71ST CONGRESS } SENATE COMMITTEE PRINT
FIRST SESSION }

FLAXSEED

REPORT

OF

THE UNITED STATES TARIFF COMMISSION

TO

THE PRESIDENT OF THE UNITED STATES

DIFFERENCES IN COSTS OF PRODUCTION OF FLAXSEED IN THE UNITED STATES AND IN THE PRINCIPAL COMPETING COUNTRY AS ASCERTAINED PURSUANT TO THE PROVISIONS OF SECTION 315 OF TITLE III OF THE TARIFF ACT OF 1922

Printed for the use of the Committee on Finance

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1929

No. assigned at NA

COMMITTEE ON FINANCE

REED SMOOT, Utah, *Chairman.*

JAMES E. WATSON, Indiana.
DAVID A. REED, Pennsylvania.
SAMUEL M. SHORTRIDGE, California.
WALTER E. EDGE, New Jersey.
JAMES COUZENS, Michigan.
FRANK L. GREENE, Vermont.
CHARLES S. DENEEN, Illinois.
HENRY W. KEYES, New Hampshire.
HIRAM BINGHAM, Connecticut.
FREDERIC M. SACKETT, Kentucky.

FURNIFOLD McL. SIMMONS, North Carolina.
PAT HARRISON, Mississippi.
WILLIAM H. KING, Utah.
WALTER F. GEORGE, Georgia.
DAVID I. WALSH, Massachusetts.
ALBEN W. BARKLEY, Kentucky.
ELMER THOMAS, Oklahoma.
TOM CONNALLY, Texas.

ISAAC M. STEWART, *Clerk*

CONTENTS

I. TEXT

II. Tables

SECTION II.—STATISTICAL APPENDIX

I. TEXT

II. TABLES

III. Charts

LETTER OF TRANSMITTAL

MAY 2, 1929.

The PRESIDENT,
The White House.

MY DEAR MR. PRESIDENT: Herewith I have the honor to transmit the report of the Tariff Commission in the investigation, for the purposes of section 315 of the tariff act of 1922, of the costs of production in the United States and in the principal competing foreign country, of flaxseed.

Respectfully,

THOMAS O. MARVIN,
Chairman.

FLAXSEED

UNITED STATES TARIFF COMMISSION,
Washington, April 5, 1929.

To the PRESIDENT:

The United States Tariff Commission respectfully submits the following report upon the investigation of the differences in costs of production and other advantages and disadvantages in competition, of flaxseed in the United States and in the principal competing country, for the purposes of section 315 of Title III of the tariff act of 1922.

INTRODUCTION

Reference to files.—The documentary and statistical material upon which this report is based is in the files of the commission and available to the President. It comprises the original cost schedules and other basic data, the papers and reports of different stages of the investigation, and a transcript of the public hearing. Included in the basic material are matters of a confidential nature, the disclosure of which is forbidden by section 708 of the revenue act of 1916, the pertinent provisions of which are as follows:

SEC. 708. It shall be unlawful for any member of the United States Tariff Commission, or for any employee, agent, or clerk of said commission, or any other officer or employee of the United States, to divulge, or to make known in any manner whatever not provided for by law, to any person, the trade secrets or processes of any person, firm, copartnership, corporation, or association embraced in any examination or investigation conducted by said commission, or by order of said commission, or by order of any member thereof.

Rates of duty.—Flaxseed has been dutiable under the last three general tariff acts and under the emergency tariff act of 1921, as follows:

Act	Par. No.	Rate	Average ad valorem equivalent for period of act
			Per cent
1922	760	40 cents per bushel of 56 pounds	[1] 20.47
1921	3	30 cents per bushel of 56 pounds	15.48
1913	212	20 cents per bushel of 56 pounds	8.81
1909	266	25 cents per bushel of 56 pounds	13.66

[1] Includes period from Sept. 22, 1922, to June 30, 1928.

History of the investigation.—On August 4, 1926, the Tariff Commission instituted an investigation of flaxseed for the purposes of section 315 of the tariff act of 1922. Applications for such an investigation had been filed in the following order: On December 4, 1923, from Senator Edwin F. Ladd, North Dakota, and from Representative George M. Young, North Dakota. On March 11, 1926, from

Harrison Garnet, St. Thomas, N. Dak. On March 24, 1926, from the Farmers' Grain Dealers' Association of North Dakota. And on May 15, 1926, from Senator Lynn J. Frazier of North Dakota.

In the field study, begun November 30, 1926, and completed January 20, 1927, cost data from the crop of 1925 were obtained from 285 flaxseed producers and 41 elevators, and from 324 flaxseed producers and 41 elevators for the crop of 1926. The records were taken in the principal flaxseed producing regions of Minnesota, North Dakota, South Dakota, and Montana.

It was not practicable to obtain cost data from the records of producers in Argentina, the principal source of imports. A study was made of invoices of imports of flaxseed from Argentina in 1925, 1926, and 1927. Information concerning the flaxseed industry in Argentina was also obtained from other available sources.

Public notice of the institution of the investigation was given in the usual form by posting in the Washington and New York offices of the commission, and by publication in Treasury Decisions and Commerce Reports. After public notice had been given as prescribed by law, and a preliminary statement of information based upon data obtained in the investigation had been distributed to interested parties, a public hearing was held at the office of the commission at Washington, on December 5 and 6, 1928. Testimony was presented by the chairman and other members of a special committee from North Dakota appointed by flaxseed producers to analyze the commission's preliminary statement, by the Commissioner of Agriculture of Minnesota, by representatives of the American Farm Bureau Federation, and by representatives of the Agricultural Colleges of South Dakota and Montana.

INFORMATION OBTAINED IN THE COMMISSION'S INVESTIGATION

Flax is grown for seed and fiber. When grown for fiber a distinct variety is planted. The world's acreage of flax was about 19,000,000 acres in 1924, of which 1,000,000 acres were harvested for fiber, producing about 460,000 tons. Russia, Poland, Belgium, Lithuania, Latvia, Czechoslovakia, Esthonia, the Netherlands, Japan, and Ireland are the principal producing countries. About 7,000 acres were devoted to fiber flax in the United States in 1924, principally in Minnesota, Wisconsin, Michigan, and Oregon, while more than 3,000,000 acres were sown to seed flax. Flax straw is utilized to a limited extent in flaxseed-producing areas, particularly in Minnesota, in the production of rugs, matting, toweling, insulating boards, and building paper.

USES OF FLAXSEED

In the United States flax is grown almost entirely for the seed, which is used in making linseed oil. The seed usually yields from 30 to 35 per cent of its weight in oil. About 65 per cent of the linseed oil produced goes into paints and varnishes; the remainder is consumed in the manufacture of linoleum, waterproofing materials, rubber substitutes, printers' inks, and soap.

