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the minnesota rural real estate market in 1976

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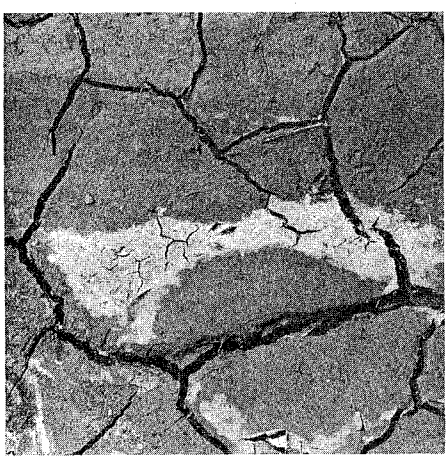
including special studies of:

the red river valley

the effect of drought on the farmland market

a contour map of minnesota land values



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SUMMARY

Despite uncertainty about commodity prices, widespread drought, and a presidential election, data received on the Minnesota rural real estate market indicate that farm land prices continued their strong upward movement in the Bicentennial year.

The estimated value of Minnesota farm land was $667 per acre in 1976, an increase of 27 percent over 1975. This increase represents the second largest annual percentage increase this century; only surpassed by the 42 percent increase in 1973-74.

The largest percentage increase was in the Southwest district where estimated values jumped 31 percent; the smallest increase was in the East Central district, north and west of the Twin Cities, where estimated values jumped 18%. Despite this 13 percentage point spread, increases in estimated values were notably uniform among the districts when compared with the wide spreads which have occurred since 1972-73. In those three previous periods, the percentage increases could be divided into two groups: districts where production of cash grains was the prevalent agricultural land use had increases that were generally larger than the statewide average increase, and districts where livestock production and urban and recreational demands dominated, had increases smaller that the statewide average. The uniformness of the 1976 figures may indicate some readjustment in the regional balance.

Two types of data are collected in the annual survey: (1) estimates of value for land graded good, average, and poor in quality, and (2) details of actual farm sales including sales price, size of tract, land and building quality, location, method of financing, and buyer and seller characteristics. The estimates of value, summarized above, are based on responses by 625 respondents. The sales data is based on 1,314 reported sales in the period January 1—July 1, 1976. This number is down from the 1,429 sales reported in 1975 and reflects a decrease in the supply of farms offered for sale that was also apparent in 1974 and 1975.

Analysis of reported sales indicated that statewide average sales price per acre increased 21% from 1975 to $735 per acre. This was a continuation of the trend of large price increases which started in the 1973-74 period. The trend to more sales of unimproved land (land without buildings) continued as the proportion of sales that involved unimproved land increased to 35 percent. This reflects the predominance of farm expansion buyers in the Minnesota rural land market. For the state as a whole, 65 percent of all sales were to buyers who were adding to land already owned. In 1976, expansion buyers paid the highest prices in all districts except the Northeast

and were primarily interested in land without buildings. As a result unimproved land sold for more than improved land statewide. By district, unimproved land sold for substantially more than improved land in the Southwest and Northwest districts, districts where expansion buyers are particularly dominant. The shift in land market activity toward expansion buyers is also evident in the increasingly local character of the land market. In 1976, 69 percent of all buyers live less than 10 miles from their purchased tract and over 50 percent less than 5 miles.

Statewide, 58 percent of all sales were financed by contract for deed, with mortgages accounting for 26 percent and cash sales the remaining 16 percent. This is a continuation of the dominant role played by contracts for deed in current land market financing.

The Northwest District can be divided into two parts by soil differences: the Red River Valley on the west and the Non-Valley area on the east. Farm land market characteristics differ notably between these two areas. In 1976, the Red River Valley area experienced the highest annual percentage increase in sales price when compared with the other districts of the state. This area experienced a 37% increase over 1975 while the Non-Valley area experienced a 23% increase.

A special supplemental survey was made in November to assess the effects of the widespread drought on the Minnesota farm land market. The results showed that there was a slackening in the volume of sales in the more droughty regions characterized by a decrease in the proportion of poor quality land sales and a decrease in the proportion of sales to investor buyers.

PROCEDURE

Data for the Minnesota Rural Real Estate Market Report in 1976 were collected through the use of mail questionnaires sent to 1650 individuals during the months of July and August 1976. Potential respondents included real estate brokers, agricultural loan specialists, bankers, and other people knowledgeable of farm land values in Minnesota. Because of the widespread drought, a supplemental survey was made in November to assess the effects of the drought on farm sales in the period July 1—November 1, 1976.

The questionnaire was expanded in 1974 to include a third section dealing with rural land sales primarily for non-farm use. However, this report deals mainly with rural land sales and values in agricultural use. In the first section respondents were asked to estimate an average value for farm land, with separate estimates for land of high, medium and low quality in their area. These estimates were used to calculate percentage changes in land values during the past year. This was done by (1) weighting the average estimated value per acre of all respondents in a county by the number of acres of farm land in their county; (2) adding these values county by county for each district; and (3) dividing this total for all counties in a district by the total acreage of farm land in that district. In making comparisons with 1975, only estimates of the respondents who had answered in both 1975 and 1976 were used. On the basis of this rather rigorous restriction, a total of 625 estimates were usable.

The second section of the questionnaire requested data on actual farm sales. Data were supplied on type of buyers and sellers, method of financing, and quality of land and buildings. Reporters were requested not to include sales between close relative or sales of less than 10 acres when filling out this part of the questionnaire.

Three types of agricultural buyers are distinguished in this report:

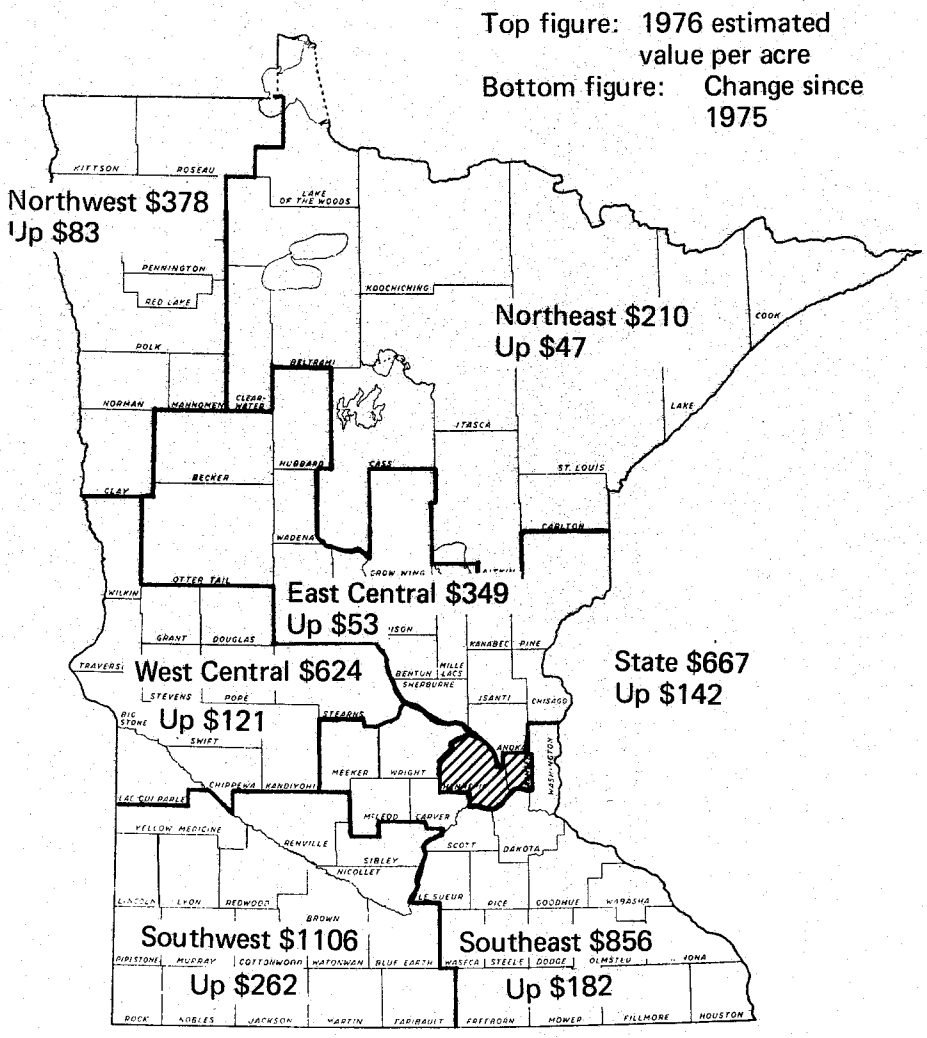
1. Operating farmers: Those buying complete farm units for operation as individual farms.
2. Expansion buyers: Those who already own some farm land either as farmers or landlords.
3. Agricultural investors: Those who buy farm land to be rented out or managed for farming purposes.

The distinction between improved and unimproved land is determined by the presence of buildings. Land with buildings is classified as improved land. Land with no buildings is unimproved. The quality of land for farming purposes is judged good, average, or poor by the respondents. Also building quality is rated as good, average, poor, or none by the respondents.

The sales data in the main report is based upon 1,314 reported sales in the period January 1—July 1, 1976. The November survey is based upon sales data received from 405 sales in the period July 1—November 1, 1976.

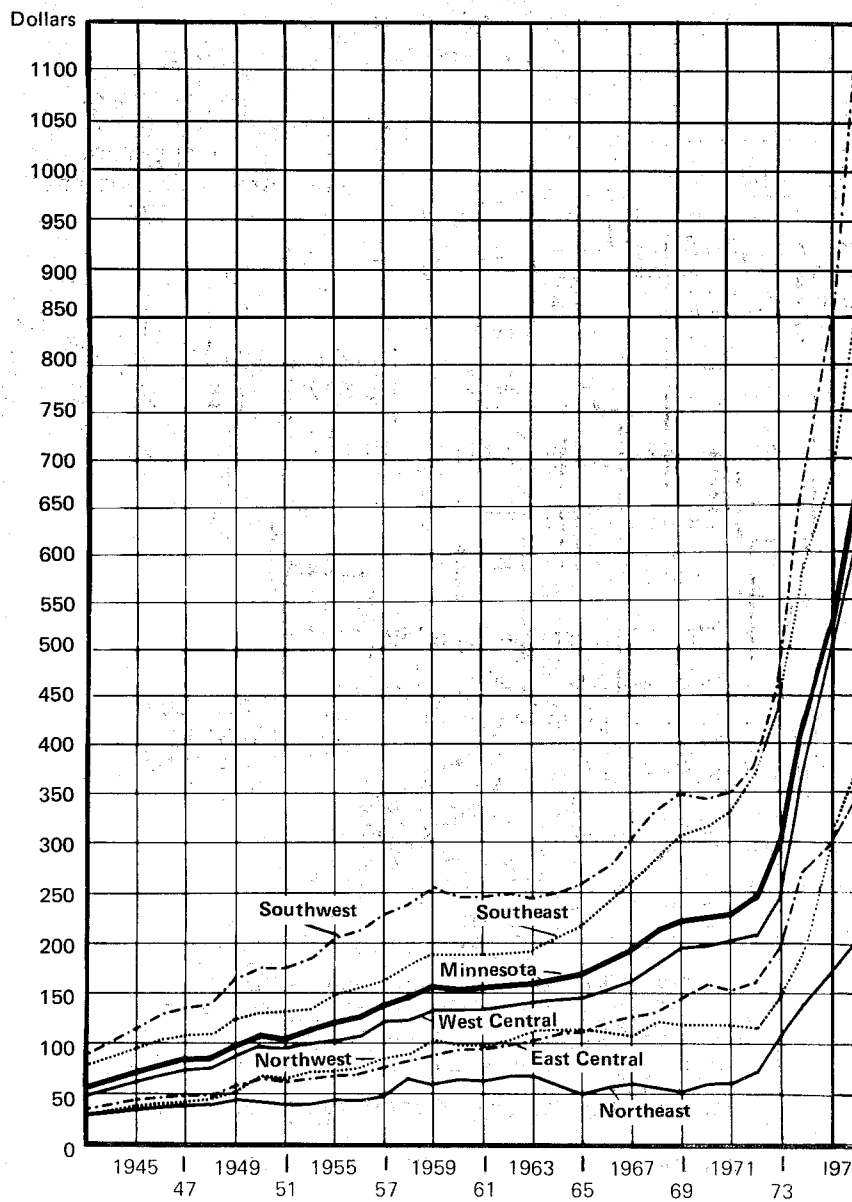
Land value changes determined by the estimate method have definite advantages over value changes based on reported sales. The quality of land and buildings has a marked effect upon land value and these factors can vary significantly from year to year and from sale to sale. The estimate method holds these factors constant, but memory bias is a problem. For this reason, only reports from respondents who report for at least two consecutive years are used in constructing the estimates of value.

