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Should Farmers Emphasize Wheat or Livestock in North Central South Dakota?

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Should Farmers Emphasize

WHEAT *or*

LIVESTOCK

in North Central South Dakota

?



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Should Farmers Emphasize Wheat or Livestock

In North Central South Dakota?

AARON G. NELSON AND GERALD E. KORZAN¹

THIS STUDY was made in an attempt to give information on the relative monetary advantages of producing wheat or livestock as the main enterprise on farms in North Central South Dakota (Fig. 1). The area varies considerably in natural resources, selected sections being well adapted to wheat production while others are suited only for the production of livestock. There is little question what should be produced in such sections but in other parts it is debatable whether wheat or livestock production is the more profitable. Wheat production appears to have been relatively more profitable on many farms prior to 1930, causing an increase in the acreage, with the result that the section came to be known as the "wheat area" of the state, but there are some indications that such a designation may not be justified in the future.² Will wheat production be the most profitable major enterprise in this area in the future or will

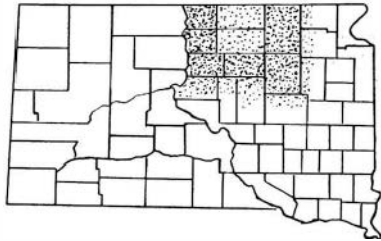


Fig. 1. The North Central South Dakota Area

1. Aaron G. Nelson is Assistant Economist and Gerald E. Korzan, Research Assistant in Farm Management, South Dakota Agricultural Experiment Station. Data for this study were obtained primarily from farm records in the files of the Agricultural Economics Department, collected by the South Dakota Agricultural Experiment Station from 1932 to 1939, the Bureau of Agricultural Economics cooperating in 1932. A comprehensive Bulletin, No. 343, *Farm Performance in North Central South Dakota*, by Max Myers, summarizing these records was published in 1940. Mr. Myers grouped and analyzed the farms primarily on the basis of income, but the various groups were not homogenous as to types of enterprises. In this study the farms were grouped according to types of enterprises and analyzed on this basis. The authors are grateful to farmers in the area who originally gave the information and who assisted in arriving at the standards given in Appendix Table 5; and to members of the Experiment Station and Extension Service, and to T. S. Thorfinnson and D. C. Myrick of the Bureau of Agricultural Economics, for criticisms and suggestions.
2. Myers, Max, "Farm Performance in North Central South Dakota, 1930-39", S. Dak. Agri. Exp. Sta. Bul. 343, page 4; 1940.
U. S. D. A., "The Agricultural Situation", Vol. 25, No. 1 pp. 9-11; Jan. 1941.
U. S. D. A., "Farmers in a Changing World", Yearbook of Agriculture, p. 505, 1940.

the production of livestock replace it? Should farmers with a relatively large acreage of wheat continue their present organization or gradually shift to livestock production?

Farm Records, 1932-39, Furnish the Basis for Study

Thirty farmers in this area kept continuous records from 1932 to 1939 in cooperation with the South Dakota Agricultural Experiment Station. Some had a relatively large amount of wheat while others had mostly livestock. The 10 having the largest relative acreage of wheat and smallest amount of livestock will be referred to as *wheat farms* throughout this study and the 10 with the most livestock and smallest relative wheat acreage will be referred to as *livestock farms*.³ Most of the wheat farms would not be so classified based on type of farming classifications, but they have a large acreage of wheat relative to other crops which appears to justify such a designation for this study.

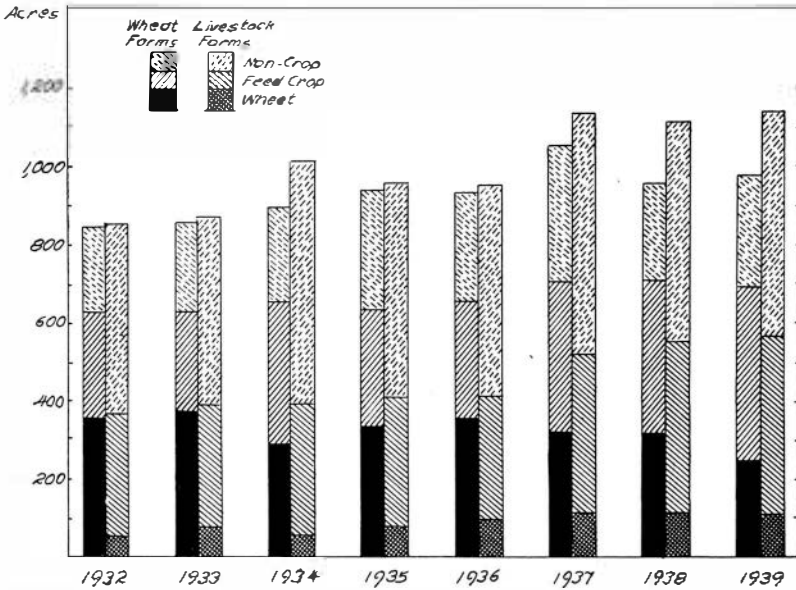
These Records Showed:

1. **WHEAT AND LIVESTOCK FARMS WERE ABOUT THE SAME SIZE.** The livestock farms had a little larger total acreage on the average but a smaller proportion was cropland, with the result that the long-time average production capacity of their land, as indicated by the Total Digestible Nutrients produced per acre, probably was not quite as great as that of the wheat farms, but this probably would be counter-balanced by the slightly larger capital investment on the livestock farms.⁴ About half the crop land was in wheat on the wheat farms and about one-fiftieth on the livestock farms. The figures are:

	Total Acreage per Farm	Av. Crop Acreage	Av. Wheat Acreage	Av. Gross Capital Investment
Wheat Farms	928	661	321	\$20,167
Livestock Farms	998	446	82	23,033

Both groups of farms increased in size (acres) over the eight-year period (Fig. 2). The most noticeable changes in land use were

3. The upper and lower one-third of the array were arbitrarily taken and the center one-third omitted to give two fairly distinct types of farms.
4. When the non-crop land was converted to a cropland basis, using the number of Total Digestible Nutrients produced per acre for the period 1932-39, to arrive at a conversion factor (native hay land was calculated to be 60 percent and native pasture land 30 percent as productive as crop land) the wheat farms averaged a little larger—765 acres compared to 644 acres for the livestock farms. In making the comparison grain yields actually obtained by the farmers for 1932-39 were compared with the carrying capacity of native grass land arrived at through a study made by the State Experiment Station. It should be kept in mind that the comparison is only an approximation.



SOURCE: Appendix table 1.

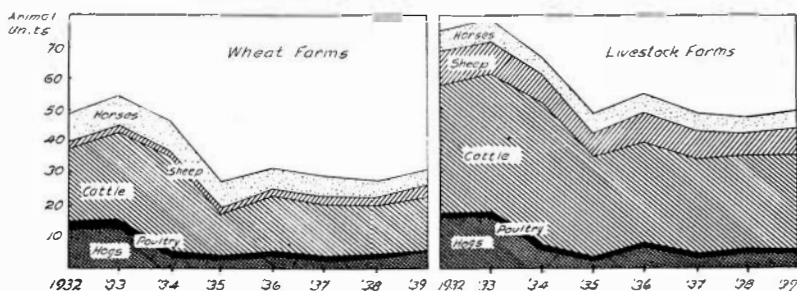
Fig. 2. Average Land Use on 10 Wheat and 10 Livestock Farms in North Central South Dakota, 1932-39

the decrease in the proportion of the acreage devoted to wheat production on the wheat farms and the increase in the proportion used for feed crops on both groups of farms.

2. THE LIVESTOCK FARMS HAD MORE ROUGHAGE CONSUMING livestock on the average than the wheat farms, but there was not much difference in the average amount of concentrate consuming livestock on the two groups of farms. The records showed:

	Average number of Animal Units per Farm ⁵	
	Wheat Farm	Livestock Farm
Roughage consuming livestock:		
Horses	7.4	5.7
Cattle	20.0	35.3
Sheep	2.1	8.8
Total	29.5	49.8
Concentrate consuming livestock:		
Hogs	5.5	7.0
Poultry	1.5	1.2
Total	7.0	8.2

5. Based on beginning inventory, which was Jan. 1 of each year. An animal unit was taken as: one work horse, two other horses, one bull, one cow, two heifers, two steers, four calves, seven ewes, fourteen other sheep, three sows, five other hogs, one hundred chickens or thirty-five turkeys.



Source: Based on appendix table 2.

Fig. 3. Animal Units per Farm by Kinds of Stock in North Central South Dakota, 1932-39

The changes in the amount of livestock kept during the period were fairly similar on both groups of farms but the reduction was proportionally greater on the wheat farms (Fig. 3). The reduction in roughage-consuming stock was accomplished primarily by reducing the number of steers and young sheep. Some reduction was made in the cow herd but more heifers were kept. The horse numbers decreased on the wheat farms.