Linseed cake and linseed meal, obtained in the crushing of flaxseed, are valuable cattle feeds and are in general demand by dairy farmers. Substantial quantities of linseed cake made of imported flaxseed are exported, with benefit of the drawback.

PRODUCTION

WORLD PRODUCTION AND TRADE

The average annual world production of flaxseed during the five-year period, 1923–1927, is estimated at 143,108,000 bushels, of which the United States produced 16.4 per cent. Argentina, the country of greatest production, produced 45.9 per cent, almost three times as much as the United States, and exported over 80 per cent of her crop. The United States has exported no flaxseed since 1922.

Table 1 gives statistics of production and exports for the seven principal flaxseed producing countries.

TABLE 1.—*Flaxseed: Annual production and 5-year average of production and exports, by countries, 1923–1927*

[Source: Yearbook of the Department of Agriculture, International Crop Reporter, and International Yearbook of Agricultural Statistics]

Country	Production						Exports, 5-year average
	1923	1924	1925	1926	1927	5-year average	
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*
Argentina	58,005,000	45,084,000	75,079,000	69,092,000	81,217,000	65,695,000	54,146,000
Union of Socialist Soviet Republics	13,389,000	16,508,000	23,731,000	20,472,000	23,621,000	19,544,000	[1] 1,097,000
United States	17,000,000	31,547,000	22,424,000	19,338,000	26,583,000	23,390,000	[2]
India (British)	18,480,000	18,520,000	20,040,000	16,080,000	16,280,000	17,880,000	11,696,000
Canada	7,140,000	9,695,000	9,297,000	5,995,000	4,885,000	7,402,000	3,262,000
Lithuania	1,056,000	1,332,000	1,655,000	1,576,000	1,561,000	1,436,000	786,000
Latvia	647,000	980,000	1,099,000	971,000	655,000	871,000	490,000
Other countries	6,723,000	4,701,000	7,780,000	7,533,000	7,487,000	6,857,000	3,262,000
World production	122,500,000	128,591,000	161,105,000	141,054,000	162,289,000	143,108,000	

[1] Average of 1923, 1924, and 1925. [2] No exports since 1922.

Argentina, British India, and Canada are the principal exporting countries; the United States, Great Britain, the Netherlands, and Germany are the principal importing countries.

Table 2 shows the imports and exports of the principal flaxseed-producing countries.

TABLE 2.—*Flaxseed: Imports and exports of principal producing countries, 1925–1927*

[Source: For United States, Commerce and Navigation, Department of Commerce; for other countries, International Institute of Agriculture, International Crop Reporter, and Yearbook of Agricultural Statistics]

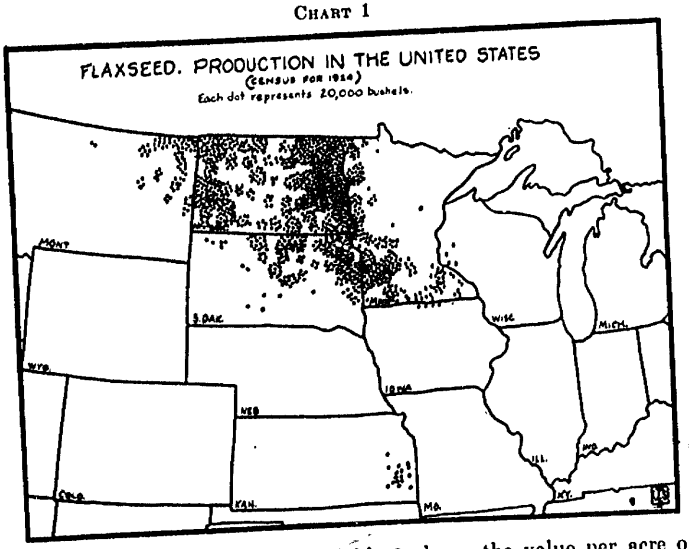
Country	1925		1926		1927	
	Imports	Exports	Imports	Exports	Imports	Exports
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*
Principal importing countries:						
United States	16,310,000		22,316,000		22,008,000	
United Kingdom	13,638,000		14,431,000		14,100,000	
The Netherlands	10,220,000		11,976,000		12,811,000	
Germany	9,870,000		12,546,000		15,716,000	
Principal exporting countries:						
Argentina		41,160,000		64,529,000		73,552,000
India		14,019,000		7,338,000		8,531,000
Canada		5,504,000		2,653,000		2,185,000

DOMESTIC PRODUCTION [1]

The flaxseed-producing area.—Flax culture in the United States is largely confined to the North Central States—Minnesota, the Dakotas, and northeastern Montana. Within this area, which closely coincides with the spring-wheat belt, about 97 per cent of the domestic crop is grown. North Dakota produces approximately 44 per cent; Minnesota, 30 per cent; South Dakota, 17 per cent; Montana, 6 per cent; and the remaining 3 per cent is produced in scattered areas of Wisconsin, Iowa, Kansas, Missouri, Nebraska, Colorado, and Wyoming.

Chart 1 shows graphically the producing area in the United States.

CHART 1



Comparative value per acre.—Table 3 shows the value per acre of flaxseed, compared with wheat, barley, and oats in Minnesota, North Dakota, South Dakota, and Montana, for 1925 to 1927.

TABLE 3.—*Flaxseed: Value of production per acre of principal grain crops in Minnesota, North Dakota, South Dakota, and Montana, 1925–1927* [2]

	1925				1926				1927			
	Flax	Wheat	Barley	Oats	Flax	Wheat	Barley	Oats	Flax	Wheat	Barley	Oats
Minnesota	$23.00	$18.36	$15.60	$13.02	$18.52	$15.87	$12.75	$9.69	$18.62	$12.98	$19.50	$10.72
North Dakota	14.69	15.33	9.68	7.29	10.62	9.44	6.58	5.61	15.09	13.21	15.04	7.52
South Dakota	15.30	15.10	12.22	9.52	11.02	7.20	5.25	4.21	18.50	15.79	17.40	10.55
Montana	9.90	15.01	15.12	11.92	7.77	14.00	15.36	13.78	17.85	19.97	19.80	17.60

[2] Sources: Yearbook of U. S. Department of Agriculture for 1927. Table 91, p. 810; Table 4, p. 742; Table 80, p. 801; Table 67, p. 791; computed by multiplying price by the yield per acre.

[1] Source: Farmers' Bulletins, Nos. 669, 785, and 1328, Dept. of Agriculture. North Dakota Agr. Exp. Sta., Bull. No. 178.