Figure 1: Estimated Average Rural Land Values From Reporter's Estimates*



*Hennepin and Ramsey Counties excluded.

Figure 2: Estimated Average Value Per Acre of Minnesota Farm Land by Districts, 1945-1976.



PART I: THE MINNESOTA FARM LAND MARKET IN 1976

A. Land Market Trends

Reporters' Estimates

The estimated statewide average value of farmland in Minnesota in (July) 1976 was $667 per acre (Table 1). This is an increase of $142 per acre or 27 percent over 1975, and represents the second largest annual percentage increase in farmland values in this century. Only the increase in 1973-74 (42%) was larger. This 27 percent increase comes on top of a 24 percent increase in 1974-75, a 42 percent increase in 1973-74, and a 20 percent increase in 1972-73. The overall result is a 169 percent increase in farmland values in the four year period from July 1972 to July 1976. In many instances, trends in land market activity that were dominant in 1974 and 1975 continued into 1976. The shift in farm sales activity towards the farm expansion buyer was intensified, and the percentage of sales to investor buyers continued the decline that began with 1971-72.

Table 1: Estimated Average Value Per Acre of Farm Land by District, Minnesota, 1966–1976*

Years	South-east	South-west	West Central	East Central	North-west	North-east	Minn.
			—dollars per acre—				
1966	242	277	153	122	112	58	183
1967	262	303	163	128	108	62	194
1968	286	333	181	134	122	57	211
1969	308	350	196	146	120	54	223
1970	317	347	198	161	120	62	227
1971	333	351	204	155	119	63	232
1972	370	379	208	163	117	76	248
1973	433	459	247	194	146	115	298
1974	576	675	378	279	199	144	423
1975	674	844	503	296	295	163	525
1976	856	1,106	624	349	378	210	667

*Based on reporters' estimates of average value per acre of farm land in their area.

Table 2: Annual Percentage Changes in Estimated Farm Land Value Per Acre, by District, Minnesota, 1970–1976.

District	Percentage Change from July to July					
	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
	—percent—					
Southeast	5	11	17	33	17	27
Southwest	1	8	21	47	25	31
West Central	3	2	19	53	33	24
East Central	-4	5	19	44	6	18
Northwest	-1	-2	25	36	48	28
Northeast	2	20	51	25	13	29
Minnesota	2	7	20	42	24	27

As Table 2 reveals, the 1975-76 increases were notably uniform over all six districts of the state when compared to the previous four years. In 1972 and 1973 the highest percentage increase in estimated land value was found in the Northeast district (20 and 51%, respectively). This reflects the erratic influence in that district of non-farm demand for rural land for recreational and residential uses. In the two previous years, 1970 and 1971, the largest percentage increases had been in the urban-influenced Southeast district, in which the Twin Cities and Rochester have an appreciable effect on farm land values. In general, the Northeast, East Central and Southeast districts are most strongly influenced by urban, residential and recreational land uses, and are more dependent upon livestock agriculture than the three western districts. Throughout the 1960's and to July 1972, the largest annual percentage increases in farmland values typically occurred in these three livestock and urban-oriented districts. Over the next three years this trend was completely reversed.

In the Southwest, West Central, and Northwest districts, cash crops dominate land use. Prices received by farmers for cash crops (corn, soybeans, wheat, barley, sugar beets) were remarkably stable until late 1972. After the Russian grain purchases, these grain prices jumped dramatically upward, to be followed by sugar beets in mid-1973. These higher crop prices were capitalized almost immediately into higher farmland prices, especially in the cash grain and sugar beet areas. Over the three year period, 1973 to 1975, estimated farmland values increased substantially in the Southwest, West Central, and Northwest districts (ranging from 19 to 53% each year, Table 2). By 1975, two distinct land market regional groupings had emerged. For the three districts where cash crops dominate, farmland values rose by more

than the statewide average (25 to 48%). In contrast, farmland values, increased by less than the statewide average (6 to 17%) in the Northeast, Southeast, and East Central districts where livestock farming and urban, residential, and recreational land uses are prominent.

The percentage increases in estimated farmland values for 1975-1976 show some tendency toward a readjustment in this regional balance (Table 2). The rate of increase slowed in the West Central and Northwest, while the rate of increase picked up in the more urban-influenced Southeast, East Central, and Northeast districts. Consequently, the district increases cluster close to the statewide average increase of 27 percent. The slow-down in farmland value increases evident in the more agricultural districts may be associated with the downward trend in agricultural commodity prices (corn wheat, barley) over the last two years along with drought conditions experienced in western Minnesota during this same period (see Part III).

Farmland values in the Southwest district continue to lead the state, with an estimated average value of $1,106 per acre (Figure 1 and Table 1). As depicted in Figure 2, the Southwest district has maintained its top position for the past thirty years. During this period, its lead generally widened from 1945 until 1960, and then slowly narrowed to a difference of less than $10 per acre over the Southeast by 1972. The narrowing was due primarily to non-farm demand for land during the 60's and early 70's which was especially intense in the urbanizing corridor of the state running from St. Cloud southeast through the Twin Cities to Rochester. Starting in 1973 the Southwest's lead again started to lengthen and is presently $350 per acre above the Southeast. In addition, Figure 1 shows that the largest dollar increase in farmland value over 1975 occurred in the Southwest—$262, followed by the Southeast district with an advance of $182 per acre over 1975.

Since 1966 the value of Minnesota farmland has more than tripled, from $183 to $667 per acre. As Table 3 points out, this 264 percent increase has not been evenly distributed through time or over space. Approximately nine-tenths of the dollar increase since 1966 occurred in the second half of the decade. A spatial breakdown of farmland value changes over the 1966-76 period (Table 3) shows that the most urbanized district, the Southeast, dominated the first half of the decade while the more agricultural Southwest, West Central, and Northwest districts experienced larger percentage increases in the second half.

Actual Sales

Information was received on 1,314 farm sales in the first six months of 1976. The statewide average reported sales price for farmland was $735 per acre (Table 4). This represents a 21 percent increase over the 1975 average sales price and is somewhat less than the 27 percent increase in estimated land values. The difference is due in part to a disproportionately larger number of sales of low-priced land in 1976 than in 1975. This shift in the location of sales activity from higher priced to lower priced land was evident in the

Southeast and Northwest districts (see Table 5). The discrepancy between percentage increases in estimated values and actual sales price was especially marked in the Northwest—28 versus 7 percent (Table 4). Farm sales activity, both as to number of sales and average size of tract, increased in the Non-Valley Comparison Area relative to the Red River Valley accounting for much of this shift in sales from high priced to low priced land in the Northwest district (see Part II, Table 25).

To remove the effect of this geographic shift in sales activity, an adjusted sales price per acre was computed for each district as follows: For each county, the average price per acre from reported sales in 1976 was applied to the acres sold in 1975. The results were summed for each district and divided by total acres sold in that district in 1975. The adjusted price thus eliminates the effect of changes in the geographic distribution of acres sold between 1975 and 1976. The results, presented in Table 5, reveal that the 1976 statewide adjusted average sales price per acre increased 26 percent over 1975. This figure is more in agreement with the 27 percent increase in estimated values per acre.

Table 3: Percentage Changes in Estimated Farm Land Value Per Acre, by District, Minnesota, 1966-76, 1966-71, 1971-76, and 1975-76.

District	Estimated 1976 Value Per Acre	Percent Change 1966-76	1966-71	1971-76	1975-76
	-dollars-		-percent-		
Southeast	856	254	38	157	27
Southwest	1,106	299	27	215	31
West Central	624	308	33	206	24
East Central	349	186	27	125	18
Northwest	378	238	6	218	28
Northeast	210	262	9	233	29
Minnesota	667	264	27	188	27

Table 4: Average Estimated Value Per Acre of Farm Land Compared with Prices Received in Actual Sales, by District, Minnesota, 1975-1976

District	1975 Estimated Value	1975 Sales Price	1976 Estimated Value	1976 Sales Price	Percent Changes Over 1975 Estimated	Percent Changes Over 1975 Actual
	-dollars per acre-				-percent-	
Southeast	674	792	856	937	27	18
Southwest	844	844	1,106	1,116	31	32
West Central	503	493	624	664	24	35
East Central	296	299	349	321	18	7
Northwest	295	353	378	377	28	7
Northeast	163	159	210	210	29	32
Minnesota	525	607	667	735	27	21

Table 5: Comparison of Sales Prices by Districts, 1975 and 1976, adjusted to Remove the Effect of Changes in the Geographic Distribution of Sales.

District	Average Price Per Acre, from Reported Sales 1975	Average Price Per Acre, from Reported Sales 1976	Adjusted Price Per Acre 1976	Percent Change in Sales Price July 1975–July 1976 Reported Sales	Percent Change in Sales Price July 1975–July 1976 Adjusted to 1975 Volume*
	$	$	$	%	%
Southeast	792	937	976	18	23
Southwest	844	1,116	1,126	32	33
West Central	493	664	650	35	32
East Central	299	321	318	7	6
Northwest	353	377	387	7	10
Northeast	159	210	193	32	21
Minnesota	607	735	764	21	26

*The adjusted price per acre was computed as follows: For each county, the average price per acre from reported sales in 1976 was applied to the acres sold in 1975. The results were summed for each district and divided by total acres sold in that district in 1975. The adjusted price thus eliminates the effect of changes in the geographic distribution of acres sold between 1975 and 1976.

Table 6 shows that the average reported sales price for individual districts ranged from $210 per acre in the Northeast to $1,116 per acre in the Southwest. For only the second time since 1967, farmland in the Northwest district averaged more than agricultural land sold in the urban-influenced East Central district ($377 versus $321 per acre). It is also interesting to note that in the five year period prior to 1974 land in the Southeast sold for more than farmland in the Southwest. By 1976 the difference between the two southern districts of the state had grown substantially to an average of $179 per acre. Excluding the basically non-agricultural Northeast, Table 7 reveals that over the past five years (1971-76) the greatest percentage increases in actual sales prices were in the more agricultural districts—the Southwest, West Central, and Northwest (225, 224, and 277 percent, respectively). However, when the five year period prior to 1971 is considered the more urbanized Southeast and East Central districts maintain the lead in sales price increases (36 and 33 percent, respectively).

Table 6: Average Reported Sales Price Per Acre of Farm Land, by District, Minnesota, 1966–1976*

Years	District						Minn.
	South-east	South-west	West Central	East Central	North-west	North-east	
	—dollars per acre—						
1966	253	260	164	113	103	31	203
1967	272	306	179	93	117	51	215
1968	316	329	186	104	90	47	232
1969	341	334	194	130	121	51	238
1970	346	340	206	141	113	45	243
1971	344	343	205	150	100	44	259
1972	389	366	222	145	107	76	293
1973	444	410	223	178	120	122	298
1974	598	630	340	243	204	144	450
1975	792	844	493	299	353	159	607
1976	937	1,116	664	321	377	210	735

*Based on reported farm sales, January 1 to July 1 of each year.

Table 7: Percentage Changes in Sales Price Per Acre, by District, Minnesota, 1966-76, 1966-71, 1971-76, and 1975-76.

District	Sales Price Per Acre in 1976	Percent Change 1966-76	1966-71	1971-76	1975-76
	-dollars-		-percent-		
Southeast	937	270	36	172	18
Southwest	1,116	329	32	225	32
West Central	664	305	25	224	35
East Central	321	184	33	114	7
Northwest	377	266	-3	277	7
Northeast	210	577	42	377	32
Minnesota	735	262	28	184	21

Activity in the Land Market

The U.S. Department of Agriculture has estimated that voluntary sales numbered 29.3 per 1,000 farms in Minnesota for the year ending March 1, 1976 (Table 8). This represents a 22 percent decline from 1975 and is consistent with the decreased number of sales reported in this survey, particularly in the Southeast and Southwest districts (Table 9). Over the last two years the overall rate of farm transfers per 1,000 farms has dropped from a near record high of 59.9 in 1974 to 39.5 in 1976, the lowest rate of transfer since 1963. Notably, the number of forced sales (foreclosures and tax delinquency) in 1976 doubled over that of 1975 (0.3 to 0.6 per 1,000 farms, Table 8). But it should be pointed out that the 0.3 per thousand farms (three per ten thousand) was the lowest figure ever reported for transfers due to forced sales in Minnesota since the statistical series was started in 1926. Statewide, the average size of tract sold rose from 179 acres/sale in 1975 to 183 acres/sales in 1976, reversing a three year downward trend (Table 9).