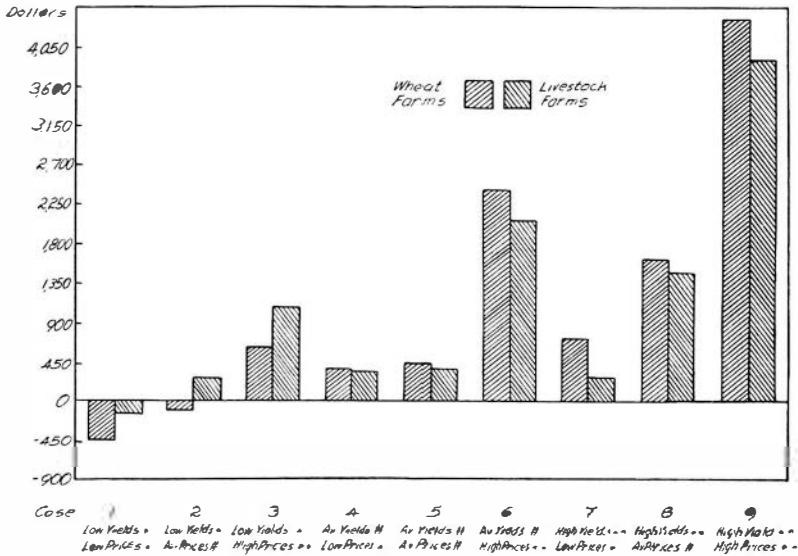
3. THE LIVESTOCK FARMS CAME CLOSER TO PAYING OUT THAN THE WHEAT FARMS during this period of relatively low yields and prices. Average expenses per farm were about the same in both cases but gross receipts averaged around \$250 more on the livestock farms, even though government payments were \$128 greater on wheat farms (Appendix Table 3). Both groups of families used about the same amount for cash family living expenses with the result that more indebtedness was contracted on the wheat farms.

Which Will Pay Better in the Future, Wheat or Livestock Production?

The answer will depend largely upon the yield and price of wheat relative to other farm products, assuming that changes which occur in costs and production are relatively similar.

The average operator's labor income for the wheat and livestock farms for the period 1932-39 is shown in Fig. 4, Case 1. Both groups of farms lost money during this period of relatively low yields and prices and, as stated above, the wheat farms lost more than the livestock farms.

Case 2 in Fig. 4 shows approximately what the average income would have been during the period 1932-39 if the price of all crops,



SOURCE: Appendix table 4.

Fig. 4. Operator's Labor Income for Wheat and Livestock Farms in North Central South Dakota, Assuming Various Yield and Price Relationships

livestock and livestock products had been approximately equal to the long-time average (the "average" prices used are given in Appendix Table 5) and all other things had remained the same as they were during the period 1932-39. The livestock farms would have returned a small amount over expenses but the wheat farms still would have lost money.

Case 3 shows approximately what the income would have been on the wheat and the livestock farms during the period 1932-39 if the price of all goods produced on the farm had been equal to the prices which prevailed during the period 1924-28, and all other things had remained the same as they were during the period 1932-39. The livestock farms would have been more profitable.

Case 4 shows approximately what the income would have been for the two groups of farms for the period 1932-39 if long-time average yields had been obtained, and prices and costs, except those that were directly affected by the higher yields, had remained the same. It was assumed more livestock would be added to use the additional feed. Under such conditions both types of farms probably would have been about equally profitable.

Case 5 indicates what the income would have been during the period 1932-39 if the long-time average of both yields and prices had been obtained for all crops, livestock and livestock products. Wheat and livestock farms would have been about equally profitable.

Case 6 indicates what the relative income would have been if average yields and 1924-28 prices had been obtained. Case 7 indicates what the income would have been if 1924-28 yields had been obtained and prices, costs, etc., had remained the same as they were during the period 1932-39. Case 8 indicates the income that would have been obtained if 1924-28 yields and average prices had prevailed. Case 9 shows what the relative incomes would have been if both yields and prices had been what they were during the period 1924-28. Apparently the wheat farms would have been a little more profitable in all four cases.

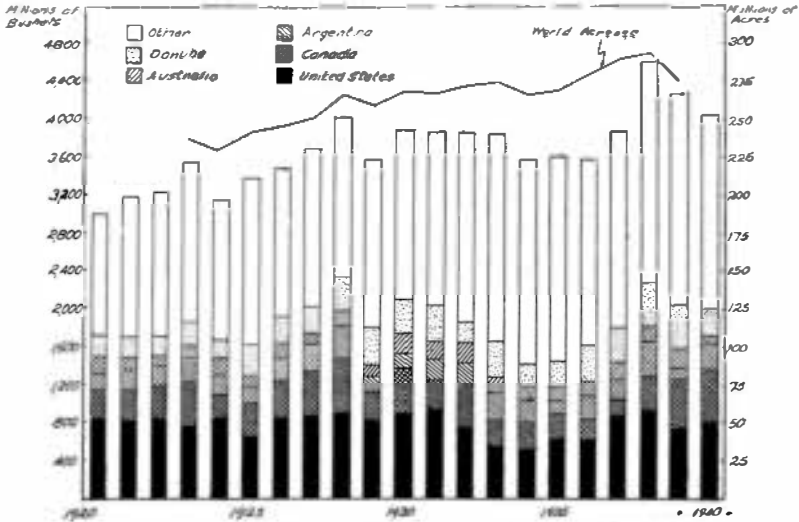
If wheat continues to sell at a premium (bring more per pound) relative to feed grains as it has done in the past the two enterprises probably will be about equally profitable when long-time average yields and prices are obtained. When wheat yields are low livestock production probably will be more profitable, but wheat farmers probably will have a little advantage when high yields are obtained and when high prices prevail *providing* yields are average or better. These conclusions apply only in comparing farms where the main enterprise is either wheat or livestock. Either might be a profitable supplementary enterprise where it might not be a profitable main enterprise.