Acreage and production.—During the 5-year period, 1923–1927, the average acreage in flax increased 50 per cent over the average for the previous 5-year period, 1918–1922, and production of flaxseed increased 42 per cent. The acreage under cultivation in 1927 increased nearly 45 per cent over the acreage in 1923, and production increased by more than 55 per cent. In 1924, when 3,505,000 acres were planted, the yield was 31,711,000 bushels, the largest crop ever harvested in the United States. In subsequent years somewhat smaller acreages were under cultivation and production decreased more than 25 per cent. The average yield per acre for Minnesota, North Dakota, South Dakota, and Montana for 1925 and 1926, was less than the average yield for the 5-year period, 1923–1927. The average yield per acre from 1923 to 1927 ranged from 6.7 bushels to 9.1 bushels in 1927, the average for the five years being 8.1 bushels.

Table 4 shows the acreage planted in flax, the production of flaxseed, and the yield per acre in the country as a whole and in each of the principal producing States.

TABLE 4.—*Flaxseed: Acreage and production in the United States, 1923–1927*[1]

State	1923	1924	1925	1926	1927	5-year average, 1923–1927
ACREAGE	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*	*Acres*
Minnesota	527,000	712,000	750,000	814,000	757,000	710,000
North Dakota	1,050,000	1,873,000	1,461,000	1,380,000	1,242,000	1,401,000
South Dakota	284,000	584,000	559,000	475,000	504,000	499,000
Montana	110,000	246,000	244,000	165,000	239,000	201,000
All others[2]	43,000	90,000	74,000	73,000	75,000	71,000
United States	2,014,000	3,505,000	3,078,000	2,907,000	2,907,000	2,882,000
YIELD PER ACRE	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*
Minnesota	10.0	11.4	10.0	9.4	9.7	10.0
North Dakota	7.7	8.5	6.5	5.5	8.2	7.3
South Dakota	8.5	8.9	6.8	5.8	10.0	7.9
Montana	8.2	8.7	4.5	4.2	10.2	7.2
All others[2]	9.0	7.3	8.8	8.8	9.0	8.5
United States	8.5	9.0	7.3	6.7	9.1	8.1
PRODUCTION						
Minnesota	5,270,000	8,117,000	7,400,000	7,652,000	7,343,000	7,156,000
North Dakota	8,085,000	15,920,000	9,496,000	7,590,000	10,184,000	10,255,000
South Dakota	2,414,000	4,877,000	3,801,000	2,755,000	5,040,000	3,957,000
Montana	902,000	2,140,000	1,098,000	693,000	2,438,000	1,454,000
All others[2]	389,000	657,000	629,000	645,000	678,000	600,000
United States	17,060,000	31,711,000	22,424,000	19,335,000	26,583,000	23,422,000

[1] Yearbook of U. S. Department of Agriculture, 1923–1925; Crops and Markets, 1925–1927.
[2] Includes Wisconsin, Iowa, Missouri, Nebraska, Wyoming, Colorado, and Kansas.

Important factors influencing production.—Flax thrives best on clay-loam soils where moderate temperature prevails, and where there is adequate rainfall, particularly in early summer. In Minnesota and eastern North and South Dakota sufficient rainfall can usually be depended upon each year for good yields of flaxseed, but elsewhere in the Dakotas and Montana there is often a wide variation in the amount of rainfall at the critical period of growth and maturity, which directly affects production.

The variety of seed flax grown influences production. The common practice heretofore was to plant flax strains developed from Euro-

pean stock, only on new breaking or virgin sod, since a disease known as "wilt" developed on flax where this crop was planted on old land in short rotations. This led to a study of disease-resistant varieties. A distinct advance in flax culture has been made since 1913, when wilt-resistant varieties were introduced. The United States Department of Agriculture and the North Dakota Agricultural Experiment Station have developed and tested new strains highly resistant to wilt. Through their efforts and through the experimental work of scientists elsewhere wilt-resistant varieties of seed are now available for commercial growing.

Consumption of flaxseed.—During the last 20 years there has been a great increase in the consumption of flaxseed. The quantity consumed in 1926–27 was 43,559,000 bushels as compared with 25,516,000 bushels in 1908–9. For the 3-year period 1911–12 to 1913–14 the proportion of total consumption supplied by domestic production was about 85 per cent; during the war period, 1914–15 to 1917–18, 50 per cent; and in 1926–27 only 45 per cent. In 1924–25, when production reached nearly thirty-two million bushels, the ratio of production to consumption was about 70 per cent. The quantity imported depends not only upon the domestic production but on the demand for linseed oil. Building activity is a fairly accurate barometer of the domestic demand.

Table 5 gives the domestic production, imports, exports, and consumption of flaxseed for the fiscal years 1908–9 to 1927–28, and the percentage of total consumption supplied by domestic production for this period.

TABLE 5.—*Flaxseed: Production, imports, exports, and consumption, fiscal years 1908–9 to 1927–28 (including seed equivalent of linseed oil imports)*

Crop year	Production	Imports [1]	Exports	Consumption of seed	Percentage of consumption of seed supplied by domestic production
	Bushels	*Bushels*	*Bushels*	*Bushels*	
1908–9	25,805,000	593,668	882,899	25,515,769	80
1909–10	19,699,000	5,002,496	65,193	24,636,303	55
1910–11	12,718,000	10,499,227	976	23,216,251	74
1911–12	19,370,000	6,841,806	4,323	26,207,483	84
1912–13	28,073,000	5,294,296	16,894	33,350,402	68
1913–14	17,853,000	8,653,235	305,546	26,200,689	56
1914–15	13,749,000	10,660,215	4,145	24,411,070	49
1915–16	14,030,000	14,679,233	2,614	28,706,618	54
1916–17	14,295,000	12,393,988	1,017	26,688,971	41
1917–18	9,164,000	13,366,529	21,481	22,509,048	61
1918–19	13,369,000	8,426,886	15,574	21,780,312	24
1919–20	7,256,000	23,391,934	24,044	30,623,890	40
1920–21	10,744,000	16,170,415	1,481	26,912,934	37
1921–22 [2]	8,029,000	13,632,073	2,267	21,658,806	29
1922–23 [2]	10,375,000	25,003,936	.....	35,380,936	47
1923–24	17,060,000	19,576,750	.....	36,636,750	70
1924–25	31,711,000	13,419,087	.....	45,130,087	54
1925–26	22,424,000	19,353,747	.....	41,777,747	44
1926–27	19,335,000	24,223,979	.....	43,558,979	59
1927–28	26,583,000	18,112,057	.....	44,695,057	

[1] General imports for fiscal year ended June 30.

[2] In 1921–22 the total consumption of seed including, the flaxseed equivalent of imports of linseed oil, was 30,515,000 bushels; in 1922–23, 38,250,000 bushels. In other years imports of linseed oil were negligible.