Reporters to this annual survey have often commented on the strong demand for farmland (especially by expansion buyers) over the last three years. There was apparently a decrease in the supply of farm tracts offered for sale during 1974 and this reduction in supply continued in 1975 and 1976. Evidence for this smaller supply is presented in Table 10, showing that the percentage of reporters indicating a decline in the number of farm tracts listed for sale with brokers increased notably for the survey period (January 1–July 1) in 1974 relative to the same period in 1973. This reduction in the number of listed farm tracts continued into the next two years as indicated by the increased percentages in the "changed little" columns for 1975 and 1976 relative to the corresponding 1974 column (Table 10). Consequ-

Table 8: Estimated Number of Farm Title Transfers Per Thousand Farms, by Methods of Transfer, Year Ending March 1, Minnesota, 1961-1976.

Years	Voluntary Sales	Forced Sales (Foreclosures, Tax)	Inheritance, Gifts, and all Other Transfers	Total all Classes
1961	29.0	2.6	7.7	39.3
1962	29.3	1.9	10.4	41.6
1963	24.1	1.9	10.1	36.1
1964	30.6	3.2	12.4	46.2
1965	29.7	2.8	10.6	43.1
1966	35.5	2.1	14.9	52.5
1967	37.5	1.4	14.2	53.1
1968	38.1	2.4	9.8	50.3
1969	33.5	2.0	11.8	47.3
1970	31.8	2.2	9.6	43.6
1971	36.1	2.2	10.4	48.7
1972	34.7	1.6	9.6	45.9
1973	42.3	2.4	11.9	56.6
1974	47.7	1.1	11.1	59.9
1975	37.4	0.3	10.0	47.6
1976	29.3	0.6	9.5	39.5

Source: "Farm Real Estate Market Developments", CD-81, Economic Research Service, USDA, July 1976.

ently, a decreased supply of farm tracts offered for sale together with a strong demand for farmland during 1974, 1975, and 1976 resulted in the record increases in farmland values over the last three years.

During the 1970's the proportion of sales involving real estate brokers or agents has decreased in the more agricultural districts—the Southwest, West Central, and Northwest (Table 11). Two reasons for this decline have emerged from this study. First, respondents have commented upon the growing number of auction sales in these districts. There have also been reports of the use of auctions for land to be rented out. Second, the percentage of farm expansion purchases has risen significantly over this period in the Southwest, West Central, and Northwest districts (see Table 16). These purchases are typically made from neighbors and often do not involve the services of a real estate broker or agent. Broker participation, 1971-1976, remained the same or increased in the urban and recreationally—oriented

Table 9: Number of Sales, Acreage of Land Sold and Average Acres Per Sale, by District, Minnesota, January 1–July 1, 1974-1976.

District	No. of Sales*			Acres Sold			Acres/Sale		
	1974	1975	1976	1974	1975	1976	1974	1975	1976
Southeast	459	433	377	74,999	67,934	64,683	163	157	172
Southwest	519	402	347	88,933	65,387	52,079	171	163	150
West Central	301	228	227	61,956	46,032	50,377	206	202	222
East Central	221	188	187	36,709	33,074	27,181	166	176	145
Northwest	128	132	132	39,305	36,615	38,202	307	277	289
Northeast	48	46	44	9,885	7,339	8,274	206	160	188
Minnesota	1,676	1,429	1,314	311,787	256,381	240,796	186	179	183

*These sales should not be interpreted as a record of total farm land transactions for the years indicated. The majority of farm land sales occur in the first half of the calendar year, which explains the choice of the Jan. 1–July 1 reporting period. Some sales do occur in the latter half of the year, but they are not included in the data reported above.

Southeast, East Central, and Northeast districts (Table 11). This is probably due to the larger proportion or urban buyers who have purchased farmland in these districts for investment, residential, and recreational purposes. Statewide, there was virtually no change in broker participation in farmland sales, 1971-1976, with the exception of a small increase in 1974.

Table 10: Proportion of Reporters Indicating Changes in Number of Farm Tracts Listed for Sale with Brokers, by District, Minnesota, 1973, 1974, 1975 and 1976.

District	Percentage Indicating Listings Had Increased				Decreased				Changed Little			
	1973	1974	1975	1976	1973	1974	1975	1976	1973	1974	1975	1976
	—percent—											
Southeast	18	6	4	4	30	40	38	26	52	53	58	70
Southwest	6	4	5	7	38	37	30	23	55	59	65	70
West Central	12	4	8	13	27	41	28	21	61	55	64	66
East Central	8	16	13	11	33	30	19	23	60	55	68	66
Northwest	4	4	4	8	38	44	15	12	58	52	81	81
Northeast	5	10	17	14	19	24	7	14	76	67	77	73

Table 11: Estimated Proportion of Farm Land Sales in which Brokers or Dealers Participate, Minnesota, by District, 1971-1976.

District	Sales With Broker's Services 1971	1972	1973	1974	1975	1976	Change 1971-76
				-percent-			
Southeast	58	59	58	61	58	58	0
Southwest	55	52	51	54	47	48	-7
West Central	55	56	54	53	52	50	-5
East Central	53	54	58	55	60	56	+3
Northwest	42	40	40	40	34	37	-5
Northeast	47	50	46	58	54	57	+10
Minnesota	52	52	51	54	51	51	-1

B. Analysis of Reported Sales

Reason for Sale

The two most frequent reasons for selling land in Minnesota—retirement and death—accounted for almost three-fifths of all decisions to sell in 1976 (Table 12). These two reasons were most prominent in the East Central, West Central, and Southwest districts, constituting 62, 61, and 61 percent of sales, respectively. Statewide, 14 percent of the sellers left farming for another job. Before 1974, exit from agriculture consistently accounted for about 20 percent of all decisions to sell. Departures from farming are still substantial in the Northeast and Southeast districts (25 and 18 percent, respectively, Table 12) whose agriculture is heavily dependent upon milk and livestock production. The "other" category, with 19 percent of sales in the state, has typically included such reasons as ill health, financial problems, and sales by speculators. In 1975 and 1976, divorce and sales for profit by farmers were frequently mentioned as reasons for sales in this "other"category.

Table 12: Reason for Selling Land, by District, Minnesota, 1976.

Reason for Sales	South-east	South-west	West Central	East Central	North-west	North-east	Minn.
			—percentages—				
Death	14	26	13	13	11	7	16
Retirement	39	35	48	49	46	40	41
Left Farming	18	10	13	15	14	25	14
Moved, Still Farming	10	6	9	9	10	22	9
Other	19	24	18	14	19	5	19

Improved and Unimproved Land

Improved land (that with buildings) constituted only 65 percent of all 1976 sales (Table 13). This proportion has been steadily declining during the 1970's. In the 1960's improved land consistently accounted for 80 percent or more of all sales. Among the districts, the proportion in 1976 varied from 47 percent in the Northwest to 80 percent in the Northeast. This variation suggests that the major motivation for land purchase in the more agricultural areas has been for farm expansion through acquisiton of unimproved land, while fewer farmers have increased the size of their holdings in the Northeast and East Central districts.

Table 13: Proportion of Improved and Unimproved Land Sales, by District, Minnesota, 1970, 1975 and 1976.

	Improved Land			Unimproved Land		
District	1970	1975	1976	1970	1975	1976
		-percent-			-percent-	
Southeast	78	72	69	22	28	31
Southwest	79	61	57	21	39	43
West Central	74	58	66	26	42	34
East Central	85	82	76	15	18	24
Northwest	59	48	47	41	52	53
Northeast	75	72	80	25	28	20
Minnesota	77	66	65	23	34	35

Statewide, the presence of buildings was associated with the lower sales prices of farmland. Table 14 shows that unimproved land sold for 103 percent of improved land prices. This is considerably above the trend prior to 1974 when unimproved land prices consistently averaged 80 percent of prices paid for improved land (Table 15). In fact, unimproved farmland sold for more than improved land, statewide in 1976, for only the second time in the history of Minnesota land market statistics. By districts, unimproved land sold for substantially more than improved land in the Southwest and Northwest districts (Table 14). These two districts are especially dominated by farm expansion buyers who place a higher value on land without buildings than do other buyers. This points out the strengthening of the shift in farm sales activity toward the expansion buyer in 1976.

Table 14: Average Sales Price Per Acre of Improved and Unimproved Farm Land, by District, Minnesota, 1976.

District	Improved Land	Unimproved Land	Price of Unimproved Land as a Percent of Price of Improved Land
	-dollars per acre-		-percent-
Southeast	950	883	93
Southwest	1,069	1,213	113
West Central	672	640	95
East Central	327	293	90
Northwest	332	438	132
Northeast	230	100	43
Minnesota	729	753	103

Table 15: Price Differential Between Improved and Unimproved Land Sold, Minnesota, 1966-1976.

Year	Improved Land	Unimproved Land	Difference	Price of Unimproved Land as a Percent of Price of Improved Land
	-dollars per acre-			-percent-
1966	211	158	53	75
1967	222	177	45	80
1968	248	166	82	67
1969	245	206	39	84
1970	254	200	54	79
1971	271	207	64	76
1972	308	236	72	77
1973	317	234	83	74
1974	454	438	16	96
1975	605	613	-8	101
1976	729	753	-24	103

Type of Buyer

Further insights into the effects of this intensified shift in buyer activity in the 1976 farmland market can be gained by grouping agricultural buyers into three classes: operating farmers who buy complete farm units as owner-operators; farm expansion buyers, who may be operating farmers or investors increasing the size of their holdings; and agricultural investor buyers, who are nonfarmers, who have bought land to be rented out or managed for farming purposes (this land is not being used to expand the size of farms already owned). Each class of buyer over the five-year period 1969-73 had maintained its relative market share statewide at a remarkably constant proportion. This proportion of sales to operating farmers, expansion buyers, and agricultural investors averaged 30, 53, and 17 percent, respectively, over the period (Table 16). In 1974 a significant change occurred in the proportion of farmland sold to these three classes of buyers. Expansion buyers increased their share to make up three-fifths of the farm tracts purchased. Purchases by both operating farmers and agricultural investors declined proportionately. This trend continued in 1975 and intensified in 1976, particularly in the agricultural areas of Minnesota (Table 16). Statewide, expansion buyers now account for 65 percent of all farm tracts purchased.

By districts, farm expansion buyers overwhelmingly dominate the land market in the three major agricultural districts, with 79, 75, and 72 percent of the 1976 sales in the Southwest, Northwest, and West Central districts, respectively. Significant increases in farm expansion sales over 1975 occurred in the Southeast, Southwest, and West Central districts (Table 16). Operating farmer buyers still predominate in the East Central and Northeast, two districts associated with a larger proportion of part-time and "hobby" farms.

Table 16: Proportion of Tracts Purchased by Type of Buyer, by District, Minnesota, 1969-1973 Average, 1975 and 1976.

District	Operating Farmer Buyer (Sole Tract)			Farm Expansion Buyer (Operator or Investor)			Agricultural Investor Buyer (Sole Tract)		
	1969-1973 (Average)	1975	1976	1969-1973 (Average)	1975	1976	1969-1973 (Average)	1975	1976
	—percent—								
Southeast	33	25	22	41	55	64	26	20	14
Southwest	20	16	12	69	72	79	11	11	9
West Central	27	20	18	61	67	72	12	13	10
East Central	53	48	49	27	37	36	20	15	15
Northwest	21	15	15	67	75	75	12	10	11
Northeast	45	62	70	24	20	14	31	18	16
Minnesota	30	25	23	53	60	65	17	15	12

Before 1974 for the state as a whole, the highest prices were typically paid by investor buyers, next highest by expansion buyers, and lowest by operating farmers. By 1975, this trend was completely altered with expansion buyers paying nearly $200 per acre more than other buyers, followed by operating farmers, and lastly, agricultural investor buyers (Table 17). In 1976 expansion buyers continued strong, paying $831 per acre, but now followed by agricultural investors who paid $592 per acre, and then operating farmers at $569. Apparently, agricultural investors are regaining some of the ground they lost to other buyers in 1974 and 1975. Further evidence of this renewed strength by investor buyers will be indicated later. Expansion buyers paid notably more than other buyers in all districts except the Northeast (Table 17).

Table 17: Average Sales Price Per Acre by Type of Buyer, by District, Minnesota, 1974, 1975, 1976.

