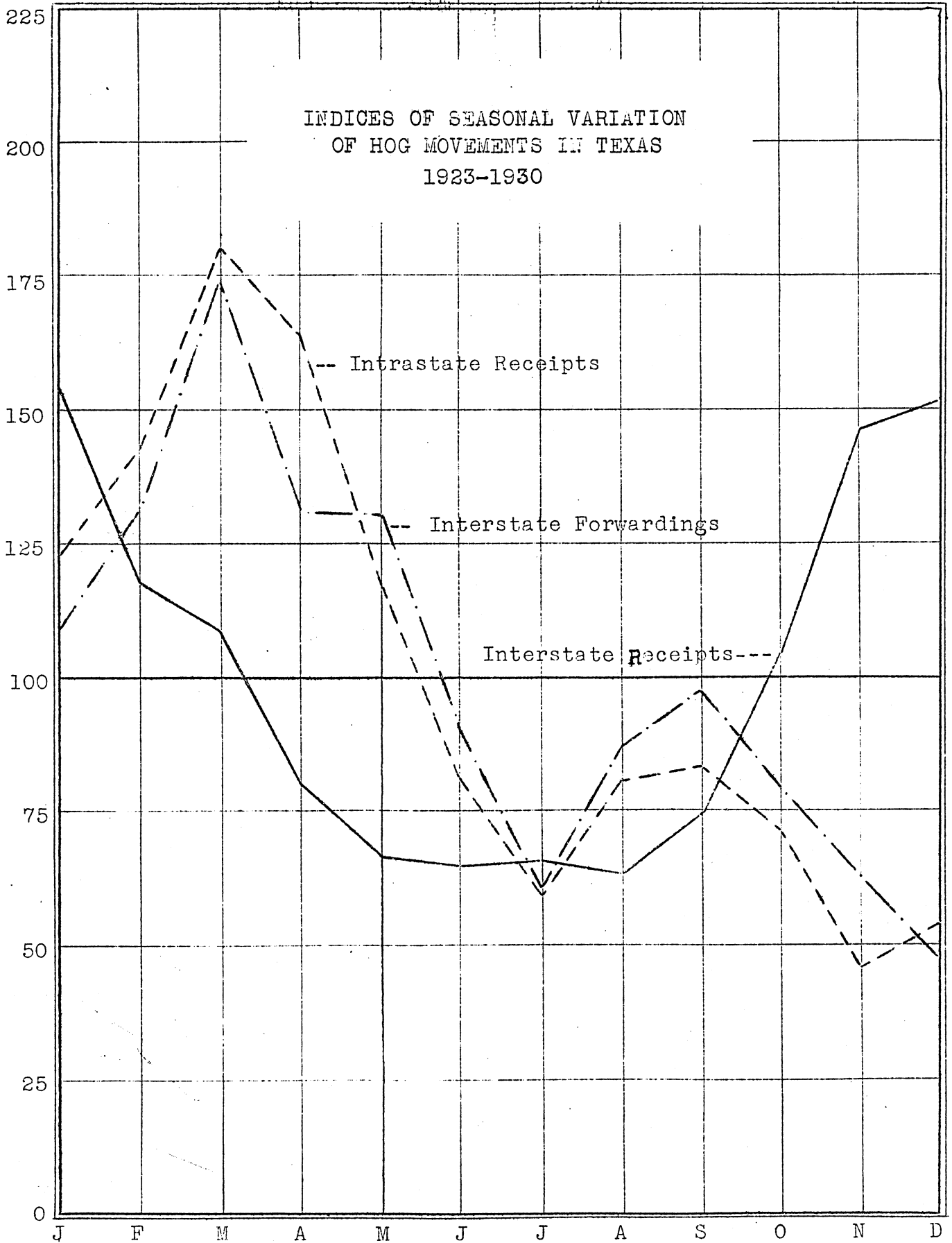


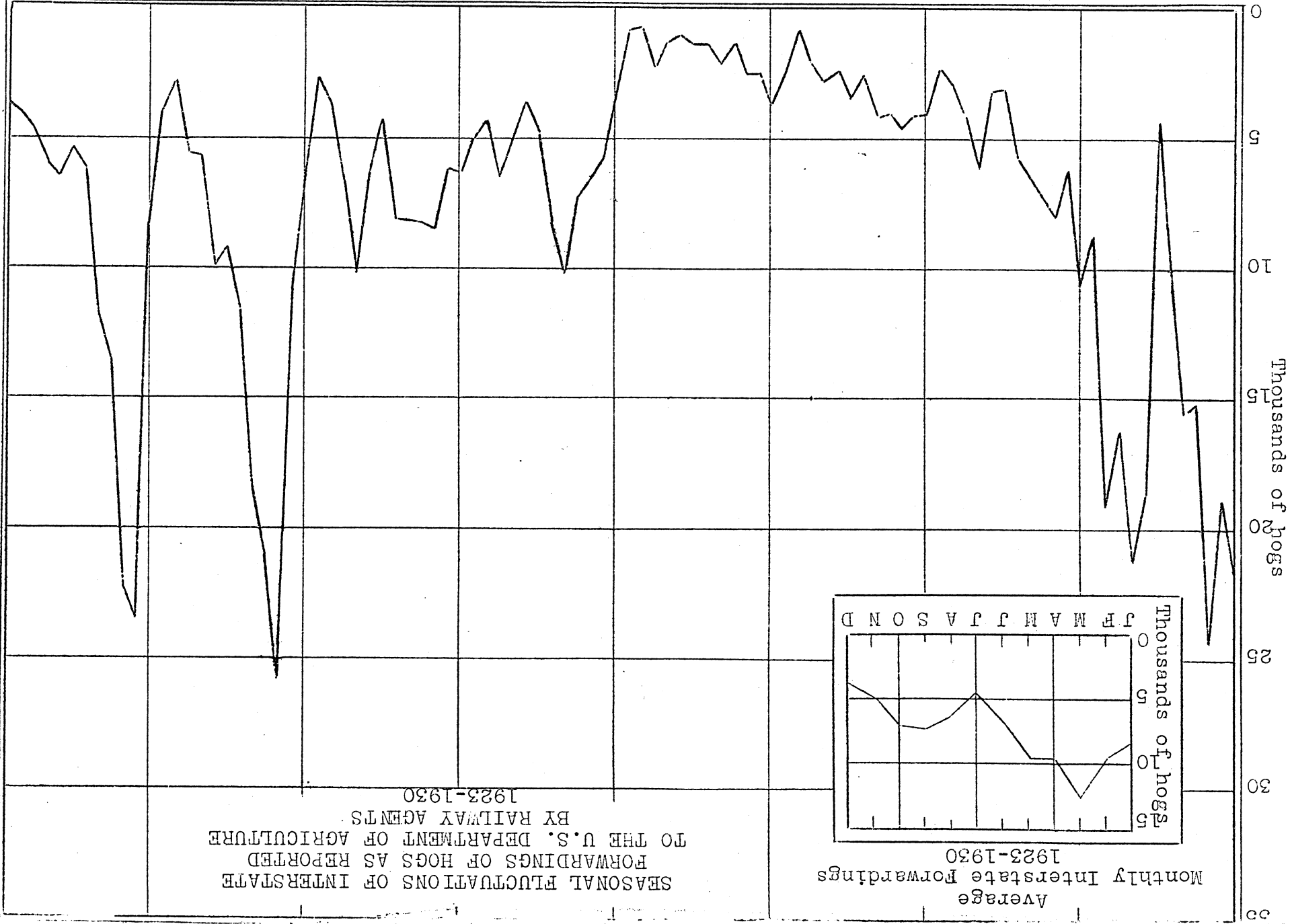
FIGURE 6

Destination of Interstate Shipments by Months:- The series of tabulations given below gives the number of hogs shipped to the various markets each month from 1923 to 1930. It will be noted that Los Angeles received a large proportion of Texas interstate shipments, often as much as 50 per cent of the total number shipped out of the State annually. Kansas City, and Wichita, Kansas, also receive relatively large numbers of hogs from Texas.