Farm practice in growing flaxseed in the United States.—Until recently flax was usually grown on virgin prairie sod, since such land is practically free from weeds. Flax is not a vigorous plant and does

not thrive among weeds, which often infest old land. Farmers are now growing flax successfully on old land by using wilt-resistant varieties, by early seeding, and by crop rotation. When this crop is grown in a rotation with legumes, such as field peas, soya beans, sweet clover, or red clover followed by corn, which is given clean cultivation, and finally by flax, such a rotation furnishes fertile soil, clean land, and a firm seed bed. This rotation does not greatly exhaust the soil and has produced better results in Minnesota than flax following wheat, oats, barley, rye, or buckwheat.

Preparing the land and seeding.—The preparation of land for flax is similar to that for grain. When weeds are troublesome, particularly the Russian thistle, disking is done early in the season and again just before seeding. Flax should be drilled in firm soil at the rate of 30 to 40 pounds per acre in regions of heavy rainfall and 20 to 25 pounds in regions of light annual rainfall. The planting season ranges from April 20 to June 5.

Harvesting.—Unless unusual conditions prevail, flax should be fully ripe when cut, as it will then dry quickly in the shock or bunch. Cutting is usually done with a grain binder. In dry land regions the header is often used. When cut with a binder and shocked or bunched, flax is often threshed from the shock. Unfavorable weather conditions often require extra labor in tearing apart the shocks, turning the bundles, and reshocking. When a header is used the flax is elevated into wagons, called header boxes, stacked, and later threshed from the stack.

Flaxseed is more generally sold at harvest time, the farmer retaining only a quantity sufficient for the next season's seed. It is hauled in wagon boxes to the elevator, where a sample is taken, the quantity of clean seed determined, and the farmer paid on the basis of clean seed. Dockage for extraneous matter, largely pigeon-grass seed, usually runs high, far exceeding that in wheat. It sometimes amounts to 30 per cent of the quantity coming from the thresher.

PRODUCTION IN ARGENTINA [2]

The flax-growing area.—The flaxseed region in Argentina is restricted to a fan-shaped belt, the narrow end of which is adjacent to Buenos Aires; it widens northward along the Parana River, to include the Province of Entre Rios, east of the river; the Province of Santa Fe; the northern part of the Province of Buenos Aires; and the southern district of Cordoba. A small area extends southwestward from Buenos Aires into the Pampas.

Soil and climate.—The heavy clay loam soils of the Parana River Valley, where there is an alluvial deposit of black earth with a light admixture of sand, are adapted for flax as well as for growing corn.

Unlike flax grown in the United States, Argentine corn and flaxseed are produced in the most humid sections of the grain-growing regions. The Parana Valley has a climate similar to, but more variable than, that of the Gulf States east of the Mississippi River in the United States. The dry season of one year may be the wet season of the next. Within the Parana Valley, for a distance of about 200 miles from the river, the annual precipitation is from 25 to 30 inches.

[2] Linseed in Argentina, report by the American Linseed Oil Co. Department of Agriculture Bulletin No. 1409. Trade Information Bulletin No. 366, Department of Commerce.

Land tenure.[3]—In the grain and flaxseed producing regions of Argentina about 33 per cent of the farm land in 1924–25 was operated by owners, 30 per cent by cash tenants, and 35 per cent by share tenants. Twenty-three per cent of the farmers in Argentina grow flax. In 1917, about 39 per cent of the farms and ranches in Buenos Aires, Santa Fe, and Cordoba had an average acreage of 248 acres (100.4 hectares) or more; 23.2 per cent of 494 acres (199.9 hectares) or more; and 16.9 per cent of 742 acres (300.2 hectares) or more. Many of the large stock farms are being divided into smaller units for producing grain and flaxseed.

Varieties of seed flax.—The wilt disease as known in the flax region in the United States is not prevalent in Argentina. Only in northern Santa Fe has the disease attacked the crop and the damage done there has had no appreciable effect on total production. Lina, Lineta, and Malabrigo are the varieties of seed grown in Argentina. Lina and Lineta are hybrid strains having an ancestry similar to the seed most used in the United States. Malabrigo, which originated in the Province of Santa Fe, has the reputation of withstanding drought successfully.

Flax cultural practices in Argentina.—Because of the great extent of the Argentine flaxseed area, north and south, and the consequent variations in climate, the growing season for the country as a whole is very long—from four to five months, or one and one-half to two months longer than in the United States. The time of planting and of harvesting depends, of course, on the region. In northern Santa Fe and northern Cordoba sowing is from the middle of May to the middle of June; in southern Santa Fe and southern Cordoba from early in June to the early part of July; in northern Buenos Aires from the middle of July to the middle of August or the second week in September.

Preparing the land and seeding.—Fields to be sown to wheat, oats, and flax are broken about the middle of March. In the flax-growing area of the Parana River Valley the soil is friable and easily worked, and the ground is prepared as thoroughly as in the United States. In central and southern Argentina horses are used as draft animals. In the grain region tractors of the smaller farm types are becoming more common.

From 50 to 60 pounds of seed per acre is the usual rate of seeding. When the plants are about 2 inches high smooth rollers are run over the field to pack the soil so that it will retain moisture. This packing of the soil also has a tendency to check the growth of the young plants.

Harvesting.—November and December are the months for harvesting flaxseed. Wheat, oats, barley, and rye are harvested at the same time, making this a busy season for farmers. The Argentine farmer cuts his flax with either a header or a binder. More recently combined harvesters have been introduced. Threshing is usually done by threshing outfits going from farm to farm, although many farmers operate their own machines. When threshed the seed is sold outright, either at the farm or railroad station, to large dealers from Buenos Aires or Rosario. Unlike the method followed in the United States, flaxseed is sacked at the farm or ranch.

[3] Foreign Crops and Markets, vol. 16, No. 16, Apr. 16, 1928, pp. 514, 524, and 525. Anuario de Estadisticas Agro. Pecuaria Seccion B, 1924–25, pp. 101–140.

Yield per acre.—The average yield per acre in flax-growing regions of Argentina for the crop year 1919–20 was 11.4 bushels; for 1920–21, 12.6 bushels; for 1921–22, 9.3 bushels; for 1922–23, 11 bushels; for 1923–24, 10.8 bushels; for 1924–25, 8.4 bushels; and for 1925–26, 12.4 bushels per acre. The average yield for this period, 1919–20 to 1925–26, inclusive, was 10.9 bushels per acre.

Imports of Flaxseed Into the United States

Imports of flaxseed entered for consumption in the United States increased more than fourfold during the 18-year period 1910 to 1927, inclusive—from 5,000,000 bushels to 22,000,000 bushels. The period was not one of steady growth, however, but of fluctuations, the general trend of which was upward.

