

W H E A T S I E S
OF THE
FOOD RESEARCH INSTITUTE

Jhnanjayarao Gadgil Library



GIPE-PUNE-021621

VOL. XIII, NO. 7

(Price \$1.00)

APRIL 1937

X9/1382.58
G7

SOVIET AGRICULTURAL REORGANIZATION
AND THE BREAD-GRAIN SITUATION

THIS study illuminates the course of agricultural developments in the USSR since 1930 and 1931, when Soviet grain exports reached spectacular heights after a bumper crop.

Socialistic reorganization of agriculture resulted much less in increase and improvement of grain production than in greatly increased power of the government over crop disposition. Collective farms, dominated by the state but involving certain elements of co-operation, have been more successful than state farms in stabilizing their position and improving their practices. The state grain farms were conspicuously unsuccessful in enlarging wheat production in semiarid regions; consequently, governmental efforts have recently been directed toward expansion of wheat in more humid regions, and toward enhancement of yield per acre. But in humid regions the scope for expansion of wheat is rather narrow and has proceeded mainly at the expense of rye. The total bread-grain area has not yet regained the levels of 1930 and 1931. Yields per acre, though better in 1933-35 than in the poor years 1931-32, failed to exceed the yields on peasant farms before collectivization.

Greater control over crops has enabled the Soviet government to collect more grain than was possible before 1930. This facilitated large exports in 1930-31, but left producers with insufficient reserves. During the following years the government, while continuing to collect large quantities of bread grain, exported only moderate quantities and accumulated grain sufficient for abolition of bread rationing in 1935. To the extent that the government held grain stocks, its power to export remained; but reduced need for foreign exchange, and policies aimed first at covering the rapidly increasing domestic needs, kept grain exports within moderate limits. The poor crops of 1936 necessarily affected the grain reserves earlier accumulated; and the present position does not suggest the likelihood of large wheat exports from the USSR in the next few years.

STANFORD UNIVERSITY, CALIFORNIA

April 1937

WHEAT STUDIES
OF THE
FOOD RESEARCH INSTITUTE

Entered as second-class matter February 11, 1925, at the Post Office at Palo Alto, Stanford University Branch, California, under the Act of August 24, 1912.

Published eight times a year by Stanford University for the Food Research Institute.

Copyright 1937, by the Board of Trustees of the Leland Stanford Junior University.

APPENDIX TABLES

TABLE I.—ACREAGE AND PRODUCTION OF THE PRINCIPAL GRAINS IN THE USSR, BY REGIONS, 1928-34*

Year	Area (Million acres)							Production (Million 60-lb. units)						
	Winter wheat	Spring wheat	Winter rye ^a	Oats	Barley ^b	All grains	All crops	Winter wheat	Spring wheat	Winter rye ^a	Oats	Barley ^b	All grains	
USSR														
1928...	15.27	53.25	59.60	42.61	18.03	227.76	279.21	175.85	631.53	694.44	605.59	208.25	2,694.01	
1929...	16.20	57.26	60.33	46.66	19.98	237.25	291.70	190.41	503.22	732.72	578.31	265.05	2,636.02	
1930...	24.87	58.52	70.23	44.21	18.36	251.45	314.36	367.52	621.61	853.35	610.68	248.92	3,069.72	
1931...	27.97	63.14	67.05	43.18	16.94	257.99	336.76	377.89	375.33	794.89	402.66	190.24	2,553.07	
1932...	29.19	56.07	63.69	38.11	16.91	246.36	332.19	319.84	424.20	798.77	413.05	184.67	2,567.38	
1933...	26.70	55.44	61.82	41.22	17.93	250.94	320.48	429.81	588.97	877.49	566.25	288.38	3,299.71	
1934...	26.66	60.44	58.47	44.51	20.96	258.66	324.64	314.99	802.50	728.55	694.49	251.20	3,284.97	
RSFSR														
1928...	7.83	43.50	47.66	35.65	6.84	164.32	197.39	78.13	536.87	556.90	508.98	87.70	1,997.30	
1929...	8.86	47.12	46.41	38.79	7.98	172.00	207.37	86.26	384.98	550.10	458.68	87.42	1,765.11	
1930...	10.95	46.81	53.05	36.75	7.72	179.48	219.53	148.06	496.51	578.80	491.33	89.96	2,033.36	
1931...	11.21	54.53	51.23	37.00	7.18	189.98	240.28	141.18	299.29	602.70	334.38	70.21	1,697.87	
1932...	11.48	50.21	50.90	32.71	7.99	185.47	241.68	106.94	375.66	654.87	354.14	81.52	1,875.07	
1933...	10.33	49.38	47.82	35.44	8.74	186.37	231.63	132.34	515.94	664.92	475.33	127.22	2,288.37	
1934...	11.24	53.62	46.26	38.29	10.32	192.74	236.23	156.31	728.94	598.37	622.73	133.04	2,600.84	
Leningrad Province and Karelian ASSR														
1928...	.02	.02	1.37	.92	.38	2.91	4.45	.31	.26	19.30	15.02	4.07	40.39	
1929...	.02	.02	1.28	1.04	.30	2.77	4.37	.30	.30	16.13	15.68	3.72	37.54	
1930...	.03	.03	1.48	1.25	.33	3.32	5.29	.45	.30	18.64	16.77	3.73	41.95	
1931...	.04	.03	1.41	1.19	.31	3.17	5.21	.50	.38	18.91	16.20	3.90	41.91	
1932...	.05	.04	1.36	1.14	.36	3.20	5.46	.61	.51	17.89	14.83	4.27	41.15	
1933...	.05	.07	1.22	1.15	.43	3.24	5.26	.90	1.02	19.46	15.51	5.64	46.88	
1934...	.18	.18	1.18	1.25	.40	3.54	5.61	3.02	2.41	19.52	19.90	6.10	56.09	
Northern PFC ON														
1928...	—	.06	.90	.85	.43	2.29	2.68	—	.61	8.67	9.82	5.78	25.34	
1929...	—	.07	.96	.86	.41	2.35	2.80	—	.83	13.22	11.88	5.99	32.55	
1930...	—	.06	1.03	.76	.39	2.29	2.77	—	.66	13.43	8.85	5.38	28.77	
1931...	—	.05	.95	.77	.37	2.19	2.76	—	.66	14.25	11.02	5.29	31.89	
1932...	—	.06	.80	.80	.34	2.06	2.70	—	.68	11.39	9.02	5.94	27.86	
1933...	.00	.09	.63	.82	.43	2.07	2.67	.01	1.42	11.31	13.32	7.93	35.70	
1934...	.01	.16	.70	.87	.47	2.34	3.00	.15	2.83	14.21	15.51	9.80	44.35	
Western Province														
1928...	.05	.08	3.58	1.89	.27	6.87	10.37	1.04	.88	48.02	29.13	2.83	90.38	
1929...	.05	.10	3.75	2.08	.25	7.11	11.10	.68	1.35	46.05	31.91	3.48	92.06	
1930...	.10	.09	4.20	2.19	.30	7.78	11.81	1.30	1.22	60.69	32.79	3.72	109.24	
1931...	.03	.10	3.95	2.08	.33	7.24	11.78	.29	1.22	43.53	24.44	3.98	79.69	
1932...	.07	.13	3.56	2.14	.38	6.99	12.03	.73	1.45	38.70	28.60	4.59	80.41	
1933...	.07	.15	3.11	1.97	.52	6.82	11.24	1.00	2.34	45.76	26.52	7.65	94.27	
1934...	.19	.24	3.03	2.16	.53	7.14	11.13	2.84	3.46	42.66	31.98	8.22	98.75	