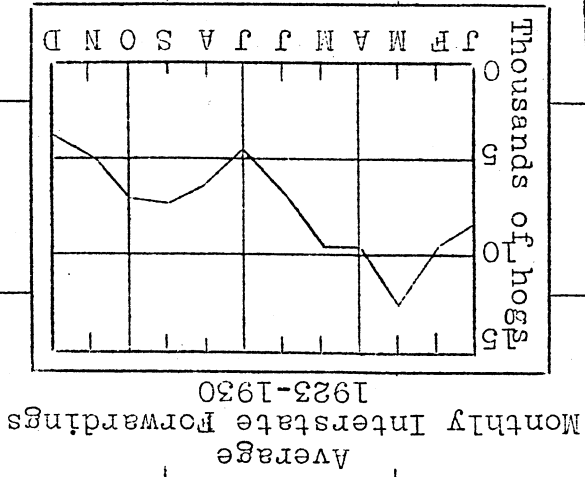
On account of the diverse conditions under which hogs are produced in the different sections of Texas, considerable variation in the quality of hogs in the various regions of the State might reasonably be expected. Hogs produced in the Panhandle areas are grain fed and when shipped go direct to consuming markets ready for slaughter. In the East Texas areas, however, hogs are often allowed to range at large feeding upon acorns, herbs, and other like materials of high nutritive qualities.

Agencies are now at work to determine the extent to which range hogs may be produced in various areas of the State in which natural conditions are favorable, to be finished in feed lots in adjacent areas capable of producing cheap feeds in abundance.

1930 1929 1928 1927 1926 1925 1924 1923



SEASONAL FLUCTUATIONS OF INTERSTATE FORWARDINGS OF HOGS AS REPORTED TO THE U.S. DEPARTMENT OF AGRICULTURE BY RAILWAY AGENTS 1923-1930



Average Monthly Interstate Forwardings 1923-1930

JANUARY SHIPMENTS OF SWINE
(Number of Head)

Shipped from Texas to	1923	1924	1925	1926	1927	1928	1929	1930	Total
Los Angeles	10,592	5,273	1,007	1,213	505	4,737	3,347	3,199	29,873
East St. Louis	160							552	712
Wichita	1,311	704	627	1,386	474	1,024	1,104	1,015	7,645
Other Kansas Points				152			137	72	361
New Orleans	264	2,304	285		135			278	3,266
Kansas City	8,330	1,235	350	263	398	87	931	1,239	12,833
St. Joseph	85	89		703	795	145		1,093	2,910
Other Mo. Points	286						755		1,041
Nebraska Points									
Oklahoma City	81	249	288		82	80	22	80	882
Other Okla. Points					278	154	91		523
Iowa	174							138	312
Other Non-Texas Points	585	509	1,522		526	187	558	614	4,501
Total Interstate	21,868	10,363	4,079	3,717	3,193	6,414	6,945	8,280	64,859

FEBRUARY SHIPMENTS OF SWINE
(Number of Head)

Shipped from Texas to	1923	1924	1925	1926	1927	1928	1929	1930	Total
Los Angeles	7,382	2,674	846	463	775	4,160	4,336	3,279	23,915
East St. Louis	247				206		102		555
Wichita	1,011	646	447	886	555	940	1,319	2,902	8,706
Other Kansas Points	753	130		151	372		483	1,975	3,864
New Orleans	416	483	607				102	2,756	4,364
Kansas City	4,757	1,185	155		1,331	254	2,974	6,031	16,687
St. Joseph	1,152			283	2,059	148	464	2,794	6,900
Other Mo. Points	748						154	1,617	2,519
Nebraska Points								233	233
Oklahoma City		83	30		104	172		96	485
Other Okla. Points	201			261	140	135	339	97	1,173
Iowa								452	452
Other Non-Texas Points	2,159	875	2,046	441	328	393	579	1,246	8,067
Total Interstate	18,826	6,076	4,131	2,485	5,870	6,202	10,852	23,478	77,920

MARCH SHIPMENTS OF SWINE
(Number of Head)

Shipped from Texas to	1923	1924	1925	1926	1927	1928	1929	1930	Total
Los Angeles	10,622	3,361	629	291	1,407	6,399	6,431	3,916	33,056
East St. Louis								750	750
Wichita	1,371	752	749	692	1,259	1,176	3,065	2,093	11,157
Other Kansas Points	236				1,128		1,643	435	3,442
New Orleans	430	1,245	645				1,072	1,978	5,370
Kansas City	6,139	480	112	581	946	396	7,610	5,727	21,991
St. Joseph	923		575		287		1,501	3,344	6,630
Other Mo. Points	1,763				140		2,410	1,125	5,438
Nebraska Points	162				327			1,120	1,609
Oklahoma City	99	182	70			300	279		930
Other Okla. Points	415	253	150		838	165	994		2,815
Iowa	331			160			494	1,160	2,145
Other Non-Texas Points	1,989	1,725	1,716	827	338	127	408	601	7,731
Total Interstate	24,480	7,998	4,646	2,551	6,670	8,563	25,907	22,249	103,064

APRIL SHIPMENTS OF SWINE
(Number of Head)

Shipped from Texas to	1923	1924	1925	1926	1927	1928	1929	1930	Total
Los Angeles	6,675	290	1,468	858	2,333	5,437	6,522	4,380	27,963
East St. Louis	94								94
Wichita	1,106	1,310	633	81	1,253	497	5,018	1,893	11,791
Other Kansas Points						244	1,280	136	1,660
New Orleans	428	830					192	1,743	3,193
Kansas City	2,446	1,159	205		919	1,200	4,403	926	11,258
St. Joseph					698	282	1,687	1,158	3,825
Other Mo. Points	160				282	165	287	325	1,219
Nebraska Points		183				116		746	1,045
Oklahoma City	84	138			74	64			360
Other Okla. Points		125			635	339	890		1,989
Iowa	1,288				296			1,254	2,838
Other Non-Texas Points	2,879	3,273	1,681	453	853		742	901	10,782
Total Interstate	15,160	7,308	3,987	1,392	7,343	8,344	21,021	13,462	78,017

MAY SHIPMENTS OF SWINE
(Number of Head)

Shipped from Texas to	1923	1924	1925	1926	1927	1928	1929	1930	Total
Los Angeles	8,791	1,853	1,007	880	5,092	6,246	6,042	7,044	36,955
East St. Louis					159				159
Wichita	1,033	1,318	1,482	338	1,721	866	4,169	2,396	13,323
Other Kansas Points			20			38	432		490
New Orleans	786	454					125	638	2,053
Kansas City	2,054	149	86		1,266	557	5,045	300	9,457
St. Joseph	141	55			286	165	943		1,590
Other Mo. Points	125								125
Nebraska Points		144				60			204
Oklahoma City		153					736	121	1,010
Other Okla. Points	150				384	135	704		1,373
Iowa							270	1,012	1,282
Other Non-Texas Points	2,486	2,387	1,567	957	1,464	166	47	206	9,280
Total Interstate	15,566	6,513	4,162	2,175	10,372	8,233	18,513	11,767	77,801

JUNE SHIPMENTS OF SWINE
(Number of Head)

Shipped from Texas to	1923	1924	1925	1926	1927	1928	1929	1930	Total
Los Angeles	7,963	2,237	674	609	4,302	6,028	6,346	4,602	32,761
East St. Louis									
Wichita	486	613	583	291	1,008	1,501	4,088	1,163	9,733
Other Kansas Points									
New Orleans		559	140		87		135		921
Kansas City	627	110	108		534	203			1,582
St. Joseph	61				902		415		1,378
Other Mo. Points	150		250				419		819
Nebraska Points								201	201
Oklahoma City		89	76		144		40		349
Other Okla. Points					120	153	167	112	552
Iowa				50					50
Other Non-Texas Points	1,164	2,095	778	426	1,112	192	27	281	6,075
Total Interstate	10,451	5,703	2,609	1,376	8,209	8,077	11,637	6,359	54,421