Table 6 shows imports for consumption from 1910 to 1928, inclusive.

Table 6.—*Flaxseed: Imports for consumption, 1910–1928*

[Source: Commerce and Navigation, Department of Commerce]

Year	Rate of duty per bushel	Quantity	Value	Duty collected	Value per bushel	Computed ad valorem rate
	Cents	*Bushels*				*Per cent*
Fiscal:						
1910	25	5,002,841	$8,853,532	$1,250,710	$1.71	14.62
1911	25	10,499,962	21,384,809	2,624,990	2.04	12.28
1912	25	6,559,112	13,016,184	1,714,778	1.90	13.17
1913	25	5,274,922	8,118,319	1,318,730	1.54	16.24
1914	[1] 25	717,114	833,106	179,278	1.16	21.52
	[1] 20	7,934,908	9,738,550	1,586,981	1.23	16.30
1915	20	10,373,902	12,883,548	2,074,780	1.24	16.10
1916	20	14,637,543	20,151,633	2,927,509	1.38	14.53
1917	20	12,484,859	25,295,231	2,496,972	2.03	9.87
1918	20	12,785,034	33,830,735	2,557,007	2.65	7.56
Calendar:						
1918	20	12,397,597	32,618,623	2,479,519	2.63	7.60
1919	20	14,042,542	44,382,393	2,805,508	3.16	6.33
1920	20	24,616,706	74,519,675	4,923,353	3.03	6.61
1921	[2] 20	4,518,181	7,285,702	903,636	1.61	12.40
	[2] 30	7,804,696	13,153,293	2,341,409	1.69	17.80
1922	[3] 30	10,828,974	22,956,227	3,248,692	2.12	14.15
	[3] 40	4,084,187	8,150,376	1,633,675	2.00	20.04
1923	40	24,312,288	48,956,956	9,732,915	2.01	19.88
1924	40	16,588,940	30,038,040	6,635,576	1.81	22.09
1925	40	16,509,656	39,682,722	6,603,874	2.40	16.64
1926	40	22,316,372	40,910,619	8,926,549	1.83	21.80
1927	40	22,008,363	38,416,260	8,803,345	1.75	22.92
1928	40	17,578,609	31,245,409	7,031,444	1.78	22.50

[1] Duty changed by act of 1913. [2] Duty changed by act of 1921. [3] Duty changed by act of 1922.

Principal Competing Country

Table 7, in which are given the general imports of flaxseed into the United States by principal countries of origin, shows that by far the most of our imports come from Argentina and Canada. The average quantity received from Argentina was nearly five times as great as imports from Canada during the 10-year period 1918–1927, and about eight times as great as imports from Canada in the year 1927. Argentina is, for purposes of section 315, the principal competing country.

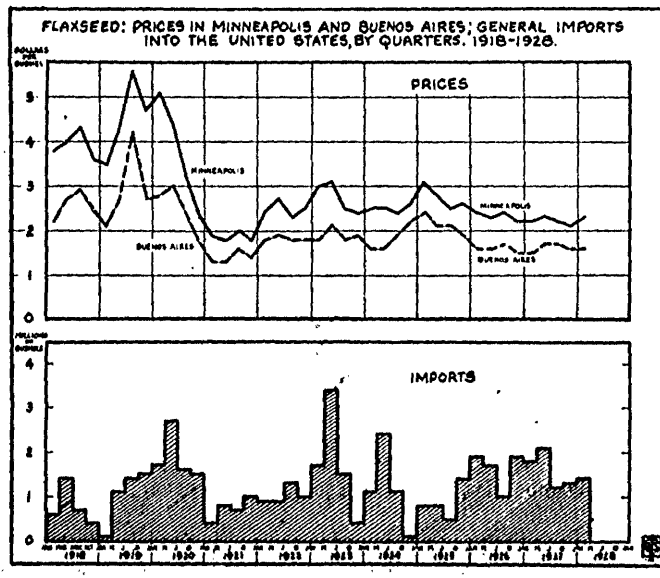
TABLE 7.—*Flaxseed: General imports into the United States by principal countries, 1910–1928*[1]

[Source: Monthly Summaries of Foreign Commerce, U. S. Department of Commerce]

Year	From—			
	All countries	Argentina	Canada	Other countries
	Bushels	*Bushels*	*Bushels*	*Bushels*
1910–1914 average	7,258,000	1,974,000	4,110,000	1,174,000
1915	10,666,000	3,928,000	6,630,000	108,000
1916	14,679,000	11,498,000	3,095,000	116,000
1917	12,394,000	5,009,000	7,015,000	370,000
1918	13,367,000	7,432,000	5,501,000	434,000
1919	14,035,000	12,354,000	1,278,000	403,000
1920	24,641,000	22,778,000	1,638,000	225,000
1921	12,326,000	8,885,000	3,095,000	346,000
1922	14,913,000	12,213,000	2,254,000	446,000
1923	24,332,000	21,151,000	3,008,000	173,000
1924	16,589,000	13,838,000	2,700,000	1,000
1925	16,510,000	10,537,000	5,917,000	56,000
1926	22,550,000	19,443,000	3,043,000	64,000
1927	21,821,000	19,366,000	2,411,000	44,000
1928	17,579,000	14,652,000	2,599,000	328,000

[1] Fiscal years, 1910–1918; calendar years, 1919–1928.

CHART 2



PRICES

Following the war, prices of domestic flaxseed were high, particularly in the latter part of 1919. The effect of the general deflation in prices beginning at this time is manifest in the steady drop of

prices at Minneapolis from $5.12 per bushel in January, 1919, to $1.58 in April, 1921. As Buenos Aires prices showed the same general trend during this period, but were at a lower level with an average spread of more than $1 per bushel below Minneapolis prices. The average annual prices at Minneapolis for the crop years beginning September 1 for the 5-year period, 1922–1927, ranged from $2.24 per bushel to $2.63; the lowest price occurring in 1926–27. The average prices at Buenos Aires for the calendar years 1923–1927 ranged from $1.62 per bushel to $2.13; the lowest price also occurring in 1926–27.

Chart 2 shows the range of domestic and Argentine prices of flaxseed since 1918. Table 8 gives the average monthly prices at Minneapolis, Buenos Aires, and Winnipeg for 1923–24 to 1927–28, beginning with the month of September. Flaxseed prices at Hull, England, are given for the calendar years 1924–1928. The table also shows the excess of Minneapolis over Winnipeg and Buenos Aires prices, and the excess of Hull, England, over Buenos Aires prices.