Wheat Prices Probably Won't be High Compared to Other Products

This is indicated by the present relatively large world acreage (excluding Soviet Russia and China), production and supply. In the United States the price may tend to be depressed even more since wheat exports have fallen off so greatly.

The world acreage and production has been steadily increasing over a period of years (Fig. 5). The production in the major wheat producing countries has increased some but a much greater increase has taken place in the rest of the world.

The world supply of wheat followed somewhat the same trend as acreage but fluctuated more due to variations in yield and carry-

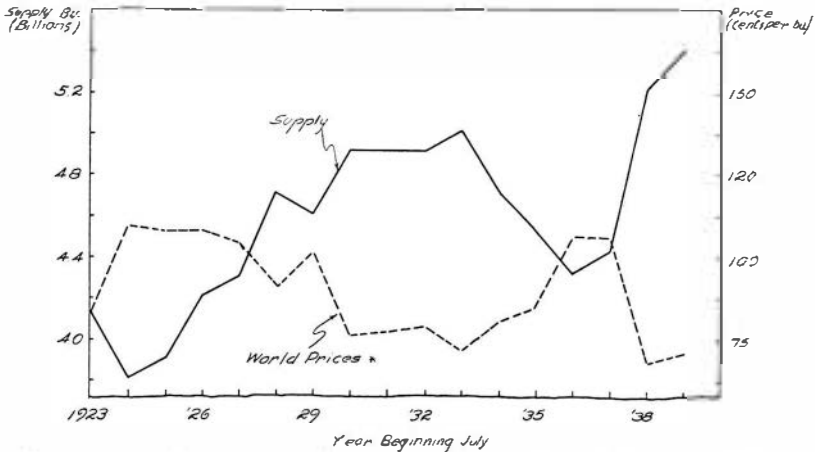


SOURCE: Production figures obtained from: The Wheat Situation, U. S. D. A., May 1941; and Acreage from: 1941 Agricultural Outlook Charts for Wheat, U. S. D. A., Oct. 1940 (Excluding Soviet Russia and China.) * Preliminary

Fig. 5. World Acreage; and Wheat Production, World and Specified Areas, 1920-40

over (Fig. 6). From 1924 to 1933 the supply increased sharply, primarily as a result of the increased acreage. The supply declined, however, from 1934 to 1936 due to low yields and increased world demand. Beginning in 1937 the amount of wheat on hand rose sharply, as a result of the above-average yields on the large acreage, culminating in the largest world supply on record in 1938-40.

World wheat prices varied inversely with world supplies (Fig. 6). During the period 1924-33 prices declined with the increase in world supply, the general slump in industrial activity and commodity prices causing a sharper decline in prices after 1929. World wheat prices moved upward from the spring of 1933 to the summer of 1937, reflecting the reduced production, general recovery in commodity prices and currency depreciation, but declined sharply again in 1938 largely as a result of the record world production and weakness in demand. While the price remained low in 1939 it averaged higher than a year earlier, influenced by general expectations of increased demand due to the war, and by the poor crop prospects in the United States and Argentina. Reduced foreign trade and large supplies in surplus producing countries held prices at low levels in 1940.



SOURCE: Figures obtained from U. S. Department of Agriculture, Agricultural Outlook Charts for Wheat, U. S. D. A., Oct. 1940.

* Average British parcels deflated by statist. index numbers (1910-14=100.) Prices since Sept. 2, 1939 computed on basis of prices in exporting countries and conveyed ocean freight rates. †Preliminary.

Fig. 6. Wheat: World Supply and Price, 1923-40.