JULY SHIPMENTS OF SWINE
(Number of Head)

Shipped from Texas to	1923	1924	1925	1926	1927	1928	1929	1930	Total
Los Angeles	2,659	554	328	586	3,490	3,495	4,424	3,083	18,619
East St. Louis									
Wichita	465	476	1,213	73	442	395	2,121	1,412	6,597
Other Kansas Points							567		567
New Orleans		514	115				151	140	920
Kansas City	568		32		382	123	735	168	2,008
St. Joseph			724				587		1,311
Other Mo. Points	392		150						542
Nebraska Points								250	250
Oklahoma City			77	140	65	102	241	69	694
Other Okla. Points		125			202	66	79	93	565
Iowa							137	169	306
Other Non-Texas Points	259	1,346	859	621	189	95	141	119	3,629
Total Interstate	4,343	3,015	3,498	1,420	4,770	4,276	9,183	5,503	36,008

AUGUST SHIPMENTS OF SWINE
(Number of Head)

Shipped from Texas to	1923	1924	1925	1926	1927	1928	1929	1930	Total
Los Angeles	7,680	176	154	335	2,927	4,034	5,715	5,005	26,026
East St. Louis									
Wichita	217	755	1,002		321	551	2,593	1,305	6,744
Other Kansas Points							324		324
New Orleans	997	128	94						1,219
Kansas City	5,593	470	143	548	123	1,147	131		8,155
St. Joseph	1,147		456				686	32	2,321
Other Mo. Points	975		150						1,125
Nebraska Points	270								270
Oklahoma City									
Other Okla. Points	150				125	310	88	70	743
Iowa						159			159
Other Non-Texas Points	1,646	1,541	426	247	196		419	186	4,661
Total Interstate	18,675	3,070	2,425	1,130	3,692	6,201	9,956	6,598	51,747

SEPTEMBER SHIPMENTS OF SWINE
(Number of Head)

Shipped from Texas to	1923	1924	1925	1926	1927	1928	1929	1930	Total
Los Angeles	11,442	334	617	637	3,887	4,385	3,966	4,230	29,498
East St. Louis									
Wichita	881	1,219	734		502	1,076	1,317	1,416	7,145
Other Kansas Points					42	318			360
New Orleans	1,380	510	155		214	242		88	2,589
Kansas City	4,060	1,445	390		62	2,981		34	8,972
St. Joseph						178			178
Other Mo. Points									
Nebraska Points	443								443
Oklahoma City							66		66
Other Okla. Points	284	178		340	119	428	253		1,602
Iowa									
Other Non-Texas Points	2,840	2,515	936	346	273	601	121	258	7,890
Total Interstate	21,330	6,201	2,832	1,323	5,099	10,209	5,723	6,026	58,743

OCTOBER SHIPMENTS OF SWINE
(Number of Head)

Shipped from Texas to	1923	1924	1925	1926	1927	1928	1929	1930	Total
Los Angeles	9,516	916	181	99	3,304	2,326	3,909	3,773	24,024
East St. Louis									
Wichita	510	1,361	640	37	1,144	817	904	979	6,392
Other Kansas Points			775			801			1,576
New Orleans	1,930				546	117			2,593
Kansas City	1,870	771	265	1,873	427	756	101	46	6,109
St. Joseph	208		29		100	447			784
Other Mo. Points									
Nebraska Points							24		24
Oklahoma City					80	178			258
Other Okla. Points					700		249		949
Iowa		42				241			283
Other Non-Texas Points	2,065	1,126	233	318	146	872	333	36	5,129
Total Interstate	16,099	4,216	2,123	2,327	6,447	6,555	5,520	4,834	48,121

NOVEMBER SHIPMENTS OF SWINE
(Number of Head)

Shipped from Texas to	1923	1924	1925	1926	1927	1928	1929	1930	Total
Los Angeles	9,869	589		226	2,106	2,452	1,979	3,326	20,547
East St. Louis									
Wichita	698	680	297	75	430	362	484	553	3,579
Other Kansas Points	175					305			480
New Orleans	1,292	217	130		112				1,751
Kansas City	4,285	500	419		129	140			5,473
St. Joseph	122			41	158	315			636
Other Mo. Points	294								294
Nebraska Points									
Oklahoma City		168			80			53	301
Other Okla. Points	35	111	24		649	95	176		1,090
Iowa									
Other Non-Texas Points	2,407	633		352	565		209	150	4,316
Total Interstate	19,177	2,898	870	694	4,229	3,669	2,848	4,082	38,467

DECEMBER SHIPMENTS OF SWINE
(Number of Head)

Shipped from Texas to	1923	1924	1925	1926	1927	1928	1929	1930	Total
Los Angeles	4,491	605	182	306	3,505	2,121	2,701	2,526	16,437
East St. Louis									
Wichita	648	356	724		422	304	983	170	3,607
Other Kansas Points						148			148
New Orleans	156	101	847		102				1,206
Kansas City	1,710	99	93		226	97		428	2,653
St. Joseph								308	308
Other Mo. Points									
Nebraska Points	174								174
Oklahoma City	297	35			36				368
Other Okla. Points			100		66		114		280
Iowa									
Other Non-Texas Points	1,142	1,102	638	458	563	71	134	214	4,322
Total Interstate	8,618	2,298	2,584	764	4,920	2,741	3,932	3,646	29,503

Interstate Receipts

Seasonal Variation in the Interstate Receipts of Hogs at the Principal Markets of Texas:- Shipments of hogs from other states into Texas regularly decline from a maximum in January to a minimum in August, and increase again from August through the rest of the year. The wide variation in receipts is indicated by the fact that the index of seasonal variation is 154 per cent of normal in January and only 64 per cent of normal in August (Figure 6). When plotted, the monthly indices form a broad U curve. Actual average monthly interstate receipts for the period 1923 to 1930 vary from about 11,000 head during the summer months to more than 25,000 head in January (Figure 8).

The regularity of the seasonal movement of interstate receipts is shown also by the similarity of the movement for the individual years from 1923 to 1930. It is to be noted, however, that in a number of years a sharp rise occurred for a month or two in midsummer. This situation was true in 1924, 1927, and 1930.

It is also of interest to observe that the seasonal variation was much greater during the first three years than during the last 5 years of the period 1923-1930. Moreover, a distinct downward trend is to be noted (Figure 8).

Origin of Hog Receipts:- Receipts from Oklahoma points and from Kansas City are the most consistent throughout the year and represent a large percentage of the total volume. Receipts from the other points are less regular. A few areas such as Iowa, Minnesota, and South Dakota shipped large numbers into the State during certain months in 1924, but the number

