extra expense. Winter rye data are not included in the table as results were similar to those obtained from sweet clover. Yields of oats immediately following the green manure crop have been less than the check in nearly all years. In most years, less moisture has been stored by green manure fallow than by ordinary fallow. The average annual amount of air dry material turned under has been 1,356 pounds sweet clover and 1,086 pounds winter rye. These amounts have been too small to result in much benefit to following crops. Possibly crops grown on the green manure rotations have had a higher nutritive value than crops grown in the check rotations, but no analyses have been made to verify this.

## Effect of Manure on Crop Yields

Yield response to barnyard manure has been much greater than to green manure. Straw and stover yields in rotations receiving manure were significantly higher than the checks. Corn stover yields were greatest the years immediately following the application of manure. With the exception of corn ear yields the application of manure has resulted in substantial increases in yield the past few years of ample rainfall. Manure has reduced yields in some years of low rainfall resulting in lower average yields on manured plots. On the average, the return from manure has been worthwhile and by maintaining the fertility, gives promise of greater returns in the future over rotations receiving no amendment.

## THE LAND MARKET IN NORTH DAKOTA APRIL TO SEPTEMBER, 1947 1

C. E. Stewart<sup>2</sup> and R. Engelking<sup>3</sup>

Summary

Sale prices of land from April to September 1947 were higher than those in any of the six years preceding 1947, though they were lower than in the first quarter of 1947. Volume of sales was down, equaling the low years since 1941. Relatively more of the sales were for cash than in 1946. Buyers equity in credit transactions remained about the same. Nonfarmer individuals were the chief sellers, and owner-operators bought more than two-thirds of the tracts. Resales comprised about the same proportion of all sales as in the first quarter of the year.

#### Sale Prices

Land sale prices continued high in the four sample counties during the summer and fall of 1947 (table 1), with an index of 208' for the second quarter and 219 for the third quarter. Although they were not quite so high as in the first quarter of the year, prices of land during 1947 have been greater than for any period in the preceding 6 years. In Morton and Stutsman Counties prices of land increased during the year, but the indexes in Traill and Ward Counties decreased with each succeeding quarter. The increases for Morton and Stutsman were for tracts with smaller proportions of cultivated land, whereas the cultivated tracts tended to decrease in price; in Ward County the opposite occurred. The uncultivated acreage was relatively large enough in these three counties to determine the price trend.

Progress report in Purnell Project 108, North Dakota Agr. Expt. Sta. in cooperation with the Bureau of Agricultural Economics, USDA, based on voluntary transfers in Morton, Stutsman, Traill, and Ward Counties, including county and State Contracts for deed. Data were summarized on a quarterly basis and appear as such in the tables, but much of the narrative is written in terms of the semi-annual period, April to September, inclusive.

Angustre.

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Preliminary geometric mean in which each county has equal weight. Counties sales are excluded from price calculations.

Year and		Cor		All four	
	rton	Stutsman	Traill	Ward	Counties <sup>3</sup>
1945 average21	0	183	133	152	167
1946 average26	4	208	138	181	192
1946:					
1st quarter27	3	199	111	195	185
2d quarter27	2	187	144	157	184
3d quarter28		233	131	189	202
4th quarter23	4	203	156	164	187
1947:				18	
1st quarter27	7	228	177	206	219
2d quarter24	9	237	161	199	208
3d quarter 333	3	257	138	193	219

Table 1.—Indexes of farm land sale prices, 4 North Dakota Counties. 2d and 3d quarters, 1947, and comparative periods (1941-100)

## Sales Volume

Number of sales during the 6 months was about equal to the previous low years of 1942 and 1945. There were 364 transfers during the period, compared with 611 in the corresponding 6 months of 1943 and 491 in 1946 (table 2). All of the counties had fewer sales than in 1946, although Morton and Stutsman showed the greatest relative decrease. These are the two counties which had price increases.

The decline in acreage sold in 1947 as compared with 1946 was less than in the number of transfers. During the six months, 2.1 percent of all land in farms changed ownership, while in 1946, 2.6 percent of all land was transferred. As with numbers, the major differences between the 2 years were in Morton and Stutsman Counties.

## Financing

Of the transfers during the period 61 percent were for cash compared with 56 percent in 1946. However, in 1945 the percentage of cash transfers was 68 for the months of April to September.

Table 2.-Number of transfers in 4 North Dakota Counties, 2d and 3d quarters, 1947, and comparative periods.

Year and		Cor	unty	*	All four	
	<b>Aorton</b>	Stutsman	Traill	Ward	Counties	
1945 total	184	312	79	410	985	
1946 total	267	436	86	334	1123	
1946:					18	
1st quarter	72	115	28	95	310	
2d quarter		97	15	83	245	
3d quarter		103	19	72	246	
4th quarter	93	121	24	84	322	
1947:						
1st quarter	67	121	27	86	301	
2d quarter		100	22	77	226	
3d quarter	33	56	9	40	138	

<sup>&</sup>lt;sup>1</sup>County Sales not included.
<sup>2</sup>Preliminary.
<sup>3</sup>Geometric mean in which each county has equal weight.