* Compiled from *Agriculture of the USSR, 1935* (Moscow, Sel'khozgiz, 1936), Tables 97, 107, 110, 112, 115, 117, 120, 122, 125, 127, 130, 132, 135, and 137. This is a yearbook published jointly by the People's Commissariats of Agriculture and of State Farms. The areas of winter crops exclude winterkilled acreage.

^a Not including spring rye, data for which were not distributed by regions before 1932. The total area of spring rye (80 per cent in Siberian regions) fell from 1.3 to .9 million acres between 1928 and 1935; total production ranged from 15 to 11 million 60-pound bushels in this period.

^b Winter and spring.

TABLE I.—Continued

Year	Area (Million acres)						Production (Million 60-lb. units)						
	Winter wheat	Spring wheat	Winter rye ^a	Oats	Barley ^b	All grains	Winter wheat	Spring wheat	Winter rye ^a	Oats	Barley ^b	All grains	
MOSCOW PROVINCE													
1928...	.04	.01	3.82	2.68	.11	7.92	11.33	.65	.11	42.61	42.62	1.64	97.96
1929...	.06	.01	4.33	3.11	.12	8.75	12.40	.91	.13	55.59	45.47	1.71	113.96
1930...	.08	.01	4.53	3.14	.09	8.91	12.92	1.19	.07	55.37	45.34	1.25	114.05
1931...	.09	.01	4.43	2.92	.12	8.95	13.72	1.28	.08	65.85	32.55	1.58	115.63
1932...	.14	.03	4.33	3.26	.12	9.49	14.57	1.88	.30	59.06	43.11	1.66	122.98
1933...	.19	.05	3.66	3.69	.17	9.30	14.99	2.82	.84	57.18	51.14	2.46	137.16
1934...	.58	.32	3.36	3.57	.15	9.49	14.64	9.71	4.89	51.18	61.09	2.40	149.43
IVANOV PROVINCE													
1928...	.06	.09	1.65	1.23	.11	3.33	4.95	1.07	.99	19.81	20.88	1.45	46.03
1929...	.07	.10	1.64	1.39	.11	3.47	5.25	.98	1.08	19.74	20.48	1.32	45.25
1930...	.09	.08	1.76	1.47	.10	3.67	5.67	1.02	.92	22.86	22.07	1.12	50.39
1931...	.09	.07	1.73	1.24	.11	3.51	5.58	1.21	.85	23.39	17.56	1.34	47.71
1932...	.09	.07	1.63	1.34	.13	3.51	5.58	1.22	.68	24.95	15.47	1.39	46.78
1933...	.10	.10	1.37	1.41	.16	3.46	5.48	1.92	1.73	24.43	24.01	2.77	60.14
1934...	.32	.22	1.20	1.42	.18	3.69	5.98	6.53	3.52	21.28	25.71	3.23	64.87
GORKI REGION													
1928...	.02	.16	6.06	4.62	.45	12.04	13.84	.23	2.01	74.78	65.69	6.92	158.09
1929...	.02	.18	5.16	5.01	.54	11.74	13.94	.30	2.21	67.63	65.53	7.57	151.92
1930...	.03	.18	6.52	5.10	.52	13.20	15.79	.42	1.95	67.05	65.67	7.07	150.99
1931...	.02	.18	6.21	4.55	.50	12.41	15.21	.22	1.97	74.46	50.89	6.31	143.14
1932...	.02	.25	6.32	4.61	.59	12.73	15.71	.29	3.00	81.69	53.09	8.20	156.05
1933...	.03	.34	5.72	4.77	.60	12.59	15.51	.40	5.60	92.80	64.18	7.62	185.63
1934...	.09	.80	5.77	4.80	.61	13.16	16.16	1.25	12.28	82.68	70.90	9.73	189.43
URAL PROVINCE													
1928...	.01	5.00	2.16	4.03	.49	11.99	12.89	.11	74.27	30.37	64.41	9.25	181.36
1929...	.00	5.11	1.94	4.43	.57	12.54	13.76	.02	52.18	22.66	46.01	9.47	133.25
1930...	.00	5.61	2.35	4.30	.91	13.76	15.50	.03	63.98	31.62	57.86	14.82	173.27
1931...	.00	6.39	2.58	4.68	.71	15.40	17.64	.02	13.02	23.03	18.09	4.66	62.64
1932...	—	5.36	3.09	2.46	.90	14.98	18.04	—	40.72	45.87	21.61	6.58	130.51
1933...	.00	5.48	3.16	3.23	.79	14.65	16.51	.04	54.10	43.40	33.74	8.97	155.45
1934...	.01	5.64	3.30	3.64	.52	14.60	16.13	.04	79.66	43.04	56.92	8.54	199.64
BASHKIR ASSR													
1928...	.01	1.44	2.28	1.25	.03	6.04	6.49	.07	18.44	29.27	18.48	.45	77.59
1929...	.00	1.58	1.69	1.58	.03	6.10	6.65	.01	12.24	15.59	15.64	.28	53.09
1930...	.00	1.68	2.20	1.54	.03	6.51	7.25	.02	21.86	29.72	22.60	.31	86.10
1931...	—	2.36	2.27	1.85	.05	7.85	8.71	—	10.24	18.18	10.51	.23	46.36
1932...	—	2.30	2.56	1.28	.02	7.48	8.47	—	15.10	33.10	8.62	.15	65.72
1933...	.00	2.29	2.41	1.42	.02	7.54	8.22	.02	23.68	37.04	18.29	.30	90.68
1934...	.00	2.39	2.32	1.61	.03	7.56	8.35	.02	38.00	34.70	33.38	.54	119.21
TARTAR ASSR													
1928...	.00	.26	3.15	1.67	.03	6.22	6.72	.03	3.02	31.87	16.13	.51	62.82
1929...	.00	.28	2.70	1.56	.03	5.83	6.38	.01	2.67	22.10	15.63	.39	48.39
1930...	.00	.33	3.36	1.69	.03	6.62	7.17	.03	2.50	28.31	16.12	.32	56.89
1931...	—	.43	3.19	1.66	.03	6.77	7.75	—	3.22	39.03	12.08	.26	64.23
1932...	—	.63	3.18	1.25	.05	6.82	8.03	—	5.78	49.09	9.28	.59	77.49
1933...	.01	.91	2.96	1.55	.06	7.18	7.99	.09	11.88	44.98	21.55	1.11	94.64
1934...	.03	1.08	3.01	1.49	.07	7.23	8.13	.49	18.57	37.92	26.91	1.42	101.21