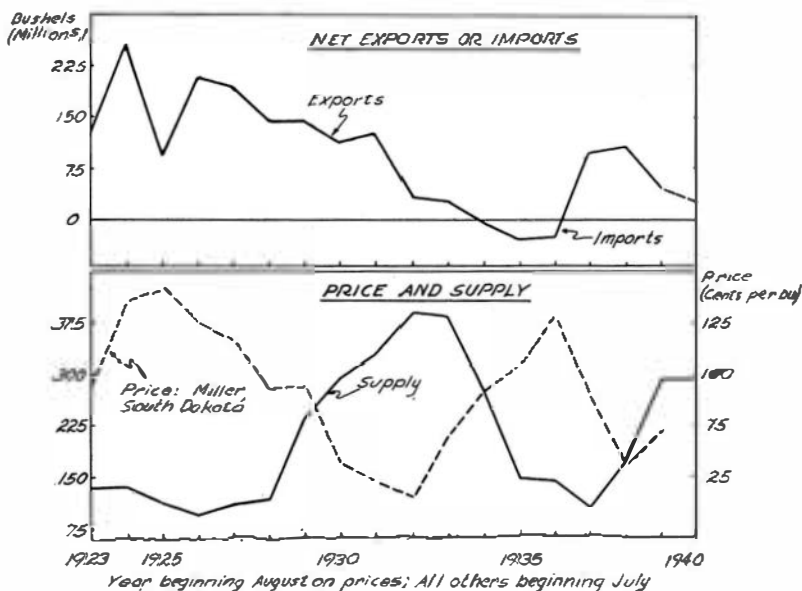
As shown in Fig. 7 the United States supply and the price at Miller, S. Dak.,⁶ fluctuated similarly but more than the world supply and price. The variations in acreage and yield probably were the most important factors in the United States supply, but the amount exported has also been a very important factor. The amount of wheat produced in the United States is usually substantially greater than the amount consumed and when the export market is cut off a surplus accumulates which tends to force wheat prices down except as they are supported by government programs.

When surplus wheat was available in the United States exports were moderately large until the outbreak of the war in Europe, when they decreased sharply, and indications are not favorable for any great increase in exports in the near future except as effected by government policy. If production continues to be at least normal the supplies may continue to increase in this country unless larger quantities are used for feed, which probably will not happen to any great extent as long as the price of wheat remains high relative to that of feed grains.

To the extent that the price of wheat approaches that of feed grains the production of wheat will be relatively less profitable.

6. The price at Miller was used because it was the closest point to the area where prices were available for a period of years.

Budget calculations indicating the income expectancy of the wheat and livestock farms discussed above show that if the price of wheat is no higher (per pound) than that of other grains, livestock production will be more profitable than wheat production regardless of the yield of wheat or the general price level. This conclusion appears self-evident when it is considered that fewer pounds of feed are produced per acre of wheat than of feed grains.



SOURCE: Price obtained from Myrick, Delbert C., Manuscript on Agricultural Prices in Hand County, South Dakota, 1882-1940 (Being prepared.) Supply and Net Exports or Imports, Agricultural Outlook Charts for Wheat, Oct. 1940. * Preliminary.

Fig. 7. Wheat: United States Supply, Price, Net Exports or Imports, 1923-40

Appendix of Tables

Table 1. Average Land Use of 10-Wheat and 10-Livestock Farms in North Central South Dakota, 1932-39

	Wheat	Oats	Barley	Rye	Corn	Cane	Le- gumes	Idle & Fallow	Misc.	Total Crop Acre	Native Hay- land	Pas- ture	Farm- stead, Rds., Etc.	Total Land in Farm
Wheat Farms:														
1932	357	31	62	32	123	7	12	—	4	628	74	110	29	841
1933	369	41	59	18	106	5	21	—	3	622	81	113	31	847
1934	287	34	34	32	40	16	16	188	—	647	69	150	33	899
1935	325	56	75	30	80	20	7	37	—	637	76	195	31	939
1936	349	65	58	35	83	1	4	62	—	657	94	140	31	922
1937	319	44	64	31	68	9	9	141	17	702	114	194	38	1,048
1938	316	40	31	41	74	23	1	139	37	702	66	137	48	953
1939	241	51	48	37	58	33	4	192	30	694	50	192	39	975
Total	2,563	362	431	256	632	114	74	759	98	5,289	624	1,231	280	7,424
Average	321	45	54	32	79	14	9	95	12	661	78	154	35	928
Livestock Farms:														
1932	41	44	88	37	105	10	35	5	3	368	126	310	38	845
1933	75	57	81	21	111	4	30	9	—	388	124	326	27	865
1934	50	51	75	25	48	26	25	95	—	395	96	487	26	1,007
1935	71	56	82	42	82	23	6	37	4	403	123	397	24	947
1936	92	45	70	53	81	12	37	13	2	405	94	426	22	947
1937	113	42	81	51	73	23	20	91	23	517	135	440	39	1,131
1938	105	41	66	38	78	51	13	128	36	556	94	421	38	1,109
1939	105	46	66	38	54	87	19	93	28	536	128	431	43	1,138
Total	652	382	609	305	632	236	185	471	96	3,568	920	3,238	260	7,986
Average	82	48	76	38	79	29	23	59	12	446	115	405	35	998

Wheat acreage decreased on the wheat farms and increased on the livestock farms. Both the wheat and livestock farms had an increased amount of cultivated land devoted to the production of feed crops. Both groups also had more hayland and pasture in 1939 than in 1932. The farms show rather a marked increase in acres operated over the eight-year period.