TABLE 8.—*Flaxseed: Average price per bushel at Minneapolis, Winnipeg, Buenos Aires, and Hull, England, by months, crop years, 1923–24 to 1927–28*

Source: Yearbook, Department of Agriculture, Crops and Markets, 1927-28; Canadian Monthly Bulletin of Statistics, 1923-1928; Foreign Crops and Markets, 1928; Prices at Hull, England, "Grain, Seed, and Oil Reporter."

Year	Minneapolis	Winnipeg No. 1 N. W. C.	Buenos Aires [1]	Hull, England	Excess of—Minneapolis over Winnipeg	Excess of—Minneapolis over Buenos Aires	Excess of—Hull over Buenos Aires
1923–24:							
September	$2.38	$2.04	$1.97		$0.34	$0.41	
October	2.48	2.08	2.02		.40	.46	
November	2.42	2.04	1.98		.38	.44	
December	2.46	1.95	1.84		.51	.62	
January	2.80	2.00	1.74	$2.34	.80	.76	$0.60
February	2.58	2.22	1.73	2.28	.36	.85	.55
March	2.49	2.07	1.66	2.02	.42	.83	.36
April	2.47	2.02	1.62	1.92	.45	.85	.30
May	2.46	2.12	1.66	1.94	.34	.80	.28
June	2.44	2.11	1.77	1.96	.33	.67	.19
July	2.47	2.26	1.96	2.13	.21	.51	.17
August	2.44	2.34	2.07	2.31	.10	.37	.24
1924–25:							
September	2.26	2.20	2.09	2.34	.06	.17	.25
October	2.40	2.33	2.23	2.50	.07	.17	.27
November	2.58	2.35	2.34	2.54	.23	.24	.20
December	2.84	2.48	2.36	2.47	.36	.48	.11
January	3.15	2.68	2.55	2.68	.47	.60	.13
February	3.12	2.63	2.54	2.68	.49	.58	.14
March	2.97	2.50	2.35	2.58	.47	.62	.23
April	2.79	2.44	2.20	2.47	.44	.59	.27
May	2.80	2.44	2.26	2.56	.36	.54	.30
June	2.68	2.37	2.21	2.41	.31	.47	.20
July	2.49	2.22	2.14	2.32	.27	.35	.18
August	2.54	2.40	2.22	2.40	.14	.32	.18
1925–26:							
September	2.59	2.37	2.17	2.34	.22	.42	.17
October	2.58	2.33	1.96	2.23	.25	.62	.27
November	2.56	2.29	2.04	2.23	.27	.52	.19
December	2.61	2.26	1.94	2.20	.35	.67	.26
January	2.50	2.14	1.74	1.98	.36	.76	.24
February	2.43	2.04	1.68	1.92	.39	.75	.24
March	2.32	1.92	1.57	1.77	.40	.75	.20
April	2.34	1.96	1.61	1.81	.38	.73	.20
May	2.30	1.93	1.6[illegible]	1.79	.37	.69	.18
June	2.33	1.95	1.7[illegible]	1.89	.38	.60	.16
July	2.44	2.06	1.8[illegible]	2.03	.36	.59	.15
August	2.38	2.11	1.81	2.00	.27	.54	.16

[1] Based on clean seed; adjusted from 96 to 100 per cent.

TABLE 8.—*Flaxseed: Average price per bushel at Minneapolis, Winnipeg, Buenos Aires, and Hull, England, by months, crop years, 1923–24 to 1927–28*—Con.

Year	Minneapolis	Winnipeg No. 1 N. W. C.	Buenos Aires	Hull, England	Excess of—		
					Minneapolis over Winnipeg	Minneapolis over Buenos Aires	Hull over Buenos Aires
1926–27:							
September	$2.33	$2.05	$1.71	$1.89	$0.28	$0.62	$0.18
October	2.21	1.94	1.66	1.89	.27	.55	.23
November	2.22	1.91	1.59	1.98	.31	.63	.39
December	2.24	1.88	1.59	2.01	.36	.65	.42
January	2.23	1.87	1.56	1.99	.36	.67	.43
February	2.25	1.90	1.60	2.10	.35	.65	.50
March	2.22	1.90	1.58	1.78	.32	.64	.20
April	2.24	1.92	1.66	1.84	.32	.58	.18
May	2.34	2.00	1.77	1.97	.34	.57	.20
June	2.25	1.99	1.78	1.99	.26	.47	.21
July	2.23	1.95	1.75	1.95	.28	.48	.20
August	2.22	2.01	1.76	1.91	.21	.46	.15
1927–28:							
September	2.21	1.95	1.76	1.91	.25	.45	.15
October	2.13	1.88	1.72	1.89	.25	.41	.17
November	2.13	1.83	1.65	1.86	.30	.48	.21
December	2.15	1.80	1.65	1.89	.35	.50	.24
January	2.24	1.83	1.69	1.89	.41	.55	.20
February	2.27	1.84	1.68	1.84	.44	.59	.16
March	2.33	1.90	1.70	1.87	.43	.63	.17
April	2.36	1.94	1.75	1.92	.42	.61	.17
May	2.46	2.00	1.79	1.97	.46	.67	.18
June	2.38	1.97	1.74	1.83	.41	.64	.09
July	2.21	1.86	1.73	1.87	.35	.48	.14
August	2.05	1.82	1.70	1.84	.23	.35	.14

In 1924 and 1925 the excess of Hull prices over Buenos Aires prices ranged from 11 to 60 cents, and the excess of Minneapolis prices over Buenos Aires prices from 17 to 85 cents.

Conditions of marketing have an important effect on domestic and Canadian prices. The crops of both the United States and Canada are harvested in the fall. Growers sell to agents of the crushers and to the elevator companies at prices based on Minneapolis quotations for domestic growers and on Winnipeg quotations for Canadian growers. Winnipeg prices are for seed laid down at Fort William and Port Arthur. About 85 per cent of the seed sold leaves the hands of growers, both in the United States and in Canada, before the end of the year. During the fall, competition among American farmers lowers the price so that very little seed crushed in western mills is imported from Canada at this time. Until navigation closes some Canadian seed is shipped to Buffalo. After navigation closes most of the domestic seed has left the hands of the growers so that in order to meet the needs of the western crushers during the winter months Canadian seed may at times move into this territory from Port Arthur and Fort William, the Minneapolis prices being high enough to permit importation. During the winter months the Minneapolis price is often higher than the Winnipeg price by the full amount of the duty, sometimes by even more, and domestic growers who have been able to store their seed obtain the benefit of the higher price.

COSTS OF PRODUCTION

UNITED STATES

FARM COSTS

Scope and period of investigation.