^a Not including spring rye, data for which were not distributed by regions before 1932. The total area of spring rye (80 per cent in Siberian regions) fell from 1.3 to .9

million acres between 1928 and 1935; total production ranged from 15 to 11 million 60-pound bushels in this period.

^b Winter and spring.

TABLE I.—Continued

Year	Area (Million acres)							Production (Million 60-lb. units)						
	Winter wheat	Spring wheat	Winter rye*	Oats	Barley*	All grains	All crops	Winter wheat	Spring wheat	Winter rye*	Oats	Barley*	All grains	
MIDDLE VOLGA REGION														
1928...	.00	4.81	6.18	2.80	.14	16.38	18.33	.22	63.89	69.42	34.99	2.03	194.28	
1929...	.01	5.10	5.78	3.03	.17	16.53	18.45	.10	26.25	61.46	26.47	.45	125.02	
1930...	.01	6.11	6.71	3.13	.06	18.82	21.19	.05	60.26	54.88	19.43	.40	157.54	
1931...	.01	7.54	6.33	3.13	.09	20.49	24.41	.07	25.90	59.59	20.02	.16	122.39	
1932...	.03	6.98	6.57	2.83	.16	20.00	25.34	.30	39.05	81.12	20.85	.79	166.56	
1933...	.29	6.83	5.71	3.00	.18	19.70	23.54	2.73	54.39	68.01	40.85	1.15	200.75	
1934...	.45	7.07	5.58	3.39	.16	20.52	24.10	4.54	97.94	62.24	51.22	2.35	259.77	
CENTRAL BLACKSOIL REGION														
1928...	.45	.75	8.30	4.34	.38	19.16	24.64	5.93	6.42	96.42	62.15	4.16	215.92	
1929...	.38	.77	8.85	4.60	.38	19.84	25.26	5.69	10.33	124.51	66.99	5.44	258.77	
1930...	.70	1.11	9.04	4.88	.42	20.88	26.55	11.28	13.28	110.24	77.45	5.94	270.90	
1931...	.96	1.06	8.80	4.11	.40	19.93	27.14	14.04	7.34	138.31	38.26	3.83	243.77	
1932...	1.48	1.03	7.92	3.73	.43	19.80	27.23	17.63	10.86	115.37	44.30	5.74	259.91	
1933...	1.50	.93	7.77	3.36	.45	19.79	26.39	22.20	11.88	121.94	40.20	6.45	273.21	
1934...	1.60	1.23	7.25	3.53	.63	20.47	26.50	21.54	14.89	97.55	56.24	7.38	262.31	
LOWER VOLGA REGION														
1928...	.06	5.70	4.65	1.06	.47	13.63	15.81	.41	61.86	43.49	14.06	4.92	138.76	
1929...	.08	6.57	4.59	1.27	.58	14.69	16.79	.52	50.03	43.41	15.47	4.08	120.03	
1930...	.10	7.87	5.32	1.43	.40	17.05	19.16	.81	70.55	37.39	20.99	3.43	144.79	
1931...	.20	9.22	5.17	1.45	.42	19.06	22.69	1.39	45.06	40.73	7.80	1.70	104.91	
1932...	.44	9.00	5.27	1.17	.47	18.79	22.95	3.15	46.83	46.27	8.03	2.07	119.01	
1933...	.52	8.17	5.18	1.09	.53	18.42	21.11	3.60	71.86	36.67	13.93	6.22	154.49	
1934...	.36	8.04	4.69	1.30	.70	17.90	20.34	2.64	66.50	29.85	18.48	7.46	142.27	
NORTH CAUCASUS														
1928...	5.44	4.50	1.05	.45	2.22	18.11	23.56	50.85	43.44	6.91	7.48	27.05	188.41	
1929...	6.63	5.05	1.36	.78	2.94	20.63	26.06	59.41	47.71	9.58	8.70	28.82	199.91	
1930...	7.90	5.52	1.76	.84	2.67	22.91	29.33	111.74	51.76	12.17	10.23	29.09	246.12	
1931...	7.72	5.21	1.89	.99	2.11	22.59	30.50	97.13	39.40	15.13	10.45	21.89	263.74	
1932...	7.16	5.33	1.98	.85	2.31	22.56	31.29	58.09	39.09	18.95	7.76	21.13	215.47	
1933...	5.84	4.22	2.22	1.13	2.58	22.11	28.17	73.77	43.98	23.20	15.14	44.94	297.83	
1934...	5.59	3.69	1.99	1.15	3.89	22.47	27.98	79.41	28.03	16.93	14.90	38.09	271.54	
CRIMEAN ASSR														
1928...	.99	.00	.01	.24	.29	1.62	1.74	7.48	.00	.04	1.53	2.26	11.50	
1929...	.86	.00	.01	.28	.39	1.65	1.78	9.34	.02	.09	3.31	4.13	17.84	
1930...	1.02	.00	.01	.27	.53	1.95	2.14	9.33	.01	.08	1.45	1.63	12.92	
1931...	1.31	—	.03	.18	.38	2.04	2.36	16.70	—	.28	1.17	2.79	21.96	
1932...	1.16	—	.05	.13	.45	2.01	2.35	14.20	—	.49	1.30	4.37	22.68	
1933...	1.11	—	.07	.14	.50	2.06	2.36	17.01	—	.71	2.06	8.74	31.06	
1934...	1.16	—	.01	.14	.56	2.29	2.63	13.64	—	.07	1.43	5.39	22.13	
KAZAK AND KARA-KALPAK ASSR														
1928...	.50	6.49	.18	1.08	.35	9.86	11.06	6.95	86.86	2.03	16.74	5.10	134.84	
1929...	.44	6.96	.09	1.16	.42	10.62	11.90	4.73	46.21	.45	7.26	2.98	74.42	
1930...	.68	6.27	.12	.73	.28	9.86	11.46	8.02	54.01	1.05	7.73	2.86	90.38	
1931...	.53	7.73	.29	.97	.35	12.51	15.08	5.18	44.97	2.76	6.51	2.82	80.77	
1932...	.65	6.34	.43	.69	.32	11.55	14.15	6.78	46.25	4.12	5.98	2.94	87.87	
1933...	.41	5.66	.61	.82	.34	11.30	13.03	3.31	45.65	4.23	7.01	2.76	76.05	
1934...	.43	6.67	.58	1.07	.38	11.29	12.88	6.23	108.54	4.84	18.27	6.01	163.71	