Table 2. Average Livestock Organization on 10-Wheat and 10 Livestock Farms in North Central South Dakota, 1932-39*

	Milk				●ther				●ther					
	Horses	Cows	Cows	Heif's	Steers	Calves	Bulls	Ewes	Sheep	Rams	Sows	Hogs	Chicks	Turks
Wheat Farms														
1932	10	8	6	3	12	4	1	8	1	—	13	39	160	17
1933	10	9	6	2	18	6	1	14	2	—	8	49	191	24
1934	10	9	8	1	18	7	1	12	6	—	5	10	114	9
1935	9	6	4	—	4	6	—	11	—	—	4	5	71	12
1936	7	8	4	2	5	4	1	11	6	—	5	11	68	16
1937	7	8	3	6	—	9	—	16	—	—	5	3	87	13
1938	5	7	2	7	1	6	1	17	—	—	6	5	75	8
1939	6	8	2	6	1	8	1	23	—	1	6	11	100	8
Total	64	63	35	27	59	50	6	112	15	1	52	133	866	107
Average	8	8	4	3	8	6	1	14	2	—	6	17	108	13
Animal Units	7.5	8.0	4.0	1.5	4.0	1.5	1.0	2.0	.1	—	2.0	3.5	1.1	.4
Livestock Farms														
1932	7	6	20	2	23	4	1	65	21	1	17	50	120	4
1933	7	7	18	2	26	4	1	57	30	1	15	54	139	6
1934	6	7	21	5	23	7	1	57	12	2	8	13	109	10
1935	6	6	19	2	5	9	1	47	7	2	4	3	80	3
1936	7	7	16	2	6	16	1	56	8	2	8	19	88	4
1937	6	7	16	6	2	9	1	59	1	3	6	5	76	4
1938	6	7	14	6	3	13	1	43	9	1	6	12	88	7
1939	7	7	14	8	1	14	1	47	14	2	9	7	101	5
Total	52	54	138	38	89	76	8	428	102	14	73	163	831	43
Average	7	7	17	5	11	9	1	54	13	2	9	20	104	5
Animal Units	6.0	7.0	17.0	2.5	5.5	2.3	1.0	7.7	.9	.2	3.0	4.0	1.1	.1

* Beginning Inventory

Table 3. Financial Summary of Ten Wheat and Ten Livestock Farms in North Central South Dakota, 1932-1939

	Wheat Farms										Livestock Farms							
	1932	1933	1934	1935	1936	1937	1938	1939	8-yr. Av.	1932	1933	1934	1935	1936	1937	1938	1939	8-yr. Av.
Receipts:																		
	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.
Crops	809	537	146	745	192	209	548	204	424	209	133	65	229	120	49	118	62	123
Livestock	553	795	772	316	876	733	710	850	700	1,040	1,538	1,083	754	1,745	872	1,261	1,460	1,220
Livestock products	177	236	163	169	302	234	223	254	220	224	294	326	368	433	385	349	386	345
Government payments	—	—	—	652	696	886	547	401	641	478	—	—	316	406	558	552	428	531
Miscellaneous	182	23	124	115	217	156	223	274	164	41	106	154	145	252	222	285	448	207
Labor off Farm	188	33	249	270	252	152	190	114	181	75	75	289	237	223	163	155	139	169
Total receipts	1,909	1,624	2,106	2,311	2,725	2,031	2,295	2,337	2,167	1,589	2,146	2,243	2,139	3,331	2,243	2,596	3,026	2,414
Money borrowed	638	7	632	364	270	60	42	355	296	463	—	—	151	—	324	—	19	120
Total cash receipts	2,547	1,631	2,738	2,675	2,995	2,091	2,337	2,692	2,463	2,052	2,146	2,243	2,290	3,331	2,567	2,596	3,045	2,534
Expenses:																		
Livestock purchases & exp.	38	58	27	46	108	68	93	82	65	77	93	52	116	142	146	173	254	132
Seed and feed purchased	210	158	643	748	252	374	187	179	344	171	226	401	381	377	422	218	179	297
Twine and seed treatment	45	8	1	31	2	8	58	31	23	36	6	1	33	3	16	75	63	29
Labor and custom work	408	64	18	308	112	185	126	268	186	277	79	54	274	107	132	125	199	156
Tractor expense	200	144	146	273	202	272	313	334	235	136	145	149	186	155	178	193	211	169
Auto (75%) & truck exp.	81	71	75	82	93	102	114	98	90	108	93	111	110	127	112	141	112	114
Repairs, bldg. & equip.	74	53	39	79	67	58	58	87	64	68	66	45	93	68	64	83	71	70
Insurance	7	24	5	11	24	17	22	104	27	3	12	29	16	15	40	39	40	24
Interest	206	164	145	214	150	110	179	99	158	275	200	191	114	88	55	118	155	149
Taxes	133	108	83	125	102	131	147	192	128	257	199	170	212	206	198	204	244	211
Cash rent	216	179	165	167	55	87	96	83	131	142	83	57	104	80	77	60	43	81
Equipment purchased	89	30	41	73	437	109	78	174	129	54	42	53	76	282	87	174	620	174
Miscellaneous	—	6	18	9	13	6	32	37	15	5	1	20	21	21	13	37	29	18
Total expenses	1,707	1,067	1,406	2,166	1,617	1,527	1,503	1,768	1,595	1,609	1,245	1,333	1,736	1,671	1,540	1,640	2,220	1,624
Payment on debt	—	—	—	—	—	—	—	—	—	—	150	33	—	143	—	26	—	44
Total cash expenses	1,707	1,067	1,406	2,166	1,617	1,527	1,503	1,768	1,595	1,609	1,395	1,366	1,736	1,814	1,540	1,666	2,220	1,668
Cash available for family living*	840	564	1,332	509	1,378	564	834	924	868	443	751	877	554	1,517	1,027	930	825	866
Change in inventory	-891	-1,076	-1,691	774	214	-990	-153	593	-402	1,114	-1,115	-704	760	723	-1,067	-141	1,236	-174
Interest on net worth @3½%	437	410	376	337	357	410	350	351	379	636	635	593	574	618	667	635	652	626
Unpaid family labor	270	270	240	240	210	300	240	240	251	150	120	120	120	150	150	180	150	142
Operator's labor income	-1,396	-1,199	-1,607	342	755	-1,196	49	571	-460	1,920	969	-507	469	1,645	-1,181	0	1,240	-152
Farm products used in home	270	†	†	†	198	289	241	236	247	234	†	†	177	254	211	228	221	—
Operator's labor earnings‡	-1,126	—	—	—	953	-907	290	807	-213	-1,686	—	—	1,822	-927	211	1,468	69	—