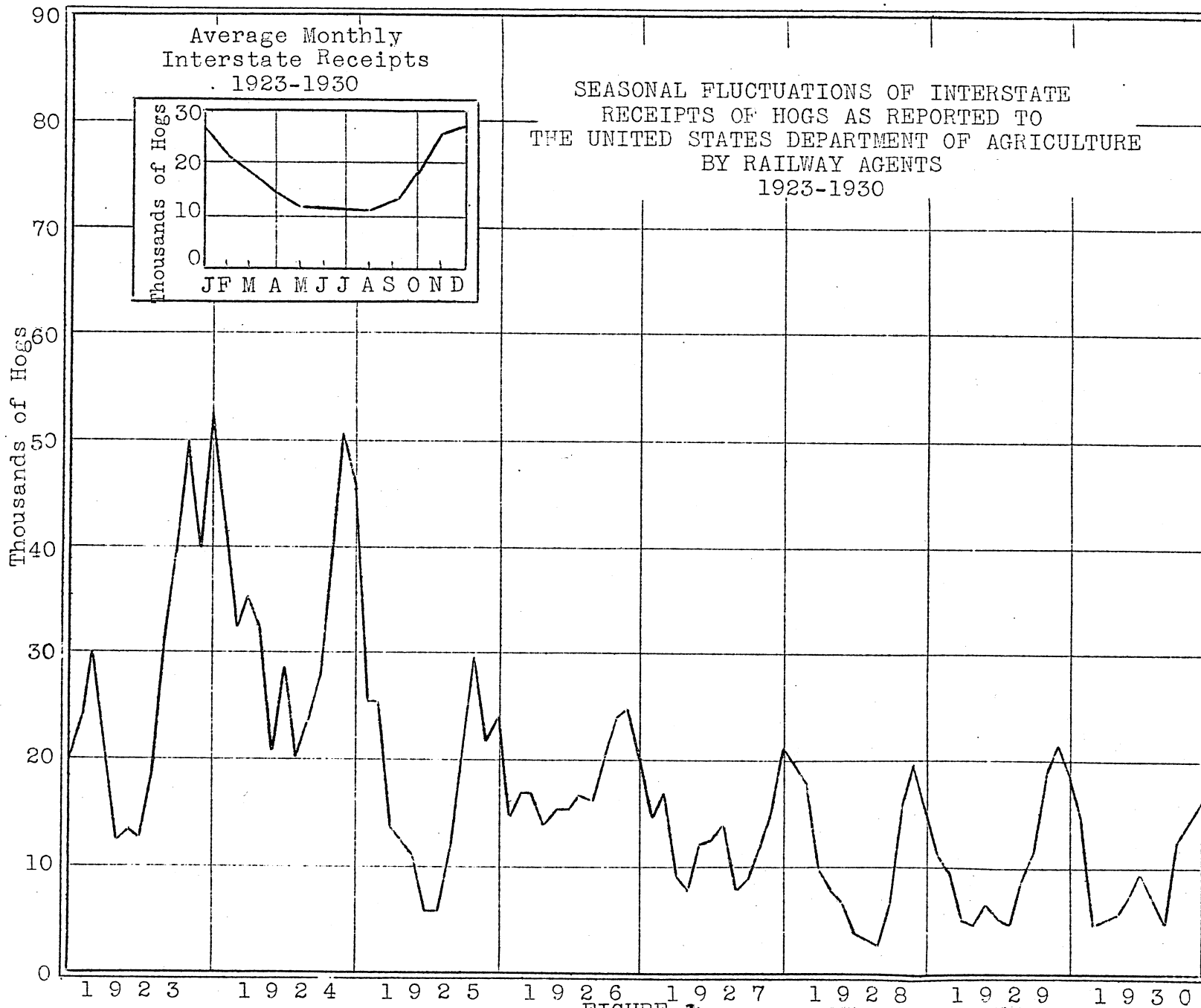


FIGURE 3

from these sources steadily declined until in 1930 shipments were negligible except during December. It is of interest, however, that during the first four months of 1931 large receipts have come in from Iowa each month, principally to Fort Worth.

JANUARY RECEIPTS OF SWINE
(Number of Head)

Shipped to Texas from	1923	1924	1925	1926	1927	1928	1929	1930	Total
Wichita		1,392	858	823	923	3,067		96	7,168
Other Kansas Points	427		2,282	1,828	526	2,731	5,651	1,774	15,219
Kansas City	7,430	13,077	10,424	10,326	3,499	1,201	922	2,244	49,123
St. Joseph		2,222		642		2,709		2,311	7,884
Omaha			8,753						8,753
Other Nebraska Points		3,997			4,481	2,847	497	7,273	19,095
Oklahoma City	190								190
Other Okla. Points	11,023	14,781	17,813	7,340	7,625	6,661	6,379	3,368	74,990
New Mexico	186	265	450	325	318	315	589	418	2,866
Other Non-Texas Points	210	16,623	4,786	2,607	2,583	1,286	705	720	29,520
Total Interstate	19,466	52,357	45,366	23,891	19,964	20,817	14,743	18,204	214,808

FEBRUARY RECEIPTS OF SWINE
(Number of Head)

Shipped to Texas from	1923	1924	1925	1926	1927	1928	1929	1930	Total
Wichita		1,213	641	272	1,195			76	3,397
Other Kansas Points	134	93	1,915	533	556	4,030	1,953	5,931	15,145
Kansas City	6,584	13,770	4,833	2,690	559	6,227	1,226	385	36,274
St. Joseph		618				913	91	1,611	3,233
Omaha		6,674	5,208						11,882
Other Neb. Points		2,111		2,421	288		1,576	1,341	7,737
Oklahoma City									
Other Okla. Points	17,026	14,910	11,220	6,922	9,221	6,844	5,145	4,254	75,542
New Mexico	25	982	798	141	465	303	706	639	4,059
Other Non-Texas Points	95	724	700	1,620	2,236	862	334	94	6,665
Total Interstate	23,864	41,095	25,315	14,599	14,520	19,179	11,031	14,331	163,934

MARCH RECEIPTS OF SWINE
(Number of Head)

Shipped to Texas from	1923	1924	1925	1926	1927	1928	1929	1930	Total
Wichita		1,392	427	300	745		80	353	3,297
Other Kansas Points	114	236	2,680	1,826	437	1,842	1,782	251	9,168
Kansas City	4,058	11,227	2,997	3,979	1,780	3,723	86	517	28,367
St. Joseph						392			392
Omaha			5,622						5,622
Other Neb. Points				1,848				70	1,918
Oklahoma City	208	17	98	134					457
Other Okla. Points	24,384	15,117	11,362	7,870	12,379	11,147	6,179	2,738	91,176
New Mexico	648	669	626	390	686	415	394	454	4,282
Other Non-Texas Points	619	3,473	1,352	322	816	138	724		7,444
Total Interstate	30,031	32,131	25,164	16,669	16,843	17,657	9,245	4,383	152,123

APRIL RECEIPTS OF SWINE
(Number of Head)

Shipped to Texas from	1923	1924	1925	1926	1927	1928	1929	1930	Total
Wichita		2,509	455	260		68		130	3,422
Other Kansas Points		191	3,959	1,612	195	1,501	535	151	8,144
Kansas City		10,858	1,440	5,970		517	281	525	19,591
St. Joseph			184						184
Omaha									
Other Neb. Points			519	1,894					2,413
Oklahoma City	399	780		128				89	1,396
Other Okla. Points	18,134	10,788	6,777	6,358	8,066	7,118	3,572	3,554	64,367
New Mexico	676	1,515	274	410	488	543	513	457	4,876
Other Non-Texas Points		8,351	197	80	328				8,956
Total Interstate	19,209	34,992	13,805	16,712	9,077	9,747	4,901	4,906	113,349

MAY RECEIPTS OF SWINE
(Number of Head)

Shipped to Texas from	1923	1924	1925	1926	1927	1928	1929	1930	Total
Wichita		791	377			89			1,257
Other Kansas Points		364	2,713	2,433		1,269		253	7,032
Kansas City		15,182	681	4,523	1,836	80	270	672	23,244
St. Joseph							380	416	796
Omaha									
Other Neb. Points		1,474	565	2,139					4,178
Oklahoma City	101	921	263					194	1,479
Other Okla. Points	12,014	10,199	6,654	3,922	4,557	5,510	3,538	3,454	49,848
New Mexico	79	180	286	385	530	693	168	389	2,710
Other Non-Texas Points		2,799	640	187	817	63	182		4,688
Total Interstate	12,194	31,910	12,179	13,589	7,740	7,704	4,538	5,378	95,232

JUNE RECEIPTS OF SWINE
(Number of Head)