* Not including spring rye, data for which were not distributed by regions before 1932. The total area of spring rye (80 per cent in Siberian regions) fell from 1.3 to .9

million acres between 1928 and 1935; total production ranged from 15 to 11 million 60-pound bushels in this period.

* Winter and spring.

SOVIET AGRICULTURAL REORGANIZATION

TABLE I.—Continued

Year	Area (Million acres)							Production (Million 60-lb. units)					
	Winter wheat	Spring wheat	Winter rye ^a	Oats	Barley ^b	All grains	All crops	Winter wheat	Spring wheat	Winter rye ^a	Oats	Barley ^b	All grains
KIRGHIZ ASSR													
1928	.15	.72	.00	.08	.17	1.33	1.67	2.24	8.36	.04	1.52	2.48	18.09
1929..	.21	.81	.00	.12	.21	1.56	1.88	2.94	11.10	.02	2.00	3.04	22.93
1930..	.18	.94	.01	.13	.22	1.56	2.00	2.02	9.74	.08	1.66	2.82	17.50
1931	.21	1.08	—	.14	.30	1.88	2.48	3.15	14.48	—	2.24	4.11	26.60
1932..	.19	1.00	—	.18	.35	1.89	2.56	2.06	9.56	—	2.36	4.00	20.25
1933..	.21	.98	—	.16	.35	1.93	2.42	2.44	10.91	—	2.21	4.17	23.21
1934	.23	.96	—	.17	.34	1.89	2.30	4.13	14.64	—	2.69	5.02	29.69
WESTERN SIBERIA													
1928.	.03	10.78	1.54	4.66	.37	17.89	19.37	.54 ^c	152.52 ^c	32.54 ^c	77.63 ^c	6.31 ^c	283.70 ^c
1929..	.02	12.00	1.55	4.80	.37	19.49	21.48	.26	105.13	30.33	45.11	3.42	152.08
1930.	.03	8.75	1.85	2.54	.22	14.63	16.88	.35	112.58	23.91	43.30	2.64	199.01
1931	—	10.63	1.32	3.34	.31	17.40	19.71	—	60.59	14.91	30.63	1.44	117.55
1932	—	9.11	1.07	2.99	.23	14.80	17.53	—	82.69	16.38	39.17	2.36	153.53
1933	.00	10.57	1.38	3.82	.25	17.53	19.92	.07	141.39	24.65	60.17	3.27	244.85
1934	.01	12.21	1.57	4.58	.32	20.00	22.37	.13	190.07	26.47	82.95	5.77	316.53
EASTERN SIBERIA													
1928	.00	1.53	.64	.94	.11	4.22	4.61	—	—	—	—	—	—
1929	.00	1.52	.62	.93	.11	4.17	4.53	—	2.05	.58	1.68	.17	8.94
1930.	—	1.40	.71	.81	.14	3.92	4.41	—	23.89	10.46	14.32	2.42	62.81
1931.	—	1.60	.60	1.08	.21	4.56	5.02	—	22.63	9.38	17.16	3.01	63.25
1932.	—	1.52	.65	1.25	.28	4.70	5.17	—	23.48	9.18	14.26	3.65	59.94
1933.	.00	1.52	.56	1.17	.29	4.47	4.80	.01	22.60	8.62	16.67	4.07	61.99
1934	—	1.76	.63	1.41	.30	4.96	5.34	—	31.30	12.37	23.86	4.86	82.89
IRKUTSK ASSR													
1928..	—	—	—	—	—	—	—	—	—	—	—	—	—
1929..	—	—	—	—	—	—	—	—	—	—	—	—	—
1930..	—	.01	—	.01	.04	.06	.10	—	.17	—	.13	.62	1.09
1931...	—	.03	—	.02	.03	.12	.13	—	.37	—	.26	.48	1.68
1932...	—	.04	—	.02	.04	.16	.17	—	.50	—	.27	.59	1.97
1933...	—	.04	.01	.02	.05	.18	.19	—	.48	.03	.24	.58	2.06
1934...	—	.04	.01	.02	.05	.20	.20	—	.34	.03	.18	.39	1.39
FAR EAST REGION													
1928..	—	1.10	.14	.86	.04	2.51	2.88	—	12.93	1.31	10.70	.49	31.84
1929...	.01	.89	.11	.76	.05	2.15	2.54	.06	13.16	.96	13.46	.96	37.16
1930...	—	.76	.09	.54	.04	1.78	2.14	—	6.80	.85	6.57	.39	18.65
1931.	—	.81	.08	.65	.05	1.91	2.40	—	6.91	.98	6.54	.43	18.05
1932..	—	.99	.13	.59	.06	1.95	2.35	—	9.13	1.25	6.23	.51	18.93
1933..	—	.98	.07	.72	.04	2.03	2.43	—	10.19	.50	8.59	.42	22.32
1934..	—	.92	.08	.72	.03	2.00	2.46	—	11.07	.83	10.21	.34	25.63
UKRAINIAN SSR													
1928...	3.96	7.75	8.81	5.53	9.17	48.58	61.60	51.20	71.60	105.26	79.78	53.71	510.20
1929...	3.80	7.83	10.77	6.29	9.87	49.88	63.12	57.57	94.69	148.90	99.80	150.03	687.17
1930...	10.13	8.29	13.93	5.77	8.32	55.13	70.09	173.04	90.47	236.95	99.04	130.35	835.02
1931..	13.17	5.80	12.44	4.67	7.43	52.13	71.39	192.22	45.06	161.35	51.90	90.55	674.09
1932..	14.19	2.98	9.54	3.86	6.19	44.79	65.33	180.37	25.56	113.67	43.61	76.30	538.55
1933...	13.48	3.03	11.17	4.42	6.44	49.08	65.15	262.80	46.24	172.80	73.26	126.55	819.25
1934...	12.41	3.66	9.26	4.72	7.87	49.91	64.31	114.00	30.98	90.37	51.06	75.98	453.23

^a Not including spring rye, data for which were not distributed by regions before 1932. The total area of spring rye (80 per cent in Siberian regions) fell from 1.3 to .9

million acres between 1928 and 1935; total production ranged from 15 to 11 million 60-pound bushels in this period.