District	Operating Farmer			Expansion Buyer			Investor Buyer (Agricultural)		
	1974	1975	1976	1974	1975	1976	1974	1975	1976
	—dollars per acre—								
Southeast	583	725	963	607	835	993	602	745	737
Southwest	544	668	894	687	936	1,187	483	639	833
West Central	321	434	607	377	551	686	309	334	624
East Central	231	294	300	257	318	366	208	249	298
Northwest	196	215	305	204	417	425	189	232	275
Northeast	160	162	213	97	151	206	132	164	204
Minnesota	404	495	569	492	690	831	418	493	592

Land and Building Quality

Statewide, good land sold for $941 per acre in 1976 and accounted for 39 percent of sales. Land of average quality was $655 per acre and made up 46 percent of sales. The remaining 15 percent of sales were of poor quality land, averaging $449 per acre (Table 18). Good quality land sold for significantly more than twice the price of poor quality land ($941 versus $449 per acre). However, poor quality land experienced a larger percentage increase in price per acre, 1975-76, than did land rated good or average in quality (26 percent versus 22 and 16 percent, respectively, Table 18). This has not occurred statewide in the Minnesota farmland market since 1971. The proportion of sales for land of different qualities did not change notably from 1975.

Prior to 1974, agricultural investors consistently outbid other buyers for land of good and average quality, while farm expansion buyers always paid less than other types of buyers for poor land. However, by 1975 expansion buyers paid substantially more than all other buyers for all land, regardless of quality (from 7 to 49 percent more). This trend gained more strength

Table 18: Price Paid Per Acre and Proportion of Sales of Land of Various Quality, Minnesota, 1975 and 1976.

Land Quality	Proportions 1975	1976	Price Per Acre 1975	1976	Change in Price from 1975
	-percent-		dollars per acre		-percent-
Good	37	39	771	941	22
Average	48	46	565	655	16
Poor	15	15	357	449	26
All	100	100	607	735	21

in 1976 as farm expansion buyers paid at least 20 percent to over 53 percent more than other buyers for the various qualities of land (Table 19). Finally, from Table 19, land rated good or average accounted for 86 percent of the purchases by operating farmers and expansion buyers. This is to be expected, since most agricultural buyers want to upgrade or maintain the quality of their farms. In contrast, only one-fourth of the purchases by investors were of good quality land, while another fourth of their purchases consisted of poor land.

Table 19: Price Paid Per Acre and Proportion of Purchases by Type of Buyer for Land of Various Quality, Minnesota, 1976.

Type of Buyer	Land Quality Good		Average		Poor	
	$	%	$	%	$	%
Operating Farmer	670	32	575	54	354	14
Expansion Buyer	1,030	44	713	42	535	14
Agricultural Investor	860	24	595	52	351	24
All	941	39	655	46	449	15

Previous to 1974, land without buildings consistently sold for less than land with buildings, in spite of their quality. This trend was modified in 1974 and further altered in 1975 and 1976. Statewide, as revealed in Table 20, land without buildings now sells for notably more than land with either poor or average quality buildings ($753 per acre versus $640 and $728 per acre, respectively) due chiefly to the dominance of the expansion buyer in the land market. But it should also be pointed out that in both 1974 and 1975 the farm expansion buyer paid considerably more than other buyers regardless of building quality. In 1976, the agricultural investor buyer, re-

Table 20: Price Paid Per Acre and Proportion of Purchases by Type of Buyer for Land with Various Quality of Buildings, Minnesota, 1976.

Type of Buyer	Building Quality							
	Good		Average		Poor		None	
	$	%	$	%	$	%	$	%
Operating Farmer	683	31	600	39	460	20	393	10
Expansion Buyer	864	13	832	21	803	19	834	47
Agricutlural Investor	908	15	626	30	411	25	586	30
All	803	18	728	26	640	20	753	36

gaining some of his pre-1974 land market position, paid significantly more than the expansion buyer for land with good quality buildings ($908 versus $864 per acre, respectively, Table 20). The significance of building quality still varies widely among classes of buyers when proportion of purchases is considered. While 70 percent of purchases by operating farmers included buildings of good or average quality, only 34 percent of purchases by expansion buyers had average or better buildings (Table 20).

Method of Financing

Use of contracts for deed (or land contracts) to finance farmland purchases has been gradually increasing since the mid-1950's, while utilization of both cash and mortgage financing has continually, though erratically, declined. From 1964 to 1974 the statewide proportion of farm sales financed with contracts for deed rose from 44 to 60 percent, the highest proportion ever reported in this annual survey (Table 21). On the other hand, mortgage sales were at an all time low in 1974 at 24 percent. Since 1974, contract for deed sales have declined slightly (58 percent in 1976) while mortgage financing increased somewhat to 26 percent of sales in 1976. A similar pattern emerges in the districts except for the Southeast and Northeast districts where contract for deed financing increased appreciably in 1976 (Table 21).

For several years prior to 1975, the highest prices per acre were paid in sales financed by contract for deed. This trend changed in 1975 as cash sales brought the highest price per acre, statewide (Table 22). The higher agricultural incomes over the 1973-1975 period apparently enabled expansion buyers in Southwest and Northwest districts financing with cash to outbid other buyers. However, the general downward movement of agricultural commodity prices (corn, wheat, barley) in 1975 and 1976 evidently returned cash purchases to their pre-1975 position below mortgage and contract for deed purchases ($719 per acre versus $740 and $736, respectively, Table 22).

Table 21: Proportion of Farm Sales by Method of Financing, By District, Minnesota, 1964, 1974, 1975, and 1976.

Method of Financing	District: South-east	South-west	West Central	East Central	North-west	North-east	Minn.
			—percent—				
Cash							
1964	19	17	16	30	24	36	20
1974	12	15	13	24	22	28	16
1975	12	16	13	15	18	30	15
1976	12	16	15	23	18	16	16
Mortgage							
1964	29	42	46	30	31	37	36
1974	19	26	26	27	24	26	24
1975	28	27	24	36	30	25	28
1976	21	31	23	28	33	34	26
Contract for Deed							
1964	52	41	38	40	45	27	44
1974	68	59	61	49	54	47	60
1975	60	58	63	49	52	45	57
1976	68	54	62	49	50	50	58

District-wise, cash purchasers still paid more than those financing otherwise in the Southwest district, but the difference has narrowed considerably from previous years.

Table 23 relates method of financing to the quality of land regarding price paid per acre and proportion of sales. Before 1974, the highest prices paid for good and average quality land have typically been associated with sales financed by contract for deed. In 1975, cash buyers paid somewhat more for good quality land but considerably more for land judged average in quality than did other buyers. Now in 1976, cash buyers paid less for good quality land than other buyers ($924 versus $957 and $936 per acre, Table 23) and accounted for a significantly smaller proportion of sales of good quality land when compared to 1975 (28 percent versus 35 percent, Table 23). For average quality land, sales financed with cash still brought the highest price per acre but the difference has narrowed substantially since 1975.

Table 22: Average Sales Price Per Acre of Farm Land by Method of Financing, by District, Minnesota, 1974, 1975, and 1976.

Method of Financing	District: South-east	South-west	West Central	East Central	North-west	North-east	Minn.
			—dollars per acre—				
Cash							
1974	553	674	343	202	215	147	424
1975	742	995	476	288	440	149	645
1976	919	1,131	659	286	355	127	719
Mortgage							
1974	609	609	324	229	212	141	448
1975	723	912	462	316	371	176	603
1976	911	1,098	659	347	407	210	740
Contract for Deed							
1974	596	625	357	243	196	146	454
1975	824	773	493	298	334	155	597
1976	934	1,111	668	319	369	246	736

Table 23: Price Paid Per Acre and Proportion of Sales, by Method of Financing and Quality of Land, Minnesota, 1975 and 1976.

Land Quality Class	Method of Financing: Cash 1975	Cash 1976	Mortgage 1975	Mortgage 1976	Contract for Deed 1975	Contract for Deed 1976	All Sales 1975	All Sales 1976
Good								
$ per acre	784	924	735	957	774	936	771	941
% of sales	35	28	38	42	36	41	37	39
Average								
$ per acre	651	678	566	646	547	654	565	655
% of sales	46	49	51	45	49	45	49	46
Poor								
$ per acre	338	466	391	465	358	451	357	449
% of sales	19	22	11	13	15	14	15	15
All Grades								
$ per acre	645	719	603	740	597	736	607	735
% of sales	100	100	100	100	100	100	100	100

Distance of Buyer from Tract

The Minnesota farmland market has always been distinctly local in character, with about 60 percent of all buyers living less than 10 miles from the purchased tract and over 80 percent less than 50 miles. Until 1975, the median distance of buyer from tract during the 1970's had consistently been 5 miles. The shift in land market activity toward the farm expansion buyer over the last two years is evidenced by the land market becoming even more localized in 1975, and this trend continued into 1976. The median distance declined statewide in 1975 from 5 to 4 miles, with 67 percent of all buyers living less than 10 miles from the purchased tract (Table 24). Due to continued heavy expansion buying in 1976, 69 percent of all buyers now live less than 10 miles from their purchased tract, and over 50 percent less than 5 miles.

Finally, in the two least agricultural districts where expansion buyers do not dominate, the Northeast and East Central (see Table 16), the farmland market does not follow this localized norm. In the Northeast, 72 percent of the buyers lived over 10 miles from the purchased tract while 20 percent live 300 or more miles away (Table 24). The East Central district market, however, does appear to be more local when contrasted with past years. Previously, more than 60 percent of the buyers resided over 10 miles away, but now only 50 percent do. Also, the median distance has consistently dropped over the past few years from 40 miles in 1970 to 9 miles in 1976.

Table 24: Classification of Farm Land Sales by Distance of Buyer's Residence from Tract, by District, Minnesota, 1975 and 1976.

Distance of Buyer's Residence from Tract Purchased	District: South-east	South-west	West Central	East Central	North-west	North-east	Minn.
			—percent of sales—				
less than 2 miles							
1975	25	27	25	16	21	14	24
1976	28	27	20	22	25	7	25
2–4 miles							
1975	27	34	29	17	32	12	28
1976	23	36	29	17	24	7	26
5–9 miles							
1975	17	15	16	12	19	5	15
1976	18	18	19	11	22	13	18
10–49 miles							
1975	19	15	14	21	18	31	17
1976	19	14	15	22	17	27	17
50–299 miles							
1975	8	8	14	25	4	19	11
1976	9	3	14	20	8	25	10
300 miles & over							
1975	4	2	2	10	5	19	4
1976	2	2	3	8	2	20	4
Median Distance in Miles							
1975	4	3	4	10	4	15	4
1976	4	3	5	9	5	28	4

PART II: THE FARMLAND MARKET IN THE RED RIVER VALLEY

The Northwest district is sharply divided into two parts by soil differences. The Red River Valley, comprising the western part of the Northwest district, has fertile soil and relatively large-scale farming. The Non-Valley Comparison Area, on the eastern side, contrasts sharply in soil fertility, in type of farming, and in prices paid for land (Figure 3).

The Red River Valley portion of the Minnesota farmland market has consistently experienced the highest annual percentage increases in sales prices over the past four years. Price paid per acre jumped by 32, 79, 49, and 37 percent in 1973, 1974, 1975, and 1976, respectively (Table 25). From July 1973 to July 1976, the average sales price rose from $201 per acre to $733—a remarkable 265 percent increase. Just as the estimated number of farm transfers decreased statewide in Minnesota for 1976, the number of reported farm sales and the average size of tract in the Red River Valley declined from 1975 levels. However, in the Non-Valley Comparison Area, both the number of reported farm sales and average size of tract increased significantly over the 1975 figures (Table 25). The price paid per acre in the Non-Valley Comparison Area increased $52 over 1975, going from $227 to $279. This represents a much smaller percentage increase than reported in the Red River Valley and it results from a much lower base-year price ($227 versus $535 in 1975). These geographic changes in the farmland market account for much of the shift in sales activity from high-priced to low-priced land evident in the Northwest district in 1976.

The Red River Valley leads all areas of the state in the proportion of sales of unimproved land. In 1975, 71 percent of the sales in the Red River Valley were of land without buildings. Unimproved land sales in the Red River Valley declined slightly in 1976 (Table 26). Unimproved land sold for considerably more per acre than improved, $769 versus $677, which points out the strong role of farm expansion buyers in the Valley. In contrast, in the Non-Valley Comparison Area, sales of improved land continued to exceed unimproved land sales, both as to number and price paid per acre. But as Table 26 points out, these differences have been continually narrowing over the last 4 years.

As in previous years, expansion buyers overwhelmingly dominated the land market, accounting for 89 percent of all farm purchases in the Red River Valley, while making up 70 percent of sales in the Non-Valley Comparison Area. Similarly, good and average quality land constituted 87 percent of all Valley sales in 1976, and accounted for 78 percent of the land sold in the Non-Valley (Table 27). These quality categories are relative terms used to compare land qualities within an area, not between areas. The sharp

Table 25: Analysis of Reported Farm Sales in the Red River Valley and Non-Valley Areas, Northwest District, Minnesota, 1974, 1975 and 1976.