Shipped to Texas from	1923	1924	1925	1926	1927	1928	1929	1930	Total
Wichita						169		319	488
Other Kansas Points			4,558	2,798		526		385	8,267
Kansas City	3,403	9,538	270	3,872	4,599	272	406	2,416	24,776
St. Joseph		854			348			672	1,874
Omaha		4,740							4,740
Other Neb. Points				3,077	1,802			170	5,049
Oklahoma City	81			100				125	306
Other Okla. Points	9,507	4,861	3,848	4,742	4,204	4,704	5,594	2,604	40,064
New Mexico	132	194	67	401	715	628	314	323	2,774
Other Non-Texas Points		243	2,203	91	319	95			2,951
Total Interstate	13,123	20,430	10,946	15,081	11,987	6,394	6,314	7,014	91,289

JULY RECEIPTS OF SWINE
(Number of Head)

Shipped to Texas from	1923	1924	1925	1926	1927	1928	1929	1930	Total
Wichita	238	1,318		157	166	82		261	2,222
Other Kansas Points	75	278	2,704	1,173			65	3,042	7,337
Kansas City	2,950	10,619		5,691	4,860	1,162	262	1,449	26,993
St. Joseph		855		360	686		749	1,348	3,998
Omaha		7,288			3,024				10,312
Other Nebraska Points				3,126			814	1,486	5,426
Oklahoma City	233								233
Other Okla. Points	9,008	1,669	2,796	4,050	3,057	1,816	3,015	1,502	26,913
New Mexico		90		165	428	422	115	264	1,484
Other Non-Texas Points		6,877		207	147			116	7,347
Total Interstate	12,504	28,994	5,500	14,929	12,368	3,482	5,020	9,468	92,265

AUGUST RECEIPTS OF SWINE
(Number of Head)

Shipped to Texas from	1923	1924	1925	1926	1927	1928	1929	1930	Total
Wichita		965	135	153	239	219		142	1,853
Other Kansas Points		297	2,038	2,425	141			2,411	7,312
Kansas City	9,143	8,223	916	5,763	7,570	269	86	646	32,616
St. Joseph				194			414	416	1,024
Omaha		2,043							2,043
Other Nebraska Points				4,829	2,544		306	924	8,603
Oklahoma City				95					95
Other Okla. Points	9,528	4,352	2,520	2,792	3,066	2,292	3,614	1,973	30,137
New Mexico		161	66	316	199	205	160	212	1,319
Other Non-Texas Points		4,139		37			78	148	4,402
Total Interstate	18,671	20,180	5,675	16,604	13,759	2,985	4,658	6,872	89,404

SEPTEMBER RECEIPTS OF SWINE
(Number of Head)

Shipped to Texas from	1923	1924	1925	1926	1927	1928	1929	1930	Total
Wichita	125	1,247	329	1,709		266		290	3,966
Other Kansas Points	2	936	1,971	1,169	1,280	195		152	5,705
Kansas City	3,207	5,359	2,074	4,626	4,247			304	19,817
St. Joseph				532					532
Omaha		1,023							1,023
Other Nebraska Points				3,203	261		65		3,529
Oklahoma City	100	714	146						960
Other Okla. Points	27,772	14,078	6,550	4,492	1,104	1,855	7,952	3,297	67,100
New Mexico					299			265	564
Other Non-Texas Points		340	472	218			461	63	1,554
Total Interstate	31,206	23,697	11,542	15,949	7,191	2,316	8,478	4,371	104,750

OCTOBER RECEIPTS OF SWINE
(Number of Head)

Shipped to Texas from	1923	1924	1925	1926	1927	1928	1929	1930	Total
Wichita	880	746	333	906	530			262	3,657
Other Kansas Points	399	965	653	2,026	120	699	286	1,519	6,667
Kansas City	6,665	9,792	10,041	6,995	2,445	133	933	3,309	40,313
St. Joseph				463		1,038	1,140	2,659	5,300
Omaha									
Other Nebraska Points			170	1,677			2,215	1,428	5,490
Oklahoma City	1,022	288	174					100	1,584
Other Okla. Points	29,959	14,830	5,368	8,822	4,798	4,521	6,450	2,789	77,537
New Mexico	89	529	40	105	239	50		127	1,179
Other Non-Texas Points	29	176	3,265	201	724		91	420	4,906
Total Interstate	39,043	27,326	20,044	21,195	8,856	6,441	11,115	12,613	146,633

NOVEMBER RECEIPTS OF SWINE
(Number of Head)

Shipped to Texas from	1923	1924	1925	1926	1927	1928	1929	1930	Total
Wichita	1,065	796	534	2,196	452	122	246		5,411
Other Kansas Points	986	1,024	989	3,411	1,023	2,550	996	701	11,680
Kansas City	10,764	17,368	11,388	6,748	3,186	3,879	825	5,461	59,619
St. Joseph		240	472	1,101		2,049	3,592	2,877	10,331
Omaha		607							607
Other Nebraska Points				3,355	2,806	446	4,848	1,832	13,287
Oklahoma City	1,895	1,292	242						3,429
Other Okla. Points	34,836	10,322	5,465	6,233	3,198	6,340	6,725	2,838	75,957
New Mexico	492	188	214	251	301	175			1,621
Other Non-Texas Points	36	6,639	10,392	557	494	171	1,716	285	20,290
Total Interstate	50,074	38,476	29,696	23,852	11,460	15,732	18,948	13,994	202,232

DECEMBER RECEIPTS OF SWINE
(Number of Head)

Shipped to Texas from	1923	1924	1925	1926	1927	1928	1929	1930	Total
Wichita	1,716	1,157	927	1,194	83		6,670		11,747
Other Kansas Points		944	1,613	814	2,424	4,278	307	3,726	14,106
Kansas City	13,291	18,485	9,402	4,734	1,571	4,347	4,029	1,926	57,785
St. Joseph	4,414	979		1,127	1,824	2,204	1,642	2,513	14,703
Omaha		8,580							8,580
Other Nebraska Points				7,290	4,271	1,388	2,554	2,439	17,942
Oklahoma City	2,496								2,496
Other Okla. Points	17,769	11,939	5,706	7,673	3,648	6,146	5,982	2,641	61,504
New Mexico	92	594	50	119	86	430	353	764	2,488
Other Non-Texas Points	89	8,027	3,878	1,626	1,191	965	257	2,079	18,112
Total Interstate	39,867	50,705	21,576	24,577	15,098	19,758	21,794	16,088	209,463

INTRASTATE MOVEMENTS OF HOGS

Intrastate Shipments

The major portion of the intrastate hog shipments from the Panhandle region is consigned to Fort Worth (Figure 4). Shipments from the other hog-producing areas of the State are divided more evenly among the larger city markets, including Dallas, Fort Worth, San Antonio, Houston, and El Paso. Comparative accessibility is probably the principal factor in the determination of the choice of market.

Intrastate Receipts

Seasonal Variation in Hog Receipts in the Principal Markets of Texas:- The graph showing the index of seasonal variation of hog receipts in the principal markets of Texas from points within the State resembles very closely the one showing shipments from Texas to points outside of the State (Figure 6).

A marked increase in receipts from January to March, an equally rapid decline from March to July, a minor rise from July to September, and a corresponding decline from September to November characterize the seasonal variation of receipts in these markets. A slight increase in receipts occurs in December, a fact which distinguishes the seasonal changes of intrastate receipts from seasonal changes in interstate shipments (Figures 6 and 9).