^b Winter and spring.

^c Includes Eastern Siberia.

TABLE I.—Concluded

Year	Area (Million ac.r.s)							Production (Million 60-lb. units)					
	Winter wheat	Spring wheat	Winter rye ^a	Oats	Barley ^b	All grains	All crops	Winter wheat	Spring wheat	Winter rye ^a	Oats	Barley ^b	All grains
WHITE RUSSIAN SSR													
1928..	.07	.16	3.12	1.42	.64	6.22	8.40	1.00	2.01	32.22	16.71	7.32	65.01
1929...	.07	.18	3.14	1.57	.62	6.28	8.62	.93	2.05	33.62	19.68	7.44	69.56
1930...	.07	.18	3.22	1.68	.59	6.35	8.95	.98	1.86	37.28	20.17	5.92	72.04
1931...	.08	.10	3.38	1.50	.65	6.44	9.50	.86	1.07	30.84	16.18	7.27	62.05
1932...	.07	.20	3.24	1.52	.74	6.49	9.84	.68	2.18	30.20	15.09	7.93	62.23
1933...	.08	.23	2.82	1.33	.78	6.14	9.33	1.25	3.30	39.72	17.23	12.15	83.45
1934...	.15	.34	2.94	1.46	.78	6.47	9.54	2.16	4.96	39.68	20.29	12.31	87.82
TRANSCAUCASIAN SFSR													
1928...	2.09	.43	.01	.01	.87	4.69	5.28	27.34	4.98	.06	.09	13.21	67.02
1929...	2.20	.45	.01	.01	.89	4.90	5.55	29.80	5.00	.10	.15	13.57	62.98
1930...	2.37	.47	.03	.01	.98	5.18	6.11	29.75	5.67	.32	.14	13.87	70.73
1931...	2.21	.46	—	.01	.98	4.79	6.10	27.56	5.24	—	.20	13.38	61.21
1932...	2.14	.57	.01	.02	1.08	5.07	6.39	20.09	3.75	.03	.21	10.57	49.47
1933...	1.85	.50	.01	.03	1.04	4.74	5.86	24.49	5.27	.05	.43	14.08	63.62
1934...	1.93	.52	.01	.04	1.10	4.92	6.13	26.73	5.29	.13	.41	15.14	68.61
UZBEK SSR													
1928...	.81	.79	—	.00	.30	2.45	4.37	18.18 ^d	16.07 ^d	—	.03 ^d	6.31 ^d	54.48 ^d
1929...	.75	.98	—	—	.36	2.58	4.67	15.85 ^d	16.50 ^d	—	—	6.59 ^d	51.50 ^d
1930...	1.04	1.49	—	—	.32	3.27	6.42	11.44	10.94	—	—	2.80	31.41
1931...	.61	1.41	—	—	.31	2.64	6.28	6.17	12.93	—	—	3.03	28.75
1932...	.61	1.31	—	—	.61	2.67	5.98	4.28	9.16	—	—	5.20	22.25
1933...	.65	1.60	—	—	.58	3.14	6.06	4.82	10.71	—	—	4.15	27.29
1934...	.59	1.59	—	—	.58	3.14	6.02	9.80	22.18	—	—	9.77	51.16
TURKMEN SSR													
1928...	.23	.10	—	—	.03	.44	.82	—	—	—	—	—	—
1929...	.25	.11	—	—	.03	.46	.88	—	—	—	—	—	—
1930...	.24	.14	—	—	.07	.46	1.05	3.41	2.45	—	—	1.15	7.27
1931...	.18	.12	—	—	.03	.39	1.04	3.10	2.26	—	—	.54	6.86
1932...	.19	.15	—	—	.06	.45	1.05	2.48	1.48	—	—	.72	5.73
1933...	.14	.12	—	—	.08	.37	.90	1.83	1.49	—	—	1.08	4.87
1934...	.17	.13	—	—	.08	.42	.95	2.94	2.14	—	—	1.42	7.41
TADZHIK SSR													
1928...	.28	.52	—	—	.18	1.06	1.35	—	—	—	—	—	—
1929...	.27	.59	—	—	.23	1.15	1.49	—	—	—	—	—	—
1930...	.07	1.14	—	—	.36	1.58	2.21	.84	13.71	—	—	4.87	19.89
1931...	.51	.72	—	—	.36	1.62	2.17	6.80	9.48	—	—	5.26	22.24
1932...	.51	.65	—	—	.24	1.42	1.92	5.00	6.41	—	—	2.43	14.08
1933...	.17	.58	—	—	.27	1.10	1.55	2.28	6.02	—	—	3.15	12.86
1934...	.17	.58	—	—	.23	1.06	1.46	3.05	8.01	—	—	3.54	15.90

^a Not including spring rye, data for which were not distributed by regions before 1932. The total area of spring rye (80 per cent in Siberian regions) fell from 1.3 to .9

million acres between 1928 and 1935; total production ranged from 15 to 11 million 60-pound bushels in this period.

^b Winter and spring. ^d Includes Turkmen and Tadzhik.