Item	Red River Valley			Non-Valley Area		
	1974	1975	1976	1974	1975	1976
Number of Sales (Jan.–June)	47	63	54	86	76	88
Average Size of Tract (acres)	231	219	216	337	270	325
Average Sales Price Per Acre (dollars)	359	535	733	152	227	279
Change in Sales Price over preceding Year (percent)	79	49	37	67	49	23
Standard Deviation of Sales Price* (dollars)	126	249	348	77	102	112
Coefficient of Variation* (percent)	35	47	47	51	45	40

* See Statistical Appendix

Table 26: Percent of Sales and Average Sales Price Per Acre of Improved and Unimproved Land in the Red River Valley and Non-Valley Comparison Area, Minnesota, 1973-76.

Area and Year	Percent of Sales		Price Per Acre		Price of Unimproved Land as a Percent of Price of Improved Land
	Improved	Unimproved	Improved	Unimproved	
Red River Valley	%	%	$	$	%
1973	36	64	220	190	86
1974	49	51	358	359	100
1975	29	71	487	559	115
1976	33	67	677	769	114
Non-Valley Comparison area					
1973	62	38	98	77	79
1974	60	40	167	126	75
1975	55	45	233	213	91
1976	53	47	281	275	98

Figure 3: The Red River Valley and Comparison Area

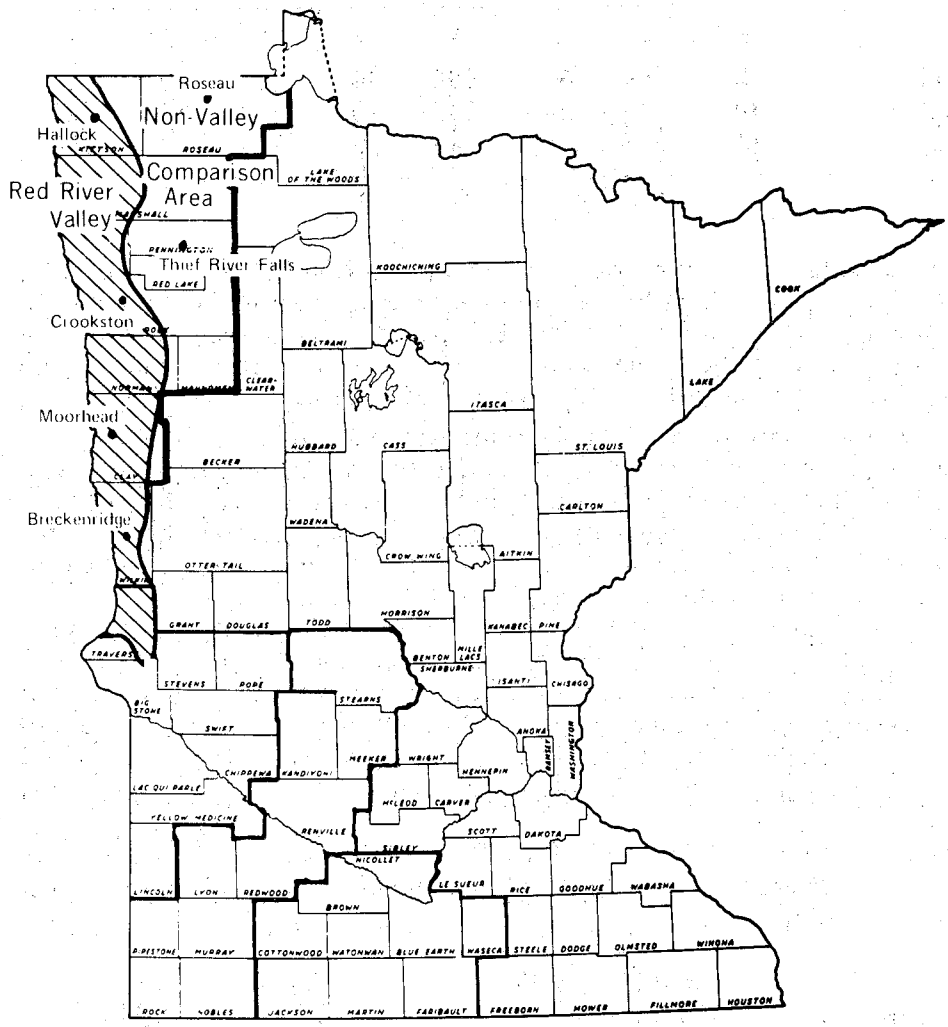


Table 27: Percent of Sales and Price Per Acre by Quality of Land, Red River Valley and Non-Valley Comparison Area, Minnesota, 1975-1976.

Land Quality	Red River Valley 1975		Red River Valley 1976		Non-Valley Area 1975		Non-Valley Area 1976	
	%	$	%	$	%	$	%	$
Good	58	659	62	920	24	321	30	311
Average	39	445	25	615	50	222	48	304
Poor	3	177	13	243	26	142	22	200

contrast in land quality between the Valley and Non-Valley is obvious with good Valley land selling for nearly three times as much as land rated good in the Non-Valley, $920 versus $311 per acre. Likewise, land quality judged average in the Valley sold for more than double the amount paid for average Non-Valley land, $615 versus $304 per acre (Table 27).

Use of contract for deed financing has generally been increasing over the last 5 years in both areas of the Northwest district, associated with the much higher-priced land now found in this district. Over half of both Valley and Non-Valley purchases (52 percent) were financed by contract for deed in 1976 (Table 28). In 1975, cash sales were much more frequent in the Valley than in the Non-Valley Area (26 versus 11 percent). In 1976 these proportions were almost exactly reversed (8 versus 23 percent). Since contract for deed financing remained constant in the Valley, 1975 to 1976, the substantial slackening in cash purchases was entirely replaced by increased mortgage financing (from 22 to 40 percent of sales, Table 28). Cash sales notably brought the highest prices per acre in both the Valley and the Non-Valley Area in 1976, a change from the trend of previous years.

Table 28: Percent of Sales and Price Per Acre by Method of Finance, Red River Valley and Non-Valley Comparison Area, Minnesota, 1975-1976.

Method of Financing	Red River Valley 1975		Red River Valley 1976		Non-Valley Area 1975		Non-Valley Area 1976	
	%	$	%	$	%	$	%	$
Cash	26	522	8	860	11	234	23	302
Mortgage	22	515	40	704	32	252	25	251
Contract for Deed	52	530	52	763	58	218	52	279

PART III: THE EFFECT OF DROUGHT ON THE FARMLAND MARKET

Minnesota Rural Real Estate Market Reports traditionally use a reporting period from January 1—July 1 of each year. In 1976, the timing of the summer drought made it desirable to gather additional information. Crop production was hampered in most parts of the state. Northern, West Central, and Southeastern Minnesota experienced the driest summer ever recorded while other regions of the state suffered near-record dryness. By the end of the growing season, the drought had caused a loss in state farm income estimated to be in excess of one billion dollars.

Before July the final intensity of the drought was unknown to both buyers and sellers and therefore did not substantially affect the rural real estate market during the first half of the year. To test the effect of the drought, a supplementary survey was made in November. Questionnaires were mailed to a smaller sample of the January—July respondents and the resulting data were analyzed in the same manner as the January—July data. The less agricultural counties of northeastern Minnesota were excluded from the sample. For purposes of clarification, this supplemental report will be called the November survey while the main report will be called the July survey.

Land market information gained from the November survey was aggregated by Minnesota development regions. The summer drought hit agriculture hardest in the western and central parts of the state defined by regions 4, 6W, 7W, 7E, and 8 (Figure 4). While there was no discernible impact of the drought on farmland price trends, the impact was clearly apparent in reduced land market activity. Sales volume slackened in the droughty regions while no slow-down occurred in the rest of the state.

Information was received on 405 farm sales in the 4 months July 1—November 1, 1976. The statewide average price of farmland was $818 in the November survey, an 11 percent increase from the July statewide average of $735 (Table 29). The largest dollar increase in average sales price occurred in region 1, northwestern Minnesota; the largest dollar decrease in average sales price occurred in region 7E, immediately north of the Twin Cities. It is difficult to draw any conclusions about the effect of the drought on land prices since there are no consistent patterns in the price data of the more droughty regions.

The real impact of the drought has been a slow-down of farm sales, characterized by a decrease in the proportion of sales of "poor quality" land and a decrease in the proportion of sales to investor buyers.

Within the droughty regions, there was a noticeable change in land

Table 29: Average Reported Sales Price Per Acre of Farm Land, by Economic Development Regions, Minnesota, 1972-1976, July and November

Economic Development Region	1972	1973	1974	1975	1976J*	1976N*
			—dollars per acre—			
1	105	114	199	344	330	491
2	83	108	141	206	250	——
3	81	126	148	157	162	——
4	170	192	317	446	542	564
5	127	164	197	259	235	280
6W	238	233	341	537	696	706
6E	361	374	569	691	923	**
7W	290	291	430	472	596	658
7E	216	203	254	316	455	394
8	323	354	534	710	906	1130
9	461	534	829	1115	1464	1473
10	368	411	565	753	915	1177
11	586	698	882	1035	1150	1144
MN	293	298	450	607	735	818

* J=July; N=November
** Less than 10 reported sales

purchases by type of buyer. Over the last three years, expansion buyers have gained predominance in all regions except those in the north and central parts of the state (region 2, 3, 5, 7W, and 7E), at the expense of both operating farmers and agricultural investors. In the November survey, expansion buyers increased their dominance statewide from 65 percent to 67 percent of all sales (Table 30) but, unlike previous years, this broadening came largely at the expense of agricultural investors in the droughty regions 4, 6W, 7W, and 8. In these regions, the proportion of sales to farm expansion buyers increased more than the statewide proportion while the proportion of sales to agricultural investors declined noticeably: in July, the proportion of sales to agricultural investors ranged from 10 percent to 21 percent of all sales; in November, this proportion declined to a range of 3 percent to 8 percent of all sales (Table 30).

The slackening of the volume of sales in the drought areas is also evident when the sales are classified by quality of land. Much of the weakening in volume of sales in these regions is accounted for by the decline

Table 30: Percent of Tracts Purchased by Type of Buyer, by Region, Minnesota, 1975, 1976, July and November

Region	Operating Farmer Buyer (Sole Tract)			Farm Expansion Buyer (Operator or Investor)			Agricultural Investor Buyer (Sole Tract)		
	1975	1976J*	1976N*	1975	1976J*	1976N*	1975	1976J*	1976N*
					—percent—				
1	13	13	15	77	75	62	10	13	24
2	39	55	–	48	34	–	13	10	–
3	86	64	–	5	23	–	9	14	–
4	24	25	27	60	65	69	16	10	4
5	58	52	42	23	30	32	19	18	26
6W	21	10	10	68	77	82	11	13	3
6E	17	17	**	72	71	**	10	12	**
7W	25	39	47	52	38	47	23	21	5
7E	60	51	55	26	36	10	15	13	35
8	21	14	10	64	73	83	15	13	8
9	11	12	5	82	83	88	6	4	7
10	26	23	18	55	63	61	19	14	22
11	29	21	11	38	66	79	33	13	11
MN	25	23	20	60	65	67	15	12	13

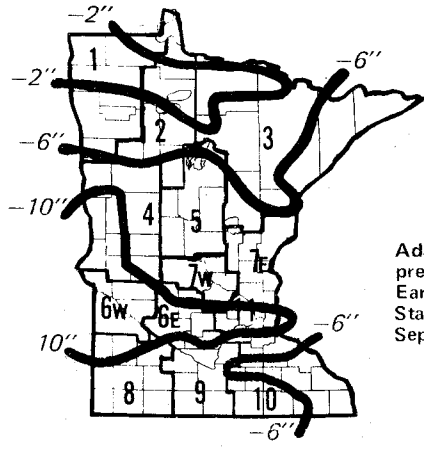
* J=July, N=November
** Less than 10 reported sales

in sales of poor quality land. In the July 1976 survey, good quality land accounted for 39 percent of the sales statewide, average quality land 46 percent, and poor quality land 15 percent (Table 31). In the November survey, good and average land accounted for 41 percent and 49 percent, respectively, of the statewide sales while sales of poor quality land dropped to 10 percent of all sales. By region, the drop in the proportion of poor quality land sales was most dramatic in the droughty regions, 4, 6W, 7W, and 8 where the proportions dropped 6, 12, 16, and 11 percentage points, respectively, from the previous July (Table 32).