Areas selected.—The region in the United States covered by the commission's investigation included four States in the spring-wheat belt—Minnesota, North Dakota, South Dakota, and Montana. The selection of counties for study was determined after conference with representatives of State agricultural colleges, who were familiar with farm management and other economic problems in the counties where data were obtained.

Cost and other data were obtained from 285 farms for the crop year 1925 and from 324 farms for the crop year 1926.

Thirteen areas were selected for study—3 in Minnesota, 6 in North Dakota, 3 in South Dakota, and 1 in Montana. These were regarded as typical flax regions with respect to yields per acre, farm organization, labor conditions, types of soil, and rainfall during the growing season.

Chart 3 shows location of areas and points in each area covered by the cost study.

The following areas were selected for obtaining farm costs:

	Area	Center for study	County
Minnesota	1	Hallock	Kittson.
Do	2	Morris	Stevens.
Do	3	Dodge Center	Dodge.
North Dakota	4	Park River	Walsh.
Do	5	Valley City	Barnes.
Do	6	Rugby	Pierce.
Do	7	Washburn	McLean.
Do	8	Stanley	Mountrail.
Do	9	Dickinson	Stark.
South Dakota	10	Watertown	Codington.
Do	11	Ipswich	Edmunds.
Do	12	Miller	Hand.
Montana	13	Scobey	Daniels.

Minnesota.—Flax is grown along the western border of the State from Canada to the southern boundary. The region bordering the Red River is the leading section in the production of flaxseed. In the southwestern part of the State where flax is replacing oats in crop rotation, the acreage is being increased gradually. A section including four counties south of Minneapolis toward the border is the oldest flax region in the State. Here a mixture of flax and wheat is grown successfully, the flax being separated by screening.

North Dakota.—Flax is grown in every county of the State. Area 4, including seven counties, is one of the most important sections, producing nearly 25 per cent of the production. Areas 5, 6, 7, and 9 border the dry-farming region. Crops grown on the lighter soils of this area are more susceptible to changes in weather conditions. This section suffers from drought resulting in lower yields per acre.

South Dakota.—The flaxseed region of South Dakota lies in the north central and northeastern part of the State. Conditions for growing flax and farm practices are similar to those in central North Dakota.

Montana.—The flax crop is confined to the northeastern part of the State. Methods of production are similar to those in northwestern North Dakota.

Table 9 gives the acreage planted in flax, production, and yield per acre of seed on farms in the region covered by the cost inquiry. As indicated later (see p. 18) two areas in North Dakota and one area in South Dakota were not included in the final comparison.

CHART 3

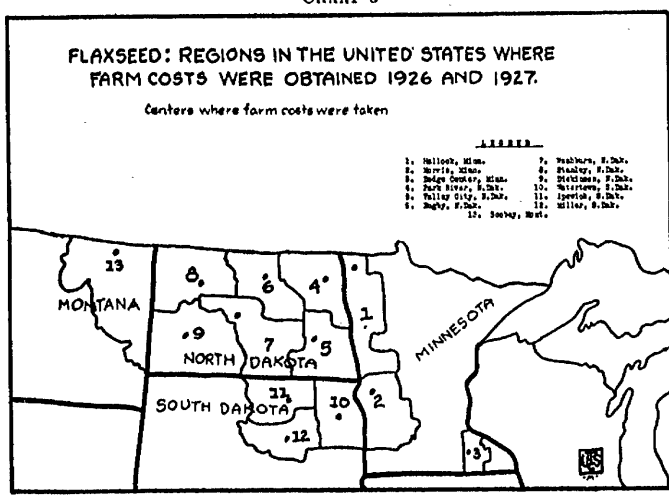


TABLE 9.—*Flaxseed: Comparison of acreage, production, and yield in regions and on farms studied, 1925 and 1926*

	Number of farms studied	Acreage		Production		Average yield per acre	
		In region studied [1]	On farms studied [2]	In region studied [1]	On farms studied [2]	In region studied [1]	On farms studied [2]
		Acres	*Acres*	*Bushels*	*Bushels*	*Bushels*	*Bushels*
United States:							
1925	286	2,560,600	20,756	18,213,910	129,470	7.1	6.2
1926	324	2,337,800	22,868	15,637,100	121,812	6.4	5.4
2-year average	305	2,449,200	21,812	16,625,505	125,641	6.8	5.8
Minnesota:							
1925	64	539,300	3,247	5,177,200	24,742	9.6	7.6
1926	82	654,600	5,622	5,955,000	42,260	9.1	7.5
2-year average	73	596,950	4,434	5,566,100	33,501	9.4	7.6
North Dakota:							
1925	137	1,461,000	9,920	9,490,000	65,146	6.5	6.6
1926	148	1,272,000	9,906	6,736,000	48,287	5.3	4.9
2-year average	142	1,366,500	9,913	8,116,000	56,716	5.9	5.8
South Dakota:							
1925	64	383,300	5,887	2,797,510	32,526	7.3	5.5
1926	73	288,200	5,441	1,732,100	20,661	6.0	3.8
2-year average	69	335,750	5,664	2,264,805	26,594	6.7	4.6
Montana:							
1925	21	177,000	1,899	749,200	7,056	4.2	4.1
1926	21	123,000	1,702	614,000	10,601	5.0	5.6
2-year average	21	150,000	1,801	681,600	8,830	4.6	4.8

[1] Source: State statistics reported by Federal field statisticians to Crops and Markets Division of Bureau of Economics, U. S. Department of Agriculture.
[2] Acres harvested on farms investigated.
[3] Net production on farms investigated. As dockage was deducted, yields per acre may not agree with statistics in areas studied.

The figures in Table 9 for regions studied were obtained from data collected by Federal field statisticians working in cooperation with State agricultural institutions. Each statistician received monthly reports from township crop and livestock reporters with respect to farm conditions, acreage planted and harvested, and crop yields. Yields reported are usually machine measure, which includes dockage. These reporters are mostly farmers who serve without pay. The statistics thus obtained are reported and tabulated by counties for each area covered by the cost study. In order to check the yields and other information submitted by local crop reporters, the field statistician obtains from other sources data with respect to soil and climatic conditions, shipments from elevators, stocks on hand at the beginning and end of the year, quantities of seed used, and records of production.

The production of flaxseed on farms studied was the quantity of clean seed reported by farmers after deducting the quantity of dockage as determined from a sample analyzed at the elevator. The weighted average percentage of dockage for all farms studied amounted to 15.1 per cent in 1926 and 10.7 per cent in 1925.

Discussion of items entering into farm costs of production.