TABLE II.—ACREAGE OF THE PRINCIPAL GRAINS IN THE USSR, BY REGIONS, 1934-35*
(Million acres)

Region	Year	Winter wheat	Spring wheat	Total wheat	Winter rye ^a	Oats	Barley ^b	Corn	Other grains ^c	All grains	All crops
<i>USSR</i>	1934.....	26.66	60.44	87.10	58.47	44.51	20.96	9.09	38.53	258.66	324.87
	1935.....	30.78	60.79	91.57	57.13	45.27	21.60	8.00	32.03	255.60	328.10
<i>RSFSR</i>	1934.....	11.24	53.62	64.86	46.26	38.29	10.32	4.70	28.31	192.74	236.45
	1935.....	13.12	54.76	67.88	45.36	39.34	11.09	4.18	23.83	191.68	239.82
Northern	1934.....	.01	.15	.16	.70	.88	.47	—	.13	2.34	3.01
	1935.....	.02	.22	.24	.74	.86	.46	—	.14	2.44	3.19
Karelian	1934.....	—	.00	.00	.04	.05	.02	—	.00	.11	.15
	1935.....	.00	.00	.00	.04	.04	.02	—	.01	.11	.15
Leningrad	1934.....	.16	.17	.33	.98	1.09	.33	—	.28	3.01	4.78
	1935.....	.22	.26	.48	.95	1.06	.30	—	.31	3.10	5.04
Western	1934.....	.14	.21	.35	2.48	1.69	.40	—	.83	5.75	8.81
	1935.....	.17	.33	.50	2.40	1.66	.41	—	.77	5.74	9.02
Moscow	1934.....	.51	.26	.77	2.90	2.94	.02	—	1.48	8.11	12.07
	1935.....	.61	.52	1.13	2.62	2.67	.03	—	1.33	7.78	12.04
Kalinin	1934.....	.14	.10	.24	1.19	1.21	.31	—	.23	3.18	5.57
	1935.....	.19	.17	.36	1.18	1.25	.32	—	.27	3.38	5.82
Ivanov	1934.....	.32	.22	.54	1.20	1.42	.18	—	.35	3.69	5.99
	1935.....	.36	.33	.69	1.24	1.40	.18	—	.36	3.87	6.30
Gorki	1934.....	.07	.52	.59	2.86	2.15	.08	—	.83	6.51	8.18
	1935.....	.13	.68	.81	2.79	2.04	.08	—	.79	6.51	8.38
Kirov	1934.....	.03	.39	.42	3.11	2.78	.54	—	.37	7.22	8.59
	1935.....	.05	.60	.65	3.06	2.56	.55	—	.32	7.14	8.73
Sverdlovsk	1934.....	.00	.94	.94	1.52	1.68	.37	—	.50	5.01	5.84
	1935.....	.00	1.04	1.04	1.54	1.73	.38	—	.50	5.19	6.09
Cheliabinsk	1934.....	.00	3.75	3.75	1.15	1.37	.08	—	.70	7.05	7.56
	1935.....	.00	3.64	3.64	1.07	1.70	.10	—	.55	7.06	7.70
Bashkir	1934.....	.00	2.36	2.36	2.31	1.60	.03	—	1.21	7.51	8.29
	1935.....	.01	2.43	2.44	2.10	1.62	.04	—	1.08	7.28	8.25
Tartar	1934.....	.03	1.08	1.11	3.01	1.49	.07	—	1.55	7.23	8.13
	1935.....	.06	1.18	1.24	2.77	1.48	.07	—	1.33	6.89	8.03
Kuibyshev	1934.....	.40	3.54	3.94	4.10	2.71	.04	.00	3.20	13.99	16.78
	1935.....	.35	3.69	4.04	3.94	2.55	.09	.00	2.54	13.16	16.08
Orenburg	1934.....	.05	3.81	3.86	1.56	.72	.12	.01	.77	7.04	7.85
	1935.....	.02	3.82	3.84	1.50	.83	.18	.01	.59	6.95	7.78
Voronezh	1934.....	.90	1.05	1.95	4.17	1.94	.33	.10	3.48	11.97	15.50
	1935.....	1.05	1.25	2.30	4.02	1.99	.34	.15	2.72	11.52	15.44
Kursk	1934.....	.70	.18	.88	3.08	1.59	.31	.02	2.62	8.50	11.00
	1935.....	.76	.46	1.22	3.02	1.74	.42	.03	1.89	8.32	10.99
Saratov	1934.....	.19	3.98	4.17	2.64	1.04	.34	.01	1.70	9.90	11.28
	1935.....	.16	4.14	4.30	2.79	1.09	.40	.04	1.56	10.18	11.78
Stalingrad	1934.....	.17	4.05	4.22	2.05	.26	.36	.06	1.05	8.00	9.19
	1935.....	.13	3.62	3.75	2.22	.43	.54	.08	.80	7.82	9.16

* Data from *Agriculture of the USSR, 1935*, Tables 986-87. Areas of winter crops exclude winterkilled acreage. Regions with names in roman type are subdivisions of regions immediately preceding with names in italic type.

^a See footnote a, Table I.

^b Winter and spring.

^c Mainly millets, buckwheat, and dry legumes.