Table 31: Proportion of Sales of Land of Various Quality, Minnesota 1973-1976N

Land Quality	Good	Average	Poor	All
	%	%	%	%
1973	35	48	17	100
1974	36	46	18	100
1975	37	48	15	100
1976 (July)	39	46	15	100
1976 (Nov.)	41	49	10	100

Figure 4. Precipitation—departure from normal—April through August 1976 (inches)



Adapted from a map
prepared by—
Earl Kuehnast
State Climatologist
September 3, 1976

Table 32: Percent of Sales according to Quality of Land, by Region, Minnesota, 1975, 1976, July and November.

Region	—Good— 1975	1976J*	1976N*	—Quality of Land— —Average— 1975	1976J	1976N	—Poor— 1975	1976J	1976N
	—percent—			—percent—			—percent—		
1	36	39	35	46	39	50	18	22	15
2	32	45	—	52	52	—	16	03	—
3	33	18	—	52	59	—	14	23	—
4	37	38	29	48	43	58	15	19	13
5	40	29	32	42	57	47	19	14	21
6W	37	34	45	48	51	52	15	15	03
6E	29	39	**	57	42	**	14	20	**
7W	45	40	63	45	39	32	10	21	05
7E	28	26	15	60	60	75	13	13	10
8	41	41	63	42	46	36	17	13	02
9	36	46	43	51	44	45	13	10	12
10	35	42	34	52	45	56	13	13	12
11	46	34	32	44	56	53	10	10	16
MN	37	39	41	49	46	49	15	15	10

*J=July; N=November
** Less than 10 reported sales

PART IV: CONTOUR MAPS OF MINNESOTA LAND VALUES

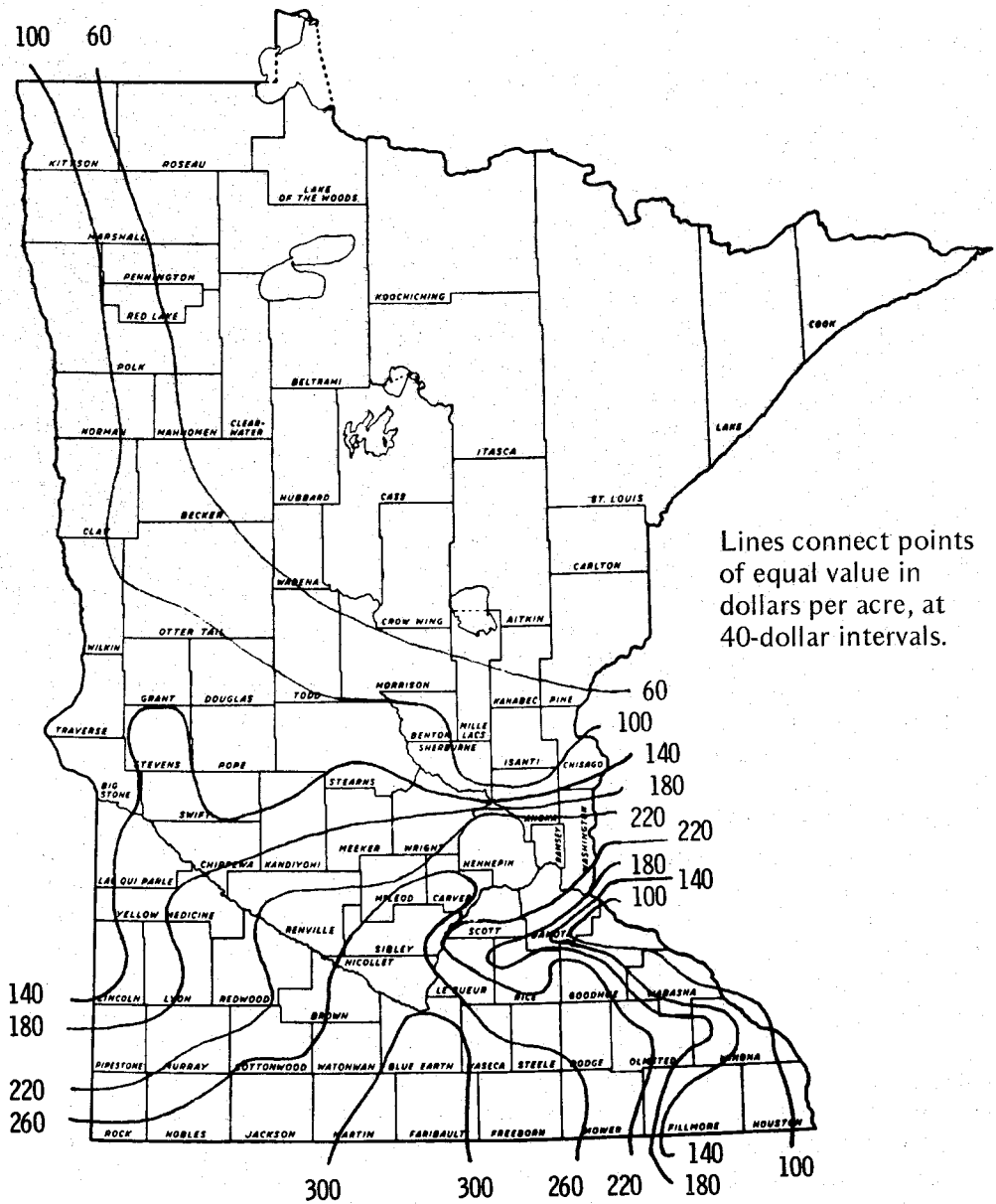
Geologists and meterologists have used contour maps to delineate various physical features of an area such as topography, average temperature, or rainfall. Contour maps can also be used to illustrate economic features; lines can be drawn connecting points of equal land value, the end result being a map illustrating land value "terrain". Figures 5, 6, and 7 reproduce land value maps that have been published in previous reports. These contour maps are based upon reports of farm land sales, by county and township, in the periods 1959-61, 1963-65, and 1969-71, respectively. Figure 8 is a land value contour map for 1974-76 based on reports of actual farm sales in that period and adjusted to 1976 prices. This adjustment was necessary because of the large price increases that were experienced during the 1974-76 period.

Table 33 in the following section reports county land value averages for the period 1974-76. These averages are inadequate for mapping land value contours because they do not identify the geographic variability within counties. Reported sales are identified by township in this survey, making it possible to map the land value contours within a given county. The lines of equal value on contour maps 5, 6, and 7 connect points of equal value at $40 intervals; the lines in figure 8, (for 1974-76), by contrast, connect points of equal value at $200 intervals. This is but another indication of the massive land value changes that have occurred in Minnesota agriculture since the beginning of this decade.

The most noticeable aspect of the 1974-1976 contour map is the prominence of two elevated "plateaus" of high-valued land. The area encompassing the cities of Minneapolis and St. Paul and running south along I-35 to Owatonna represents one of these plateaus. Around the Twin Cities, the expansion of the demand for land for urban uses has increased farm land prices to the east in Washington County and west in Carver County. These pressures have also been active to the south in Scott and Dakota Counties. The land value plateau running south along the I-35 commuting corridor can be attributed to urban pressures, most notably the formation of "hobby farms" and residential demands stemming from the Twin Cities and the cities of Northfield, Faribault, Owattona, and Waseca.

The effects of non-agricultural demand for farm land can also be seen in the area around Rochester in southeastern Minnesota and in Chisago and Pine counties, directly north of the Twin Cities. Demands from Rochester have pulled the $1000 contour line much farther east and north than can be

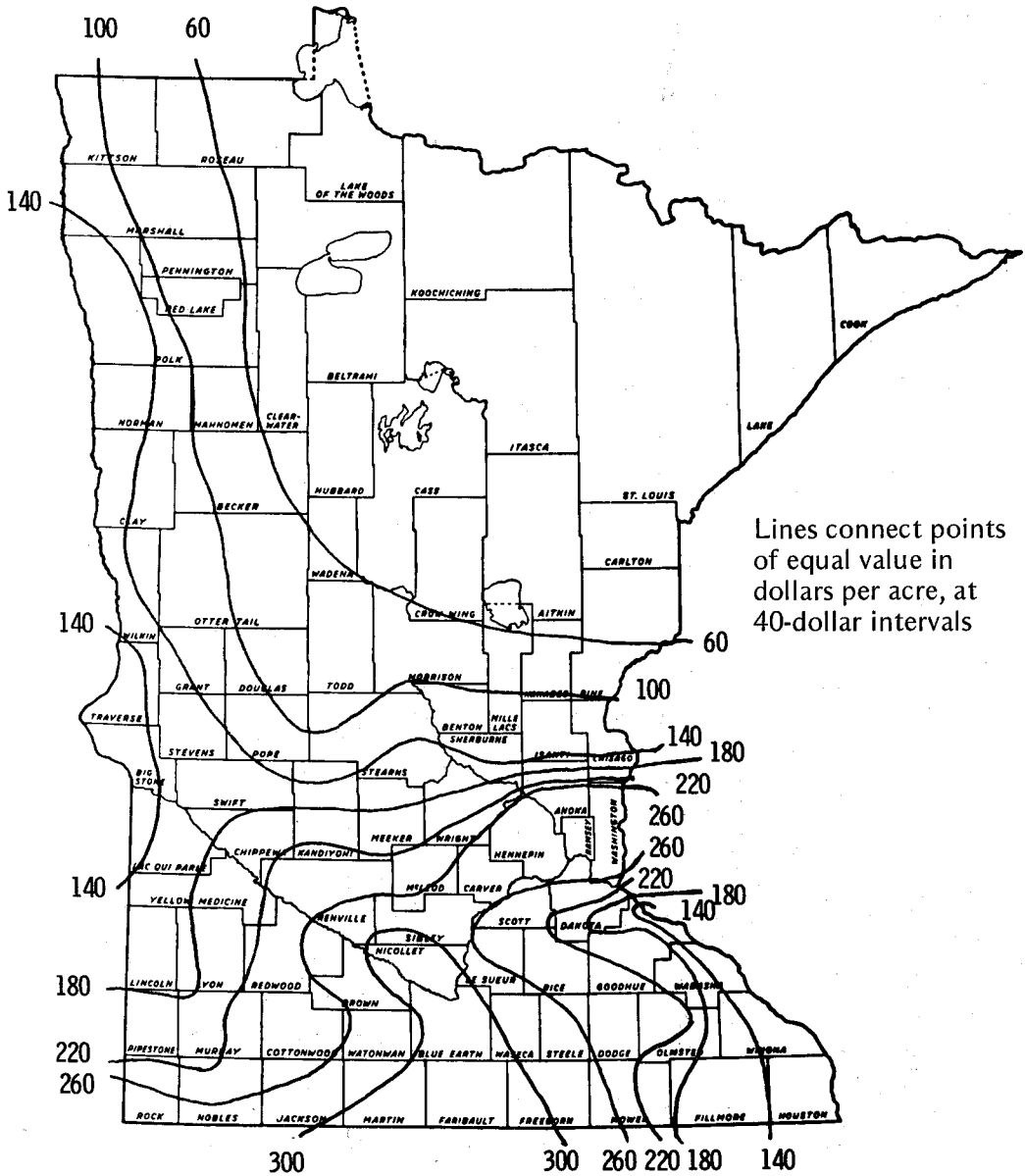
Figure 5: Contour Map of Minnesota Land Value, 1959
Based on reported farm land sales, by township and county, 1959-61, as submitted by respondents to the annual survey of the Minnesota Rural Real Estate Market.



Lines connect points of equal value in dollars per acre, at 40-dollar intervals.