The graph representing the index of seasonal variation of intrastate receipts resembles very closely the one showing the actual average

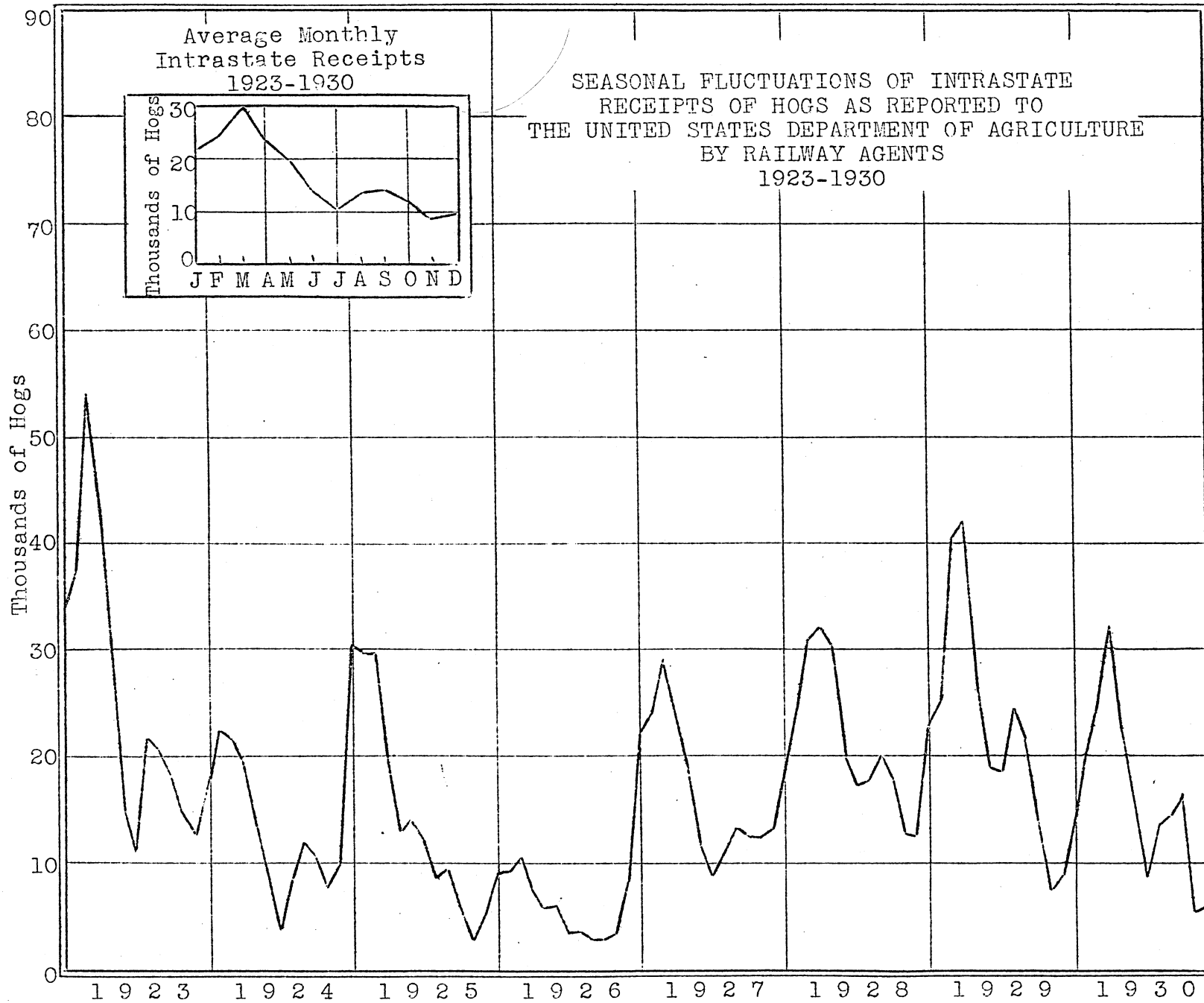


FIGURE 9

monthly receipts at the markets mentioned.

Moreover, the regularity of these movements is still further evidenced by the fact that the graph showing actual monthly receipts at these markets for each of the individual years from 1923 to 1930 shows practically the same variation for the eight years as the one showing the index of seasonal variation.

Intrastate Receipts in the Important Markets by Months:- The following tabulations show the monthly intrastate receipts at the important markets of Texas. Monthly receipts at Fort Worth usually exceed those of all the other markets combined. Seasonal variation in receipts in each of the larger markets follows closely the regular movements already observed in the markets combined. Receipts at the less important markets are more erratic. As truck receipts are assembled in the course of this study, greater regularity in seasonal variation in the smaller markets may also be shown.

INTRASTATE RECEIPTS OF SWINE
(Number of Head)

1923	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Bexar	561	713	828	427	503	420	682	694	130	799	871	1,187	7,815
Dallas	4,419	3,591	8,624	7,688	6,345	1,395	1,143	1,593	3,104	4,404	1,871	497	44,674
El Paso	979	1,247	569	974	987	303	180		297	637	473	268	6,914
Ft. Worth	18,462	22,012	33,733	25,623	17,454	7,684	7,247	14,044	13,536	7,298	8,087	8,609	183,789
Galveston	1,993	1,448	1,552	1,358	919	569	40	433	299	1,026	140	45	9,822
Harris	5,753	8,009	8,677	6,081	2,674	3,163	1,300	4,381	2,630	3,389	1,776	1,336	49,169
Jefferson	618	57	195	88	610	480	362	374	409	348	890	334	4,765
Webb	142	23			106	158	85	302	70	136	104	237	1,363
Total	32,927	37,100	54,178	42,239	29,598	14,172	11,039	21,821	20,475	18,037	14,212	12,513	308,311

1924	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Bexar	947	420	581	267	676	395	328	118	398	1,003	852	78	6,063
Dallas	840	1,919	1,418	1,066	1,121	824	206	560	977	1,480	638	264	11,313
El Paso	264	264	346	360		42			279	367	283	366	2,571
Ft. Worth	11,146	12,816	13,367	14,269	9,788	5,872	2,583	5,455	7,002	5,481	4,583	6,268	98,630
Galveston	1,149	1,023	614	152	354	29	88	698	947	549	264	288	6,155
Harris	2,105	5,309	4,122	2,896	766	817	295	1,119	2,401	1,342	803	2,539	24,514
Jefferson	140	530	958	90	128	90		165		101	230	98	2,530
Webb	804	233	204	74	170	85		302		69		5	1,946
Total	17,395	22,514	21,610	19,174	13,003	8,154	3,500	8,417	12,004	10,392	7,653	9,906	153,722

1925	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Bexar	1,111	484	112	771	275	131	81	66		413			3,444
Dallas	689	546	531	465	335	288	138	352	507	618	354	700	5,523
El Paso	366	85	272	497	504	311	238	712	205			36	3,226
Ft. Worth	12,104	14,859	16,260	10,523	6,823	8,286	5,641	5,332	5,042	3,104	1,627	2,389	91,990
Galveston	1,178	1,122	1,042	428	326		687	476	434	223	141	282	6,339
Harris	14,842	11,845	10,882	6,870	4,457	4,670	5,079	1,152	3,203	1,434	461	1,499	66,394
Jefferson	144	250	115	182	86	173		279	83	99		33	1,444
Webb	119	239	182	206	11	82	225	162		40			1,266
Total	30,553	29,430	29,396	19,942	12,817	13,941	12,089	8,531	9,474	5,931	2,583	4,939	179,626

INTRASTATE RECEIPTS OF SWINE
(Number of Head)

1926	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Bexar	361	124	570	186				70	701		104	1,371	3,487
Dallas	754	257	542	559	697	160	578	548	160	348	408	487	5,498
El Paso	809	1,066	517	569	951	401	526	307	220	396	411	329	6,502
Ft. Worth	4,211	5,484	6,296	3,607	3,193	4,671	1,897	1,952	1,128	1,878	2,021	3,171	39,509
Galveston	259	276	69	570			157					227	1,558
Harris	2,230	1,974	2,594	1,765	981	740	530	569	637	149	125	2,617	14,911
Jefferson	255				33			23			81		392
Webb				2	79						2		83
Total	8,879	9,181	10,588	7,258	5,934	5,972	3,688	3,469	2,846	2,771	3,152	8,202	71,940