TABLE II.—Continued

Region	Year	Winter wheat	Spring wheat	Total wheat	Winter rye*	Oats	Barley ^b	Corn	Other grains ^c	All grains	All crops
Azov-Black Sea	1934.....	3.09	3.60	6.69	1.79	.60	2.62	1.84	1.15	14.69	18.29
	1935.....	3.91	3.33	7.24	1.91	.65	2.54	1.69	.73	14.76	18.87
North Caucasus (new boundaries)	1934.....	2.50	.10	2.60	.19	.55	1.27	2.24	.92	7.77	9.73
	1935.....	3.06	.09	3.15	.18	.61	1.27	1.83	.66	7.70	9.86
Crimea	1934.....	1.16	—	1.16	.01	.14	.56	.27	.15	2.29	2.63
	1935.....	1.23	—	1.23	.01	.14	.55	.18	.08	2.19	2.58
Kazak	1934.....	.42	6.41	6.83	.51	1.04	.37	.05	1.96	10.76	12.14
	1935.....	.34	6.88	7.22	.47	1.27	.56	.06	1.92	11.50	12.91
Kara-Kalpak	1934.....	.01	.01	.02	—	—	.01	—	.05	.08	.27
	1935.....	.01	.02	.03	—	—	.01	—	.05	.09	.28
Kirghiz	1934.....	.23	.96	1.19	—	.17	.34	.08	.11	1.89	2.30
	1935.....	.27	.93	1.20	.01	.20	.41	.09	.09	2.00	2.46
Omsk	1934.....	.00	2.94	2.94	.70	1.20	.14	—	.42	5.40	6.05
	1935.....	.00	2.78	2.78	.73	1.36	.19	—	.32	5.38	6.16
Western Siberia	1934.....	.01	9.07	9.08	1.07	3.23	.20	—	.99	14.57	16.27
	1935.....	.01	8.41	8.42	1.15	3.42	.23	—	1.00	14.22	16.08
Krasnoïarsk	1934.....	.00	1.71	1.71	.50	1.11	.12	—	.20	3.64	3.96
	1935.....	—	1.69	1.69	.47	1.21	.13	—	.14	3.64	4.01
Eastern Siberia	1934.....	—	1.09	1.09	.35	.90	.21	—	.77	3.32	3.57
	1935.....	—	1.20	1.20	.37	.93	.21	—	.72	3.43	3.77
Iakutsk	1934.....	—	.05	.05	.01	.02	.05	—	.07	.20	.21
	1935.....	—	.06	.06	.01	.02	.05	—	.07	.21	.22
Far East	1934.....	—	.92	.92	.08	.72	.03	.02	.24	2.01	2.46
	1935.....	—	.99	.99	.06	.83	.03	.02	.19	2.12	2.65
Ukraine	1934.....	12.41	3.65	16.06	9.26	4.73	7.87	3.36	8.64	49.92	64.31
	1935.....	14.06	3.01	17.07	9.04	4.53	7.55	2.78	6.71	47.68	63.54
Kiev	1934.....	1.45	.04	1.49	1.83	1.13	.84	.08	1.57	6.94	9.27
	1935.....	1.44	.04	1.48	1.71	1.09	.83	.10	1.44	6.65	9.27
Chernigov	1934.....	.22	.11	.33	1.63	.64	.31	—	1.24	4.15	5.56
	1935.....	.26	.13	.39	1.56	.70	.32	—	1.03	4.00	5.54
Vinnitsa	1934.....	1.40	.01	1.41	1.15	.86	.91	.33	1.35	6.01	8.03
	1935.....	1.46	.01	1.47	1.20	.82	.87	.30	1.18	5.84	7.99
Kharkov	1934.....	1.30	1.14	2.44	2.08	.73	1.04	.35	1.68	8.32	10.91
	1935.....	1.75	.94	2.69	2.18	.73	1.04	.42	1.04	8.10	11.08
Dnepropetrovsk	1934.....	3.17	.82	3.99	.92	.50	1.83	1.10	1.06	9.40	11.42
	1935.....	3.87	.63	4.50	.89	.45	1.59	.74	.76	8.93	11.22
Odessa	1934.....	3.73	.37	4.10	.46	.45	1.77	.70	.89	8.37	10.40
	1935.....	3.97	.21	4.18	.37	.38	1.83	.63	.64	8.03	10.19
Donetsk	1934.....	.71	1.13	1.84	1.09	.38	1.00	.57	.82	5.70	7.42
	1935.....	.86	1.03	1.89	1.04	.32	.90	.38	.59	5.12	6.97
Moldavia	1934.....	.43	.03	.46	.10	.04	.17	.23	.03	1.03	1.31
	1935.....	.45	.02	.47	.09	.04	.17	.21	.03	1.01	1.28
White Russia	1934.....	.15	.34	.49	2.94	1.45	.78	—	.81	6.47	9.55
	1935.....	.16	.34	.50	2.70	1.36	.73	—	.74	6.03	9.48

* See footnote a, Table I.

* Winter and spring.

* Mainly millets, buckwheat, and dry legumes.

TABLE II.—*Concluded*

Region	Year	Winter wheat	Spring wheat	Total wheat	Winter rye ^a	Oats	Barley ^b	Corn	Other grains ^c	All grains	All crops
<i>Transcaucasia</i>	1934.....	1.93	.52	2.45	.01	.04	1.10	.99	.32	4.91	6.13
	1935.....	2.01	.51	2.52	.03	.04	1.15	.99	.34	5.07	6.31
Azerbaijan	1934....	1.09	.05	1.14	—	.02	.56	.02	.21	1.95	2.65
	1935.....	1.16	.06	1.22	.00	.02	.62	.02	.21	2.09	2.85
Georgia	1934.....	.61	.15	.76	.00	.01	.25	.97	.06	2.05	2.41 ^d
	1935.....	.61	.15	.76	.01	.01	.26	.97	.06	2.07	2.38
Armenia	1934.....	.23	.32	.55	.01	.01	.29	.00	.05	.91	1.07 ^e
	1935.....	.24	.30	.54	.02	.01	.27	.00	.07	.91	1.08
<i>Uzbek</i>	1934... ..	.60	1.59	2.19	—	—	.58	.04	.33	3.14	6.02
	1935.....	1.02	1.41	2.43	—	—	.72	.04	.26	3.45	6.30
Turkmen	1934.....	.17	.13	.30	—	—	.08	—	.04	.42	.94
	1935....	.19	.16	.35	—	—	.09	.00	.06	.50	1.01
<i>Tadzhik</i>	1934. ...	.17	.59	.76	—	—	.23	.01	.06	1.06	1.47
	1935. ...	.23	.60	.83	—	.00	.27	.01	.08	1.19	1.64

^a See footnote a, Table I.^b Winter and spring.^c Mainly millets, buckwheat, and dry legumes.

NOTE: *Grouping of administrative districts.*—The number and the boundaries of administrative subdivisions of the USSR have been changed in recent years. In Table I, we present data for 26 districts, 1928–34; in Table II, for 46 districts, 1934–35. In Table 5, p. 329, data for 5 “major areas” are given covering the whole period 1928–35. The following list shows how data by smaller districts were grouped in order to reach totals for “major areas” closely comparable over the whole period in spite of the changes in number and boundaries of districts. Names (a) in parentheses are of administrative districts specified in the 1928–34 statistics but not in the 1934–35 statistics; (b) in roman type, without parentheses, of districts specified in both sets of statistics; and (c) in italic type, of districts specified in statistics for 1934–35 but not 1928–34.

NORTHERN AND CENTRAL AREA: Northern, Karelian ASSR, Leningrad, Western, Moscow, *Kalinin*, Ivanov, Gorki, Kirov, Tartar ASSR, White Russian SSR. EASTERN AREA: (Ural), *Sverdlovsk*, *Cheliabinsk*, Bashkir ASSR, (Middle Volga), *Kuibyshev*, *Orenburg*, (Lower Volga), *Saratov*, *Stalingrad*, Kazak ASSR. SOUTHERN AREA: (Central Blacksoil), *Voronezh*, *Kursk*, North Caucasus, *Azov-Black Sea* (formerly part of North Caucasus), Crimean ASSR, Ukrainian SSR (divided into 8 districts in Table II, 1934–35). SIBERIA AND FAR EAST AREA: *Omsk*, Western Siberia, *Krasnoyarsk*, Eastern Siberia, *Iakutsk* ASSR, Far East. CENTRAL ASIATIC AND TRANSCAUCASIAN AREA: Kara-Kalpak ASSR, Kirghiz ASSR, Uzbek SSR, Turkmen SSR, Tadzhik SSR, Transcaucasian SFSR (divided into 3 districts in Table II, 1934–35).