Table 3.—Data regarding farm real estate sales, four selected North Dakota Counties, 2d and 3d quarters 1947.

Table 3.—Data regarding	Morton			tsman		Traill		wara		All Counties	
	2d 3d		2d 3		1 2d		2d			3d . qtr.	
	qtr.	qtr.	qtr.	qtr						. qu.	
	%	%	%	%	%	%	%	%	%	%0	
Kinds of Sellers:			0	18	23	11	23	23	17	18	
Owner-Operators	22	15	.9		59	$\frac{1}{78}$	49	42	` 44	35	
Non-farmers	15	6	45	39		11	8	20	9	7	
Estates	15	3	$\frac{7}{10}$	0	18	_	- 3	0	8	7	
Corporations	7	6	13	13	. 0	0	17	15	22	33	
State and counties	41	70	26	30	U	U	7 (	10	22	.00	
Kinds of buyers:			<b>5</b> 4	50	70	67	83	68	68	68	
Owner-operators	77	94	54	50	70 5	$\frac{01}{22}$	12	16	16	16	
Other farmers	15	3	22	24	. 25	11	5	16	16	16	
Non-farmers	8	3	24	26	25	11	J	10	10		
Intent of buyers:	202	0.5	00	77	80	78	95	86	87	85	
To operate	92	97	80	23	20	22	5.		13	15	
To lease	8	3	20	23	. 40	22	O.		<del></del>		
Proportion of tracts:			CO	50	78	100	64	€6	64	58	
Sold for cash	65	52	<b>6</b> 0	50	10	100	O.I				
Buyers equity in encum-	4.0	0.1	30	29	48	12	33	19	31	27	
bered tracts	19	31	30	29	40		00				
Sources of credit:		44.000	ds0 400	\$50,960	\$7,000	n	\$74,500	\$37,100	\$152,400	\$92,660	
Individuals\$	11,500	\$4,600	\$59,400	\$50,900	φ1,000 A	ñ	0	, , 0	0	0	
FLB and LBC	0	0	00.000	0.400	ŏ	ň	ŏ	0	22,000	8,400	
Insurance companies	0	U	22,000	8,400	3,000	ñ	15,000	0	21,150	0	
Commercial banks	3,150	0	40.510	40.610		0	20,956	12,950	90.446	99,710	
Others <sup>1</sup>	15,180	37,250	49,510	49,510 \$108,870	\$14.900	ñ	\$110,456	\$50,050	\$285,996	\$200,770	
Total\$	29,830	\$41,850	\$130,910	\$108,870	\$17,000		Ψ110,100	- 400,000		<del></del>	

Principalty State and county purchase contracts.

The proportion of cash sales is closely related to the relative significance of State and county sales which usually include a contract for deed. In 1947, 27 percent of the transfers included a contract for deed; in 1946, contracts comprised 34 per cent of the sales and in 1945, 22 percent. Buyers equity in all credit transactions was 29 percent, which was not materially different from that of preceding periods. Equity in cash and mortgage transactions was 43 percent, or slightly higher than in previous years, but equity in contracts for deeds decreased 2 or 3 percent to about 20 percent.

During the 6 months there were 127 credit financed transfers of which 69 percent were contracts and the remainder mortgages. In the four counties individuals furnished 51 percent of the credit. State and counties 39 percent, and insurance companies and commercial banks 10 percent. These percentages in the first quarter of 1947 were 18, 68 and 14, respectively, which indicates a substantial increase in individuals as a source of credit during 1947.

## Sellers

Nonfarmer individuals were still the most important sellers in the 4 counties, with about 40 percent of all sales (table 3). The State and counties are next with more than 25 percent. Owner-operator sellers follow with about 18 percent. Estates and corporations each made about 8 percent of the sales during the period. Traill and Ward Counties had practically no sales by corporations and the State and county are not active in Traill County. Nonfarmer sellers are less prominent in Morton County than in the other three; State and county were the more important sellers.

# Buyers

Owner-operators made 68 percent of the purchases during the semi-annual period compared with 20 percent in the same months of 1946 (table 3). Sixteen percent of the buyers were other farmers, mainly tenants. This was about the same as in 1946. Nonfarmers also comprised 16 percent of all buyers which was about 3 percent greater than 1946. Nonfarmer buyers were more important in Stutsman and less important in Morton than in the other counties.

About 85 per cent of the buyers indicated intentions to operate the land. Most nonfarmers intend to lease the land they bought during the period.

#### Resales

Ten percent of all land transferred during the 6 months had been sold at least once in the preceding 12 months and 18 percent had been sold once or more in the previous 24 months. Ward County had relatively more resales than the other counties.