1927	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Bexar	1,053	687	626	367	233	327	134	88	289		612	458	4,874
Dallas	568	399	561	268	347	298	76	207	315	1,204	1,360	2,412	8,015
El Paso	304	396	2,359	3,027	1,471	1,092	1,936	2,547	1,817	2,138	1,522	1,943	20,552
Ft. Worth	11,163	15,496	18,732	19,003	14,430	8,304	6,194	7,345	9,117	6,201	6,472	6,034	128,491
Galveston	371	1,267	894	174	731	829	66	189	359	337	1,109	990	7,316
Harris	8,819	5,843	5,644	917	1,615	911	280	733	1,283	2,451	1,091	1,186	30,773
Jefferson			135	72				85			164		456
Webb				83	77				112	165			437
Total	22,278	24,088	28,951	23,911	18,904	11,761	8,686	11,194	13,292	12,496	12,330	13,023	200,914

1928	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Bexar	359	669	863	377	434	520	426	209	350	381	500	591	5,679
Dallas	2,235	794	628	841	995	586	586	634	2,418	1,476	969	366	12,528
El Paso	1,799	3,417	4,307	4,556	2,652	1,677	1,867	2,089	1,364	1,177	1,289	917	27,111
Ft. Worth	9,832	16,169	19,772	21,518	23,135	14,879	12,938	11,546	13,001	8,911	5,916	7,522	165,139
Galveston	950	856	1,635	1,300	894	798	470	592	1,016	769	1,064	1,368	11,712
Harris	1,913	2,029	3,530	3,001	2,279	1,432	865	2,594	1,615	4,808	2,719	1,675	28,460
Jefferson	150	120	162	2	110	209			113	123	120	114	1,223
Webb		38		600	61		83	239	274	280	277		1,852
Total	17,238	24,092	30,897	32,195	30,560	20,101	17,235	17,903	20,151	17,925	12,854	12,553	253,704

INTRASTATE RECEIPTS OF SWINE
(Number of Head)

1929	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Bexar	560	1,027	1,453	215	247	253	292	209	444	626	413	670	6,409
Dallas	1,110	945	1,782	3,021	3,654	1,013	1,902	2,546	1,209	3,222	559	843	21,806
El Paso	1,573	1,643	1,484	1,797	1,661	1,193	2,103	2,738	1,885	1,395	675	722	18,869
Ft. Worth	14,305	15,926	28,899	31,307	16,113	13,823	12,103	13,282	11,467	4,841	3,280	4,679	170,025
Galveston	1,814	1,470	1,202	865	736	501	257	443	69	664	884	552	9,457
Harris	3,622	3,935	5,528	5,128	3,553	2,221	1,798	5,131	5,901	2,476	980	979	41,252
Jefferson	528							217	196	79	483	333	1,836
Webb	193	353	434	334	291		107	385	315	581	136	49	3,178
Total	23,705	25,299	40,782	42,667	26,255	19,004	18,562	24,951	21,486	13,884	7,410	8,827	272,832

1930	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Bexar	1,381	1,107	403	671	339	433	798	519	358	547	486	668	7,710
Dallas	2,144	3,785	2,884	3,564	2,550	1,305	718	1,700	2,555	750	358	346	22,659
El Paso	1,106	1,052	2,118	1,716	1,564	1,136	774	1,962	893	950	931	1,210	15,412
Ft. Worth	6,115	11,656	15,431	21,316	14,632	10,727	4,699	6,052	6,384	12,248	3,364	3,073	115,697
Galveston	476	350	620	1,049	568	313	477	456	852		37	244	5,442
Harris	1,450	2,221	2,520	3,679	1,910	1,066	620	2,496	3,090	1,321	476	514	21,363
Jefferson	508	186	486	234	197	100	287	133					2,131
Webb	248	435	810	576	210	263	122	230	388	238			3,520
Total	13,428	20,792	25,272	32,805	21,970	15,343	8,495	13,548	14,520	16,054	5,652	6,055	193,934

LEGEND FOR NATURAL REGIONS MAP OF TEXAS

Because of the large number of subdivisions used in the Natural Regions Map of Texas, each region and area has been designated by a combination of letters and figures. The larger divisions are designated by the letters A, B, C, and D.

A. EAST TEXAS PLAINS (Humid)

- A-1 An extension of northern Black Prairies into humid East Texas
- A-2 Marginal Timbered Plains
- A-2a Secondary Marginal Timbered Plains
- A-3 Interior Dissected Plains
- A-4 Sabine Uplift
- A-5 and A-6 Rolling Plains of eastern Texas
- A-5 Loblolly Pine Region
- A-6 Longleaf Pine Region
- A-7 Light-colored Coastal Prairies
- A-8 Black Coastal Prairies

B. THE PRAIRIES PROVINCE (Moderately Humid)

- B-1 Grand Prairies
- B-2 Eastern Cross Timbers
- B-2a An extension of A-2a
- B-3 Northern Black Prairies
- B-4 A mixed prairie and timber region
- B-5, B-6, and B-7 Timbered strips on sandy or on clayey materials
- B-8 Interior Coastal Prairies
- B-9 A timbered inter-prairie strip
- B-10 Light colored Coastal Prairies
- B-11 Black Coastal Prairies

C. THE MIDDLE TEXAS PROVINCE (Sub-humid)

- Ca-1 Eastern High Plains (northern portion)--constructional
- Ca-2 The "Breaks" along the Canadian and along eastern margin of the "cap-rock" escarpment
- Ca-3 Eastern High Plains (middle portion)--constructional
- Ca-4 Red River Rolling Plains--constructional
- Ca-5 Eastern High Plains (southern portion)--constructional
- Ca-6 Gypsum Plains (western portion of North-central Plains of Texas)--dissected
- Ca-7 Abilene-Haskell Plains--constructional
- Ca-7a Roscoe Plains--constructional
- Ca-7b Constructional Plains in Coleman County
- Ca-8 Red River Rolling Plains (eastern portion)
- Ca-9 Marginal Red River Rolling Plains

Ca-10 Dissected Plateau of North-central Texas

Ca-11 Lampasas Cut Plain

Ca-12 Limestone Rolling Plains

Cb-1 Edwards Plateau

Cb-1a Callahan Divide area

Cb-2 Llano Basin area

Cc-1 Western extension of southern Black Prairies

Cc-2 Southern Black Prairies

Cc-3 Plains strips on sands and sandstone materials

Cc-4 Interior Coastal Prairies (in Sub-humid province and their south-western extension)