(Hennepin & Ramsey counties excluded in determining lines)

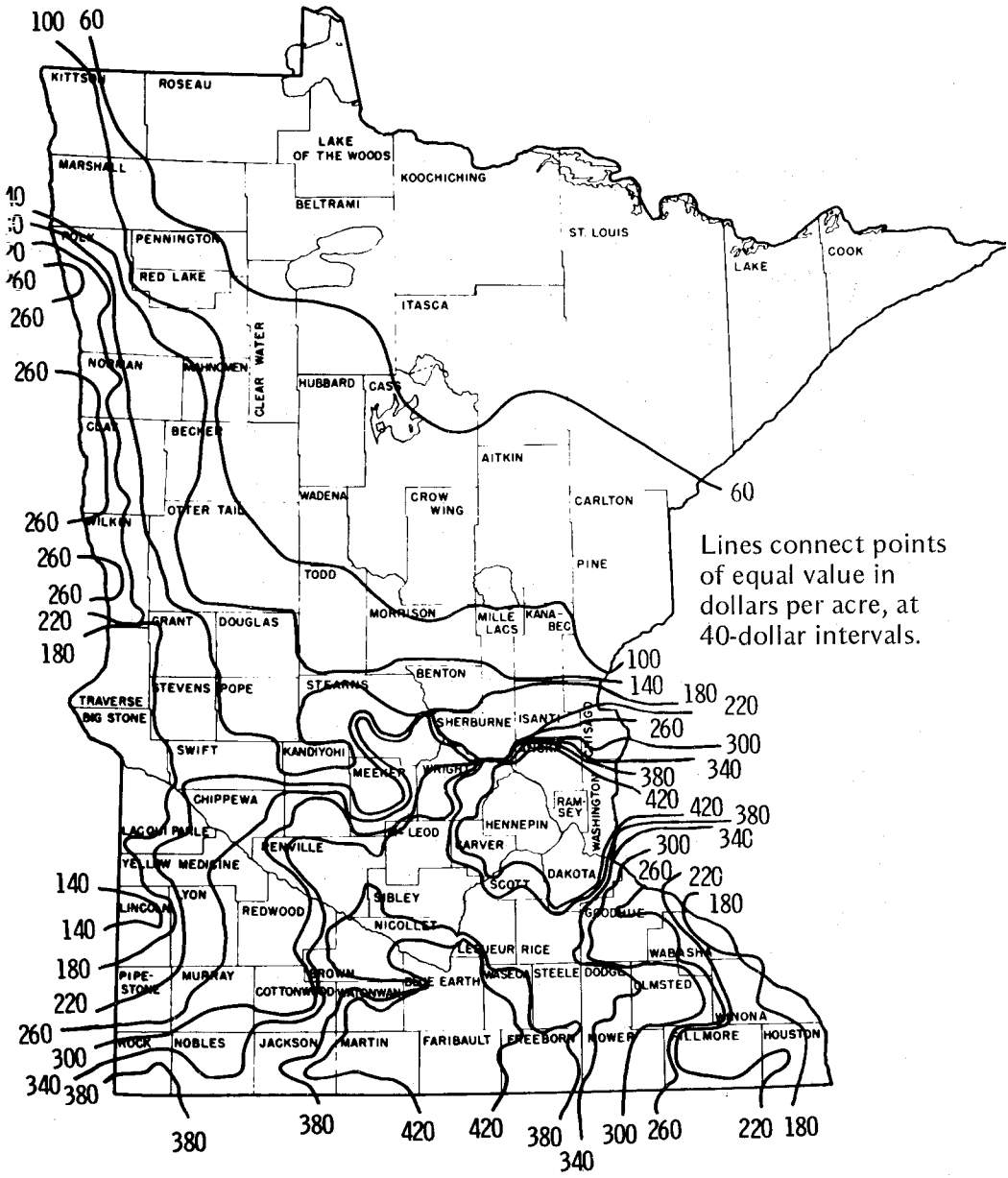
Figure 6: Contour Map of Minnesota Land Value, 1964
Based on reported farm land sales, by township and county, 1963-65, as submitted by respondents to the annual survey of the Minnesota Rural Real Estate Market.



(Hennepin & Ramsey counties excluded in determining contours)

Figure 7: Contour Map of Minnesota Land Value, 1969

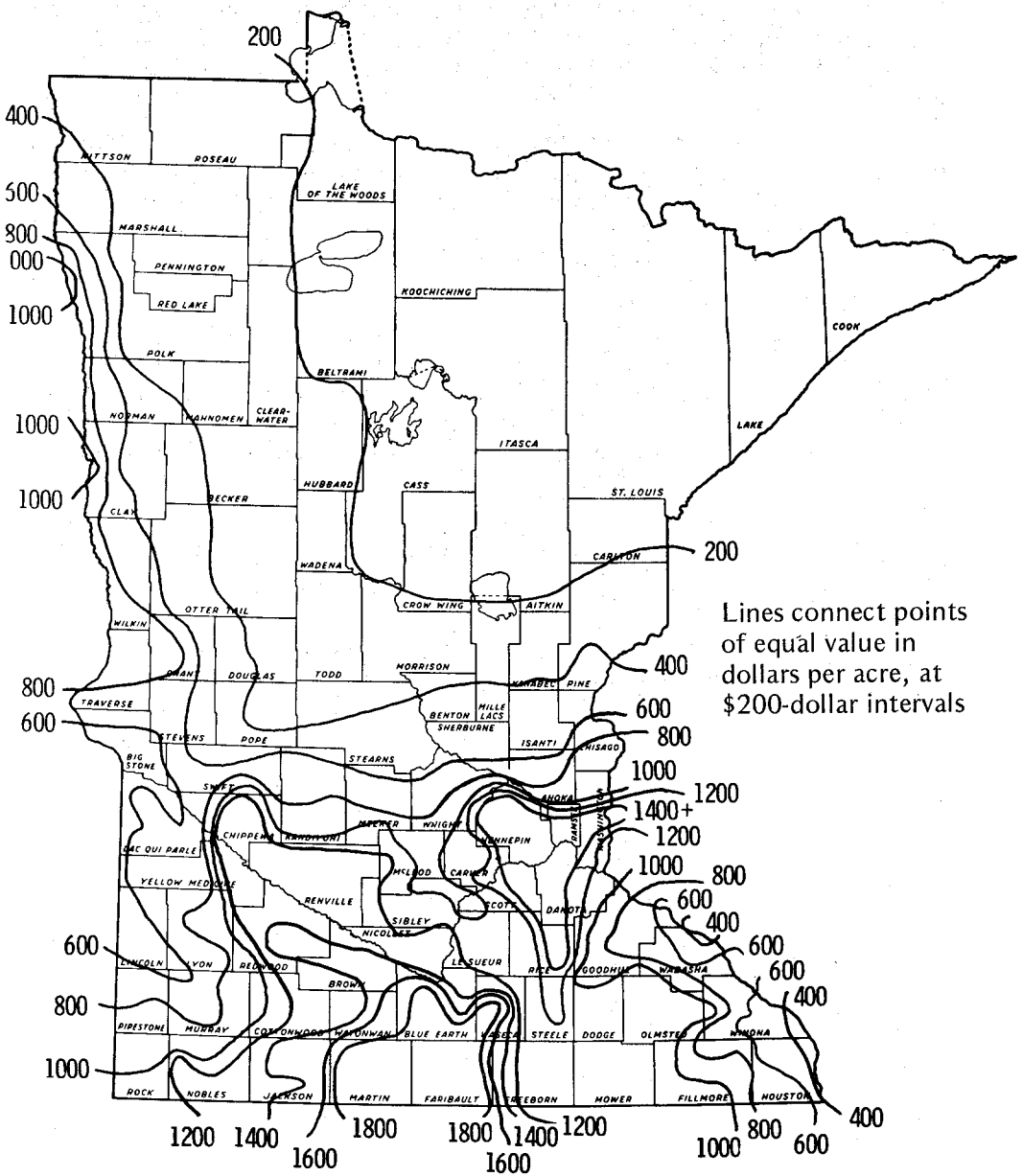
Based on reported farm land sales, by township and county, 1969-71, as submitted by respondents to the annual survey of the Minnesota Rural Real Estate Market.



Lines connect points of equal value in dollars per acre, at 40-dollar intervals.

(Hennepin & Ramsey counties excluded in determining contours)

Figure 8: Contour Map of Minnesota Land Value, 1976
Based on reported farm land sales, by township and county, 1974-76, as submitted by respondents to the annual survey of the Minnesota Rural Real Estate Market, adjusted for land price changes to July, 1976.



(Hennepin and Ramsey counties excluded in determining contours)

accounted for solely by agricultural producitivity considerations. In Chisago county, the $800 contour line has been pulled north to encompass Forest Lake and the cities along U.S. Highway 8. Similarly, the $400 contour has circled north along I-35 to encompass Hinckley.

South Central Minnesota forms the other plateau of high-valued land. By contrast, this area is not overly influenced by urban pressures and its high value represents the valuations given to it by persons intending to use it for agricultural purposes. The high valuation is based upon the agricultural productivity of this land; rich soil, adequate moisture, and the longest growing season of any area in the state combine to produce high yields year in year out.

Part II of this study pointed out the agricultural productivity differences between the Red River Valley and the non-Valley portion of northwestern Minnesota. The 1976 contour map illustrates graphically the differences in the price of farm land in the narrow strip along the Red River and the farm land distant from the river. The land value gradient is very steep; within 30 miles, land values can double.

There are similar sharp land value gradients in the counties bordering the Mississippi River south and east of the Twin Cities. In the eastern parts of Wabasha, Winona and Houston counties there were frequent land sales in 1976 in the coulee country bordering the river at prices under $400 per acre, while sales at prices ranging from $700 to $1000 per acre were reported from the western parts of the same counties.

Throughout the state there are frequent "islands" of higher or lower priced land within the contours of the map for 1974-76. To show these islands accurately would add so many contour lines to the map that its visual usefulness would be destroyed. It should be interpreted as a generalized contour map of rural land values, reflecting of necessity an uneasy balance between accuracy and simplicity.

Alternative Measures of County Land Values

Data on estimated values and sales prices of rural land are collected and analyzed by counties in this annual survey. In any one year there may be too few sales or estimates in some counties to permit computation of a statistically reliable county average sales price. For this reason, data in the annual reports are summarized by land market districts and (beginning in 1974) by State Economic Development Regions.

Every five years, beginning with 1959, county data have been averaged over a three-year period and published, to permit comparison with the data on average value of farm land reported in the U.S. Census of Agriculture. Table 33 reports these county data, averaged for the three years 1974, 1975 and 1976, in order to center the average as nearly as possible on the census year. 1/

The data reported in the three columns of Table 33 are not strictly comparable. The third column reports prices received in actual sales, but the tracts sold were typically smaller than the average size of farms in the respective counties. For example, over the three years 1974, 1975 and 1976 the statewide average size of tract sold was 186, 179, and 183 acres, respectively. For the same three years the U.S. Dept of Agriculture reported the average size of farm in Minnesota at 259 acres. In recent years, sales of farm land have seldom involved complete farm operating units.

The U.S. Agricultural Census data reported in the second column of Table 33, in contrast, are estimates of the average value of land in farm operating units, as reported by all respondents with farm product sales of over $2,500 and a sample of farm operators with sales under $2,500. Historically, these self-reported U.S. Census estimates of farm land values have been conservative, and substantially below reported sales prices in most Minnesota counties. This is notably the case with the 1974 Census of Agriculture.

1/Similar three-year average county data, centered on the agricultural census years of 1959, 1964, and 1969 were reported in Dale O. Solum and Philip M. Raup, The Minnesota Farm Real Estate Market in 1962, Report No. 524 February 1963; John C. English, Jerome V. Bambenek, and Philip M. Raup, The Minnesota Rural Estate Market in 1966, Report No. 530, March 1967; and Kenneth Emde and Philip M. Raup, The Minnesota Rural Real Estate Market 1971, Economic Study Report S 72-2, April 1972, Department of Agricultural and Applied Economics, University of Minnesota

The first column of Table 33 reports estimates of value by the brokers, real estate dealers, bankers, credit agency officials and other respondents who cooperate in this annual survey. It is noteworthy that the estimates of value are higher than the prices reported for actual sales, throughout the predominately agricultural counties of the state. Exceptions include Pipestone and Watonwan counties in the Southwest, and Grant and Traverse counties in the West Central district. With these exceptions, estimated values were above sales prices in all of the counties of the Southwest, West Central and Northwest districts, and in the western half of the East Central district.

This relationship is reversed in a group of counties clustered north and south of the Twin Cities. In the Southeast district, sales prices were above the estimates in Washington, Waseca, Steele, Olmsted and Freeborn counties. North of the Twin Cities, this was also true for Chisago, Sherburne, Mille Lacs and Pine counties in the East Central district, and for Aitken, Carlton, Beltrami, Koochiching and Lake of the Woods counties, in the Northeast.

This comparison suggests that estimates of value should be used with caution in the principal farming areas of the state. In a period of rising prices, estimates of value may be higher than actual sales prices. One possible explanation could be that the prominence given to reports of a few farm land sales at exceptionally high prices has led to an excessively optimistic generalization of these prices in arriving at county-wide estimates by survey respondents.

An alternative possibility, supported by some of the data, is that the best farm lands are under-represented in the sales that have taken place in the past three years. The estimates of value, in this view, could be a more accurate reflection of the current value of Minnesota farm lands than are the prices received in actual sales.

One conclusion that emerges clearly from Table 33 is that the farm land values reported in the 1974 U.S. Census of Agriculture for Minnesota are far below either the estimates of value or sales prices in virtually all of the agricultural counties of the state for the middle years of the 1970's.

Table 33: Comparison of Dollar Value Per Acre According to Three Different Sources, by Counties Minnesota, 1974-76.