* This is the amount available for family living and not necessarily the amount spent in any one year. When large amounts were available, some might have been carried the next year.

† Returns to the farm operator for his labor in addition to a house to live in and fuel obtained from the farm.

‡ Not available.

§ Average for years available.

Points of Interest in Table 3

In 1933, a drouth and depression year, the total expenditures were only 64 percent of the 1932 level on the wheat farms and 77 percent on the livestock farms. The total expenditures were greater in 1934 than in 1933 since considerable seed and feed had to be purchased due to the drouth.

Expenditures for repairs were at the low point in 1934, on both groups of farms. The amount spent for repairs in 1935, on both groups of farms was double the amount spent in 1934 which would seem to indicate that if farming operations are to continue, the equipment and buildings will have to be maintained on, at least, a minimum level.

Relatively little equipment was purchased on either group of farms in the poor years of 1933 and 1934. 1935 was a fairly good year and considerable equipment was purchased in the spring of 1936.

The amount spent for labor and custom work was greatly reduced in 1933 and 1934 on both groups of farms. All the adjustments in farm operating costs were made to enable the farms to survive the period of drouth and low prices. Records are not available to show the adjustments which were made in family living expenses on these farms, but it is known that considerable adjustment was made in individual cases.

Table 4. Operator's Labor Income for Wheat and Livestock Farms in North Central South Dakota Assuming Various Yield and Price Relationships.

Case	Assuming Wheat sells at a premium (more per lb.) over other grains	Assuming Wheat is the same price per lb. as other grains		
	Wheat Farms	Livestock Farms	W. Farms	L. Farms
	Dol.	Dol.	Dol.	Dol.
1 Low (1932-39) yields and low (1932-39) prices	-460*	-152*	-537	-169
2 Low (1932-39) yields and average† prices	-109	243	-210	219
3 Low (1932-39) yields and high (1924-28) prices	613	1074	266	990
4 Average yields and low (1932-39) prices	368	334	155	290
5 Average† yields and average† prices	423	366	131	290
6 Average† yields and high (1924-28) prices	2,413	2,048	1,409	1,784
7 High (1924-28) yields and low (1932-39) prices	700	338	673	331
8 High (1924-28) yields and average† prices	1,631	1,472	1,193	1,357
9 High (1924-28) yields and high (1924-28) prices	4,380	3,906	2,873	3,510

* These income figures are those actually received on the average between 1932-1939.

† Arrived at in cooperation with farmers in the area.