WHEAT STUDIES of the FOOD RESEARCH INSTITUTE

VOLUME XI

- No. 1. *World Wheat Survey and Outlook, September 1934.* September 1934. \$.50
- No. 2. *Decline in Wheat-Flour Export during the Depression.* October 1934. \$.75
- No. 3. *Prices of Cash Wheat and Futures at Chicago since 1883.* November 1934. \$1.00
- No. 4. *The World Wheat Situation, 1933-34: A Review of the Crop Year.* December 1934. \$1.00
- No. 5. *World Wheat Survey and Outlook, January 1935.* January 1935. \$.50
- No. 6. *Starch and Flour Quality.* February 1935. \$.50
- No. 7. *Per Capita Wheat Consumption in Western Europe (I).* March 1935. \$1.00
- No. 8. *Spreads between Wheat Prices in England.* April 1935. \$.50
- No. 9. *World Wheat Survey and Outlook, May 1935.* May 1935. \$.50
- No. 10. *International Wheat Policy and Planning.* June 1935. \$.75

VOLUME XII

- No. 1. *World Wheat Survey and Outlook, September 1935.* September 1935. \$.50
- No. 2. *World Wheat Prices, Canadian-Argentine Spreads, and the Ottawa Agreement.* October 1935. \$.50
- No. 3. *Japanese Self-Sufficiency in Wheat.* November 1935. \$.75
- No. 4. *The World Wheat Situation, 1934-35: A Review of the Crop Year.* December 1935. \$1.00
- No. 5. *World Wheat Survey and Outlook, January 1936.* January 1936. \$.50
- No. 6. *The Stale-Bread Problem.* February 1936. \$.50
- No. 7. *Canadian Wheat Stabilization Operations, 1929-35.* March 1936. \$.50
- No. 8. *New Data on United States Flour Production since 1899.* April 1936. \$.75
- No. 9. *World Wheat Survey and Outlook, May 1936.* May 1936. \$.50
- No. 10. *World Wheat Utilization since 1885-36.* June 1936. \$1.00

VOLUME XIII

- No. 1. *World Wheat Survey and Outlook, September 1936.* September 1936. \$.60
- No. 2. *The Timing of Wheat Marketing in Western Canada.* October 1936. \$1.00
- No. 3. *Wheat Problems and Policies in Germany.* November 1936. \$1.25
- No. 4. *The World Wheat Situation, 1935-36: A Review of the Crop Year.* December 1936. \$1.25
- No. 5. *World Wheat Survey and Outlook, January 1937.* January 1937. \$.60
- No. 6. *World Wheat Acreage, Yields, and Climates,* March 1937. \$1.25
- No. 7. *Soviet Agricultural Reorganization and the Bread-Grain Situation.* April 1937. \$1.00

RECENT CONTRIBUTIONS FROM THE FOOD RESEARCH INSTITUTE

(Numbered reprints available free on request)

- G 72. "AAA as a Force in Recovery," Joseph S. Davis. *Journal of Farm Economics*, February 1935
- ✓G 73. "Planned Agricultural Adjustment in the United States, 1933-34," Joseph S. Davis. Chapter i in *Commodity Control in the Pacific Area*, edited by W. L. Holland (London, Allen and Unwin, 1935)
- ✓G 74. "Differential Price Behavior as a Subject for Commodity Price Analysis," Holbrook Working. *Econometrica*, October 1935
- ✓G 75. "Agricultural Fundamentalism," Joseph S. Davis. In *Economics, Sociology & the Modern World*, edited by Norman E. Himes (Cambridge, Harvard University Press, 1935)
- ✓G 76. "International Trade in the Recovery Program," Joseph S. Davis. *Proceedings of Western Farm Economics Association, 1936.* (Mimeographed)
- G 77. "On Measurement of Relative National Standards of Living," M. K. Bennett. *Quarterly Journal of Economics*, February 1937
- ✓G 78. "Statistics and Social Engineering," Joseph S. Davis. *Journal of the American Statistical Association*, March 1937
- G 79. Discussion of "Past and Present Theory regarding Futures Trading" (by G. Wright Hoffman), Holbrook Working. *Journal of Farm Economics*, February 1937

FOOD RESEARCH INSTITUTE

STANFORD UNIVERSITY, CALIFORNIA

A research department of Stanford University, established in 1921 jointly by Carnegie Corporation of New York and the Board of Trustees of the Leland Stanford Junior University, for research in the production, distribution, and consumption of food.

DIRECTORS

CARL L. ALSBERG
JOSEPH S. DAVIS

ECONOMISTS

MERRILL K. BENNETT
HOLBROOK WORKING

RESEARCH ASSOCIATES

HELEN C. FARNSWORTH
VLADIMIR P. TIMOSHENKO

DIRECTOR-EMERITUS

ALONZO E. TAYLOR

PUBLICATIONS

WHEAT STUDIES

Now published monthly from September through May except in February. Subscription, \$6.00. The volume includes a comprehensive annual review of *The World Wheat Situation*, three *Survey and Outlook* issues at four-month intervals, and four special studies. Bound Volumes I-XII, \$6.00 each. (Recent issues listed on inside back cover.)

GRAIN ECONOMICS SERIES

Books on topics in grain economics not suited to full discussion in *Wheat Studies*. Latest issue: V. P. Timoshenko, *Agricultural Russia and the Wheat Problem*, September 1932. 572 pp. \$3.00.

FATS AND OILS STUDIES

Books on fats and oils of animal and vegetable origin, dealing primarily with economic aspects—production, trade, prices, and utilization—but with due reference to technical knowledge. Latest issue: G. M. Weber and C. L. Alsberg, *The American Vegetable-Shortening Industry: Its Origin and Development to 1932*. June 1934. 359 pp. \$3.50.

MISCELLANEOUS PUBLICATIONS

Books embodying the results of research in fields other than those covered by the series listed above. Latest issue: E. F. Penrose, *Population Theories and Their Application, with Special Reference to Japan*. September 1934. 347 pp. \$3.50.

CONTRIBUTIONS

Reprints from periodicals of articles by members of the Food Research Institute.

List of publications available free on request. Address all communications to

FOOD RESEARCH INSTITUTE

STANFORD UNIVERSITY, CALIFORNIA

European Sales Agents:

Great Britain: P. S. KING & SON, LTD., 14, Great Smith Street, Westminster, S. W. 1, London
Continental Europe: MARTINUS NIJHOFF, 9 Lange Voorhout, The Hague, Holland