County	Reporters' Estimates Average of 1974-1976	U.S. Census of Agriculture 1974	Reported Sales Average of 1974-1976
		—dollars per acre—	
SOUTHEAST DISTRICT			
Carver	993.0	791	1080.83
Dakota	1087.1	735	1015.86
Dodge	808.1	637	784.67
Fillmore	650.6	436	632.36
Freeborn	885.6	726	981.39
Goodhue	766.4	536	860.60
Houston	618.5	321	537.30
Le Sueur	900.0	608	822.91
Mc Leod	788.2	608	759.98
Meeker	637.7	440	571.88
Mower	813.5	625	762.86
Olmsted	737,8	590	756.29
Rice	899.4	636	928.53
Scott	1007.9	789	932.32
Steele	914.0	691	955.99
Wabasha	662.5	447	499.38
Waseca	996.6	697	1015.19
Washington	1016.5	961	1160.62
Winona	678.6	409	598.01
Wright	802.6	599	744.46
SOUTHWEST DISTRICT			
Blue Earth	1232.5	742	1182.09
Brown	943.6	646	865.60
Cottonwood	828.3	605	822.74
Faribault	1402.2	900	1336.17
Jackson	1026.1	776	955.42
Lincoln	480.7	412	387.99
Lyon	634.2	442	554.03
Martin	1466.5	885	1443.24
Murray	672.7	492	605.25
Nicollet	916.9	684	754.04
Nobles	982.0	643	819.65
Pipestone	544.1	442	623.16
Redwood	849.7	610	834.88
Renville	864.3	600	812.95
Rock	720.1	589	668.35
Sibley	882.6	684	844.71
Watonwan	1157.1	781	1172.71
Yellow Medicine	670.5	449	633.06

Table 33: Continued

County	Reporters' Estimates Average of 1974-1976	U.S. Census of Agriculture 1974	Reported Sales Average of 1974-1976
		--dollars per acre--	
WEST CENTRAL DISTRICT			
Big Stone	384.7	292	300.00
Chippewa	686.6	507	642.25
Douglas	406.6	283	309.84
Grant	490.6	381	663.11
Kandiyohi	670.3	423	639.62
Lac qui Parle	609.9	379	579.92
Pope	329.0	294	309.39
Stearns	431.6	330	428.08
Stevens	536.8	413	493.41
Swift	517.5	369	462.71
Traverse	520.0 a/	344	723.00
Wilkin	709.4	466	681.36
EAST CENTRAL DISTRICT			
Anoka	915.4	602	592.53 b/
Becker	361.8	224	290.89
Benton	396.2	301	297.35
Chisago	596.7	426	608.84 b/
Crow Wing	181.7	203	141.88 b/
Hubbard	160.7	170	158.10
Isanti	392.9	383	380.82
Kanabec	351.6	262	237.32
Mille Lacs	319.8	347	379.48
Morrison	286.7	220	238.47
Otter Tail	366.0	249	277.04
Pine	233.4	224	263.90
Sherburne	407.8	406	457.21 b/
Todd	331.3	239	302.75
Wadena	215.0	192	181.25
NORTHWEST DISTRICT			
Clay	611.9	418	581.67
Kittson	259.7 a/	194	172.91
Mahnomen	284.4 a/	202	237.49
Marshall	380.0	216	256.39
Norman	410.0	290	354.79
Pennington	237.8	185	229.44
Polk	483.4	291	352.97
Red Lake	375.0 a/	199	202.26 b/
Roseau	199.4	166	196.10

Table 33: Continued

County	Reporters' Estimates Average of 1974-1976	U.S. Census of Agriculture 1974	Reported Sales Average of 1974-1976
		—dollars per acre—	
NORTHEAST DISTRICT			
Aitkin	148.6	196	170.33 [b]
Beltrami	147.0	143	171.61 [b]
Carlton	145.0 [a]	183	156.64
Cass	185.0	174	178.88
Clearwater	221.4 [a]	157	214.25
Cook	131.2 [a]	–	–
Itasca	224.0	213	164.04 [b]
Koochiching	141.7 [a]	153	150.00 [b]
Lake	106.3 [a]	222	–
Lake of the Woods	111.1 [a]	151	114.37 [b]
St. Louis	188.7	198	149.62 [b]
Minnesota	538.0	436	584.0

a) Less than 10 estimates given in period
b) Less than 15 sales reported in period

STATISTICAL APPENDIX

One disadvantage in the use of average prices based upon actual sales is that the averages do not indicate the degree of variation in the data. Quality of land varies greatly in any one county or district, for example, but it is not possible to derive an accurate measure of land quality from this survey. Over time, the quality of land involved in the sales in any one year may also vary.

One measure of this variability in prices is indicated in Table 36. The standard deviation represents the dollar range from the average within which approximately two thirds of the reported sales fall. Assume, for example, a district average of $400 per acre with a standard deviation of $200. This means that approximately two-thirds of the sales in that district fell between $200 and $600 per acre. The coefficient of variation is the standard deviation divided by the average sales price, and multiplied by 100 to convert it to a percentage form. In the above example, the coefficient of variation is 50 percent. Wider variations in sales price above and below the average create larger coefficients of variation.

In the Northwest district a relatively high coefficient of variation (72.5 percent) results from a wide variation in sales price, particularly between the Red River Valley and neighboring non-Valley areas. The range is from less than $100 per acre in some non-Valley areas to over $1400 per acre in the Valley itself.

Table 34: Average Estimated Value Per Acre of Farm Real Estate in Minnesota by District, 1910-1911 through 1944-45, by Two Year Periods, and Annually, 1946 through 1976.

Years	South-east	South-west	West Central	East Central	North-west	North-east	Minn.
1910-11	58	54	39	24	24	11	41
1912-13	69	69	46	29	29	13	49
1914-15	82	84	56	34	32	14	58
1916-17	92	100	67	41	37	15	68
1918-19	117	118	78	50	40	18	82
1920-21	141	152	98	68	57	24	104
1922-23	114	119	82	56	44	23	85
1924-25	104	110	74	49	44	22	78
1926-26	106	109	72	49	36	22	76
1928-29	100	102	67	44	33	21	71
1930-31	88	88	51	36	22	18	60
1932-33	64	65	42	27	20	14	45
1934-35	52	58	38	26	22	15	40
1936-37	59	64	38	29	22	24	44
1938-39	60	68	37	28	22	25	45
1940-41	59	68	36	26	22	24	43
1942-43	65	76	40	29	24	25	48
1944-45	78	90	48	35	29	28	56
1946	88	104	56	39	33	32	65
1947	96	116	62	43	37	35	72
1948	104	129	69	47	41	38	79
1949	107	136	73	49	44	39	83
1950	109	141	76	50	46	40	85
1951	125	166	89	59	54	46	99
1952	131	175	96	65	68	42	107
1953	130	175	95	62	64	40	105
1954	139	187	99	66	72	40	113
1955	150	205	103	68	73	45	121
1956	156	214	107	70	76	42	126
1957	165	230	122	77	86	49	138
1958	179	242	123	84	90	65	147
1959	191	255	134	89	103	58	157
1960	188	248	133	94	99	64	155
1961	189	247	133	95	100	64	156
1962	192	250	138	99	104	69	159
1963	194	246	142	103	114	68	161
1964	206	252	145	111	115	59	166
1965	219	261	146	112	113	51	171
1966	242	277	153	122	112	58	183
1967	262	303	163	128	108	62	194
1968	286	333	181	134	122	57	211
1969	308	350	196	146	120	54	223
1970	317	347	198	161	120	62	227
1971	333	351	204	155	119	63	232
1972	370	379	208	163	117	76	248
1973	433	459	247	194	146	115	298
1974	576	675	378	279	199	144	423
1975	674	844	503	296	295	163	525
1976	856	1,106	624	349	378	210	667

Table 35: Annual Percentage Change in Estimated Farm Land Values Per Acre, Minnesota, 1946-1976.

	%		%
1945-46	16.1	1960-61	0.6
1946-47	10.8	1961-62	1.9
1947-48	9.7	1962-63	1.3
1948-49	5.1	1963-64	3.1
1949-50	2.4	1964-65	3.0
1950-51	16.5	1965-66	7.0
1951-52	8.1	1966-67	6.0
1952-53	-1.9	1967-68	8.8
1953-54	7.6	1968-69	5.7
1954-55	7.1	1969-70	1.8
1955-56	4.1	1970-71	2.2
1956-57	9.5	1971-72	6.9
1957-58	6.5	1972-73	20.2
1958-59	6.8	1973-74	41.9
1959-60	-1.3	1974-75	24.1
		1975-76	27.0

Table 36: Average Price Per Acre of Reported Farm Sales, Standard Deviation and Coefficient of Variation, by District, Minnesota, 1961-76.*

Years	South-east	South-west	West Central	East Central	North-west	North-east	Minn.
			Average Price Per Acre (Dollars)				
1961	189.1	255.8	130.3	89.0	92.0	37.9	165.2
1962	195.7	228.5	140.5	76.3	73.9	30.3	161.1
1963	214.1	221.9	136.2	86.2	108.8	47.6	168.1
1964	213.3	234.3	150.3	86.3	103.6	51.6	178.1
1965	202.0	232.7	133.2	95.8	106.2	39.7	178.0
1966	253.4	260.4	164.3	113.0	103.4	30.6	203.4
1967	272.4	306.1	178.6	92.9	116.6	51.2	214.8
1968	316.0	329.0	186.0	104.0	90.0	47.0	232.0
1969	340.7	334.1	193.6	129.7	120.8	50.7	238.3
1970	346.0	340.0	206.0	141.0	113.0	45.0	243.0
1971	343.6	343.0	204.5	150.3	100.1	43.7	259.0
1972	389.4	365.7	221.7	145.1	107.2	76.4	293.3
1973	443.5	410.1	223.0	178.1	119.7	121.7	298.4
1974	598.4	630.1	339.8	242.7	204.0	144.4	450.1
1975	791.8	843.9	492.9	298.5	352.8	159.3	607.0
1976	937.2	1115.7	663.7	321.3	377.0	209.7	735.2
			Standard Deviation (Dollars)				
1961	83.5	71.9	40.0	47.8	54.1	20.1	86.8
1962	80.7	68.6	45.1	39.1	57.2	29.7	88.5
1963	79.4	77.1	50.8	43.7	69.4	26.1	88.6
1964	91.6	77.3	70.1	52.4	89.9	39.0	97.2
1965	96.3	87.0	82.1	63.5	91.1	31.7	98.1
1966	142.7	95.3	56.7	66.5	65.7	32.2	199.4
1967	115.3	106.2	62.8	67.6	85.4	29.8	127.6
1968	179.0	124.2	77.5	108.4	70.5	41.6	160.7
1969	228.6	123.4	64.5	104.2	83.9	45.0	174.0
1970	189.7	129.6	75.4	105.6	89.5	29.3	162.5
1971	154.3	128.1	66.6	100.7	66.9	28.9	157.4
1972	154.9	136.4	79.0	96.7	70.0	38.8	164.4
1973	183.3	164.1	94.0	97.2	76.8	86.6	188.9
1974	265.2	290.0	147.2	153.0	127.5	60.6	287.7
1975	291.3	373.8	225.0	142.5	220.8	72.2	360.4
1976	359.0	501.4	243.0	176.2	273.2	100.6	457.8
			Coefficient of Variation (Percent)				
1961	44.2	31.8	30.7	53.7	58.7	53.1	52.6
1962	41.2	30.0	32.2	51.2	77.3	98.0	54.9
1963	37.1	34.8	37.3	40.7	63.8	54.8	52.7
1964	42.9	33.0	46.6	60.8	86.7	75.5	54.6
1965	47.6	37.4	61.6	66.2	85.8	79.8	55.1
1966	56.4	36.7	32.6	58.9	63.8	105.4	58.7
1967	42.3	34.7	35.2	72.8	73.2	58.2	59.4
1968	56.6	37.3	41.6	103.8	78.3	88.5	69.2
1969	67.1	36.9	33.3	80.4	69.5	88.9	73.0
1970	54.8	38.1	36.6	74.9	79.2	65.1	66.9
1971	44.9	37.4	32.6	67.0	66.8	66.1	60.8
1972	39.8	37.3	35.6	66.6	65.3	50.8	56.1
1973	41.3	40.0	42.2	54.6	64.2	71.2	63.3
1974	44.3	46.0	43.3	63.0	62.5	42.0	63.9
1975	36.8	44.3	45.7	47.7	62.6	45.3	59.4
1976	38.3	44.9	36.6	54.8	72.5	48.0	62.3

*Each acre is treated as a unit in calculating standard deviations and coefficients of variations.