Table 5. Standards Used for Calculating Budgets¹

SECTION A. YIELD PER ACRE AND TRACTOR HOURS, SEED AND TWINE REQUIRED PER ACRE.					
Crops	Yield per Acre Average	Tractor ² Hours	Seed Used	Twine ³ Used	Threshing Charge
Wheat	8 bu.	1.8	¾ bu.	2 lbs.	.06
Oats	20 bu.	1.8	1.5 bu.	2 lbs.	.03
Barley	16 bu.	1.8	1.0 bu.	2 lbs.	.03
Corn Grain	14 bu.	2.6	½ bu.		
Sorghum Fodder	1.0 T.	3.6	8 lbs. ⁴	1 ¼ lbs.	
Supplementary Hay	.6 T.	1.5			
Native Hay	.4 T.	.5			
Supplementary Pasture		1.0			

¹ Farmers in the area assisted in determining these data.
² Tractor cost for fuel, oil and grease is estimated to be 30 cents per hour.
³ Twine is figured at 9 cents per pound.
⁴ Seed for sorghum is estimated to be 4 cents per pound.
⁵ Seed for tame hay and pasture is estimated to be 65 cents per acre.

SECTION B. ANNUAL FEED REQUIREMENTS PER HEAD OF LIVESTOCK

Livestock	Grain Pounds	Roughage Pounds	Nat. Pasture ¹ Acres
Horses	1,500	5,000	10
Milk Cows ²	1,000	6,000	10
Beef Cows	50	4,000	10
Yearlings	0	3,000	7.5
Calves (Dairy)	550	1,500	2.5
(Beef)	400	1,500	2.5
Bull	500	4,000	10
Ewes and ram	35	500	1.25
Lambs kept for replacement	0	500	1.25
Lambs (First summer)	0	0	.75
Sow and litter ³	6,500	0	2.5
	300 Supp. ⁴		
Laying hens—unit of 150 ⁵	9,180		
	1,610 Supp. ⁴		
Baby Chicks (100) to 26 weeks	2,430		
	270 Supp. ⁴		
Turkeys—unit of 200	12,283		
	2,600 Supp. ⁴		

¹ One acre of tame pasture is figured as equal to two acres of native pasture.
² A 175 pound butterfat production per cow is assumed.
³ It is assumed that 1,260 pounds of pork will be produced per litter.
⁴ Figure supplement at 3 cents per pound.
⁵ Egg production is estimated to be 10.5 dozen per hen.

SECTION C. PRICE OF CROPS, LIVESTOCK, AND LIVESTOCK PRODUCTS.

Crops & units	Average Price	Livestock and Products	Average Price
	Dollars		Dollars
Wheat, bu.	.70	Turkeys, lb.	.14
Oats, bu.	.28	Cull Cows, 100 lbs.	3.00
Barley, bu.	.43	Long Yearlings, 100 lbs.	6.75
Corn, bu.	.50	Calves, 100 lbs.	7.20
Native hay, ton	5.00	Old Ewes, per head	2.50
Tame hay, ton	5.00	Feeder Lambs, 100 lbs.	6.65
Sorghum fodder, ton	5.00	Hogs, 100 lbs.	6.50
		Sows, 100 lbs.	5.00
		Chickens, lb.	.11
		Butterfat, lb.	.22
		Eggs, doz.	.14
		Wool, lb.	.24

SECTION D. WEIGHTS AT WHICH LIVESTOCK IS MARKETED		SECTION F. MISCELLANEOUS ITEMS	
Livestock	Weight Pounds	Item	Dollars
Old cows	1,000	Taxes	
Long yearlings	675	15 mills on livestock and equipment investment	
Feeder Lambs	65	Veterinary expense	
Pork per Litter	1,260	Horses	.75
Poultry, chickens	5	Hogs, per litter	1.00
		Calves	.25
		Other Cattle	.18
		Sheep	.20
		Lambs	.10
		Turkeys, per 100	1.50
		Chickens, per 100	1.50
SECTION E. LIVESTOCK INVENTORY VALUES		Death Loss	
Livestock	Value Dollars	Cattle (other than calves)	1%
Horse	75	Ewes	5%
Cow, average	44	Chickens	20%
Yearling, 18 months	44	Chicks	20%
Bull	200	Turkeys (0-8 weeks)	10%
Calf, 6 months	20	(8-28 weeks, when sold)	8%
Chickens, per 100	50	Calf Crop	90%
Sow	15	Lamb Crop	100%
Ram	40		
Ewe	7		

Conclusions

1. The production of wheat and livestock probably will be about equally profitable on farms in North Central South Dakota where operators are able to obtain "average" yields of wheat, providing the price of wheat is relatively high (brings more per pound) compared with that of feed grains, as it has been in the past. However, the present large wheat acreage and supply, both in the United States and the world, probably will tend to hold the price of wheat down relative to that of feed grains. Wheat prices may be supported by the government loan program for a time but will it be advisable to do this over a long period of time? If the price of wheat is *not* above that of feed grains, livestock production will be the more profitable regardless of wheat yields.

2. The production of wheat probably would be materially reduced if wheat prices and production were not supported by governmental policies and programs.

3. The capital investment on the livestock farms is greater than on the wheat farms and if operators are to be able to shift to the production of livestock more credit may be required.