Cc-5 Mixed grasslands and chaparral strips

Cc-5a Upland Plains of Lower Rio Grande Valley

Cc-5b Southwestern extension of Cc-5

Cc-6 Marginal Coastal Prairies

Cc-7 Black Coastal Prairies

Cc-8 Plains with deep sands

Cc-9 Eroded Plains Marginal to the Rio Grande

Cc-10 Transitional area between Cc-5a and Cc-8

Cc-11 Alluvial Lands of Lower Rio Grande Valley

D. WESTERN HIGH PLAINS AND TRANS-PECOS COUNTRY

D-1 Western High Plains (northern portion)--constructional

D-1a Western High Plains (middle portion)--constructional

D-2 Dunes and deep sand strips

D-3 Western High Plains (southern portion)--constructional

D-4 Stockton Plateau--dissected

D-5a Green Valley

D-5b Davis Mountains

D-5c Diablo Plateau

D-5d Marfa Plain

D-6 The Big Bend Country

D-6a Howard Bolson and Salt Flats

D-6b, D-6c, and D-6d are all rugged areas of northern trans-Pecos Country

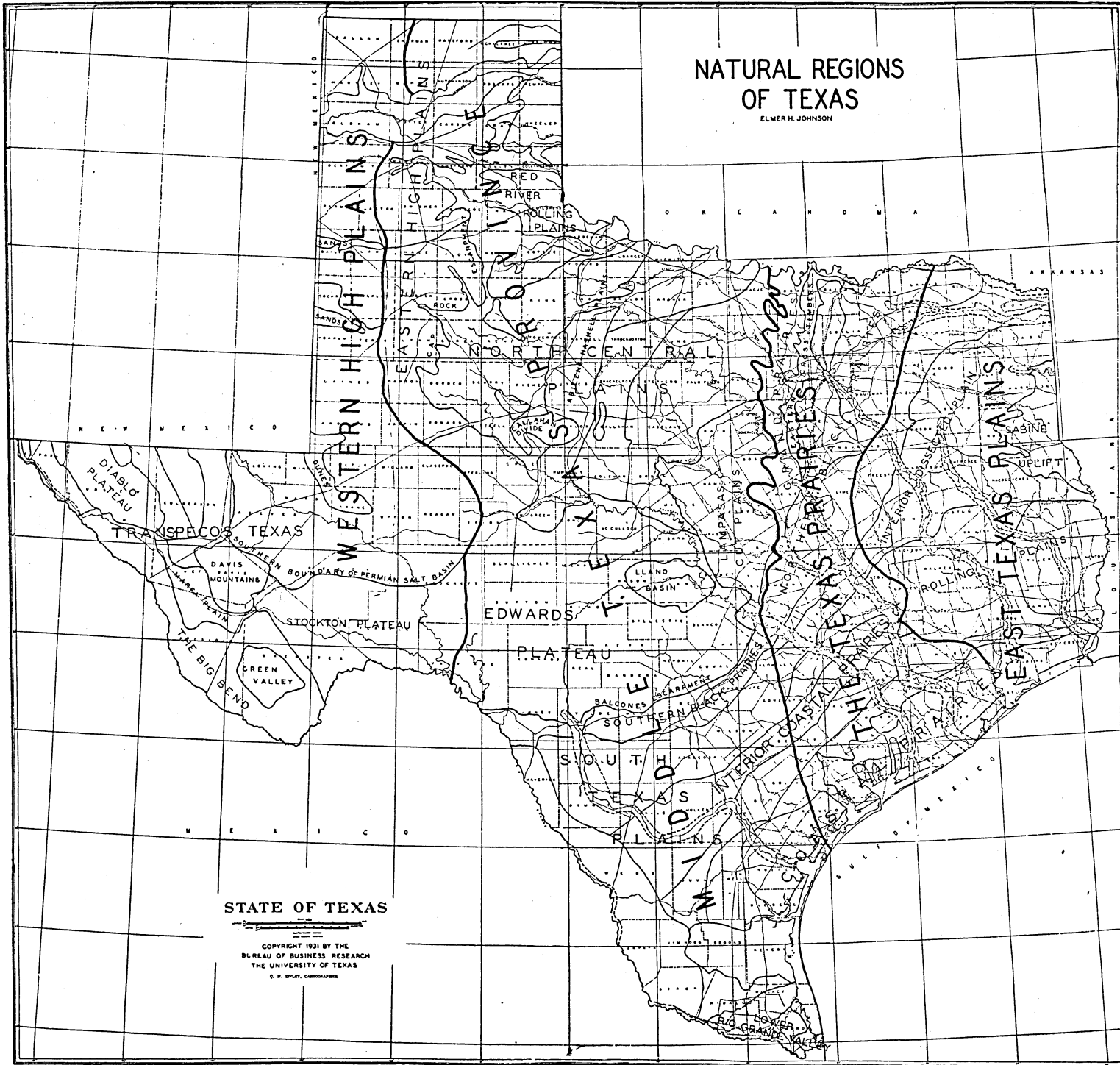
D-9 Eastern Margin of Diablo Plateau

D-9a Delaware Upland and Guadalupe Mountains

D-9b Hueco Bolson and adjacent area

NATURAL REGIONS OF TEXAS

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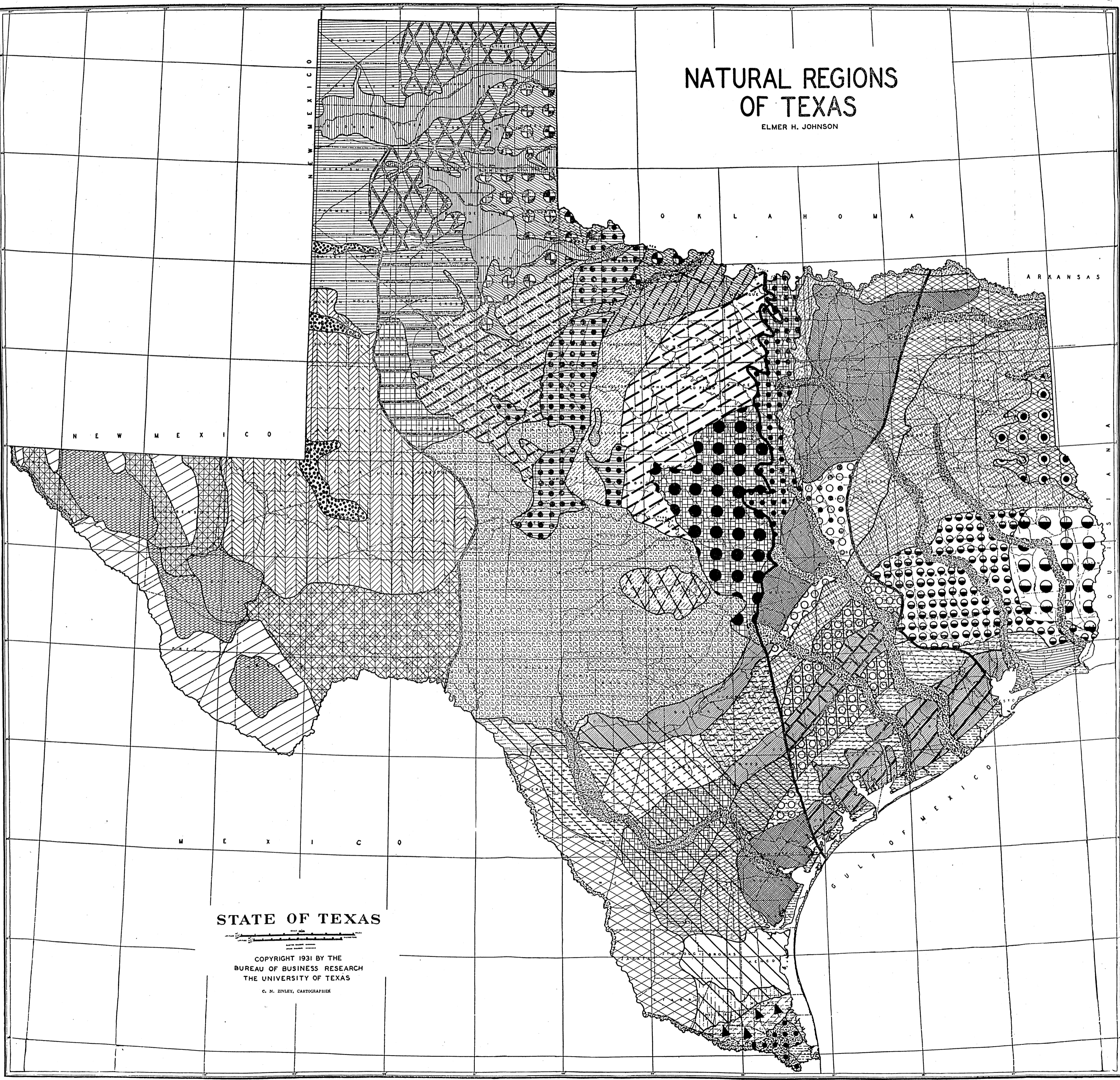


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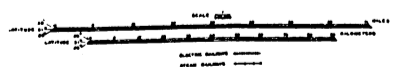
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