The cost of field operations was based on custom rates established for such operations as plowing, harrowing, seeding, and cutting. In order to check these custom rates, the commission obtained data with respect to the number of men and horses employed for each operation—preparation of land, seeding, and cutting; the number of acres covered in a day's work; the wage rate per day; and the charge per acre for the use of machinery. This check shows that custom rates used in this investigation were substantially the same as the cost rates obtained by this method. The rates per acre for the use of all types of farm implements, based on the average results obtained from research studies, were secured from agricultural colleges in the regions covered by the cost study.

Threshing is nearly always done at custom rates per bushel or per day. Regular custom threashing outfits move from farm to farm during the harvest season. In some cases all the men and teams needed were furnished with the threshing crew and in other cases only the operator and one or two men went with the machine, the farmer furnishing all the teams and extra field men. Where the farmer furnished labor and teams, his costs were computed at regular harvest rates for men and teams to which was added the cost of meals and lodging furnished.

Summer fallowing, the practice of devoting a whole season simply to cultivation in order to destroy weeds and conserve moisture, was followed more or less extensively in several areas. The cost of fallowing per acre was allocated equally to the crops benefited. When corn precedes flax, summer fallow is seldom practiced. The more common practice is to summer fallow preceding crops of wheat, barley, or oats to be followed by flax. In drier regions of the western areas, summer fallow may precede flax.

Hauling to elevator.—When flaxseed is sold at threshing time, which is usual, the seed is hauled from the machine to the elevator, the percentage of dockage is determined, and the farmer is paid for the number of bushels of clean seed. If the seed is not all sold at this

time, the remainder is stored in the farmer's granary and sometimes at the elevator. The cost of marketing was computed at regular day rates for men and teams, or at custom rates per bushel, per mile, when such rates were established.

Materials.—Under this heading is included manure, fertilizer, chemicals, seed, and twine. There were no commercial sales of manure in the flaxseed region which could be used as the basis of values. The values used were the values per ton of manure in the barnyard as used in cost studies at the agricultural colleges. In Minnesota and in eastern North Dakota and South Dakota the rate was about $1 per ton; in the western areas of the Dakotas and in Montana about 50 cents per ton, but scarcely any manure was used in this region. Fifty per cent of the value of barnyard manure was charged to the crop the first year following application, 30 per cent the second year, and 20 per cent the third year after application. The cost of application was determined on the same basis. When crops were grown for the purpose of plowing under as green manure the cost was allocated to flax on the same basis as for barnyard manure. Seed, if purchased, was charged at the price paid, if farm grown, at the regular price at planting time. Twine and chemicals used in treating seed were charged at the prices paid for these materials.

Granary charges.—In computing cost of the upkeep for the granary the following method was used: To the annual cost of repairs was added depreciation computed by applying the rate of depreciation to the original cost. The rate of depreciation was obtained by dividing the cost of the building by the total life—age plus estimated future life. The ratio of the quantity of flaxseed stored in each of the years, 1925 and 1926, to the total of all grain stored was applied to the cost of depreciation and repairs in order to obtain a charge to flaxseed.

Machinery and equipment.—Since the charge for use of machinery and equipment was included in the custom rates applied to field operations no further consideration was necessary.

Taxes.—All farm taxes on real estate, including buildings, were apportioned to the flax crop in the ratio that the value of land devoted to flax bore to the total value of the farm. Taxes on equipment chargeable to the flax crop are included in the custom rates for field operations. No income taxes were included.

Miscellaneous costs.—Under this heading were included such items as use of automobile, telephone, farm-office supplies, and crop insurance. Crop insurance was charged at the actual amount paid. Other miscellaneous costs were first allocated on the percentage of use for farm purposes and distributed to flax on a crop acreage basis.

Credits.—The deductions from farm costs included the value of flax straw, if utilized, and the value of screenings when flaxseed was recleaned on the farm.

Interest.—Information was obtained which enabled the commission to determine imputed interest on the value of land and on borrowed capital. Interest on the value of equipment and work stock is included in the custom rates charged for field operations. In each area information regarding the market value of farm land in the community was secured from bankers, county agents, and other local authorities. Land values for individual farms and for flax land were obtained from the farmer. In arriving at the value of his land the

farmer took into consideration improvements, quality of the land, and location with respect to markets and roads. If the valuation appeared exceptional in the light of information previously obtained, the farmer was questioned as to the reasons for such variation, and, if necessary, adjustments in his original valuation were made. The weighted average value of flax land per acre in Minnesota for the year 1926 was $60.55; in North Dakota, $32.83; South Dakota, $45.94; and in Montana, $19.83. The weighted average value for all areas covered in the commission's investigation was $41.52 per acre. Further details of land values for each acre for which costs were obtained are shown in Table 39 in the appendix. On the foregoing values of flax land interest was computed at the rate of 6 per cent per annum, and charged to the cost of production of flaxseed. Interest on short-time loans, not including farm mortgages, was charged at the rate paid.

Net cash rental.—Of the 324 farms studied for 1926, 120 were operated by the owners, 74 were share rented, and 5 were cash rented. Of the remaining 125 farms, 88 included some land rented on shares in addition to that owned, 30 included land rented for cash in addition to that owned by the operator, and 7 farms included land rented on both the cash and the share bases. Where farms were rented for cash, the item of net cash rental was the rent actually paid less expenditures incurred by the landowner. Where farms were operated by the owner a gross rental was figured on information obtained from the farmer as to the cash rental rates for similar land in the community. In order to obtain a net rental figure for each of the crop years 1925 and 1926, all expenditures which would have been incurred by the landowner on land rented by him were deducted from the gross cash rental thus determined.

Method of weighting farm costs.

The average unit cost in each area is the weighted average cost for farms studied in that area. The average farm costs in each State for 1925 and 1926, were obtained by using as weights the total quantity of flaxseed produced in each area. (See Table 9.) The averages thus obtained were weighted with the total production of all areas studied in each State to arrive at an average for the United States.[4]

Summary of farm cost of producing flaxseed.

Costs for 1925.—Table 10 gives the detailed summary of the farm cost of producing flaxseed for each State covered by the investigation and the weighted average for the United States in 1925. This table shows the costs for field operations, including preparation and seeding, harvesting, and marketing; materials, such as manure, seed, and twine; other costs, such as taxes, crop insurance, and use of automobile; and credits—deductions from costs. It includes capital charges with interest on land at stated values and land charges on a net cash rental basis. It also shows the price received by farmers and the average yield per acre.

[4] Source: State statistical reports by field statisticians employed by the U. S. Department of Agriculture.

TABLE 10.—*Flaxseed: Farm costs of production in the United States, 1925*

[Per bushel]

Cost item	Minnesota	North Dakota	South Dakota	Montana	Weighted average
Field operations:					
Preparation and seeding	$0.75	$0.76	$0.83	$1.25	$0.79
Harvesting and marketing	.54	.54	.57	.74	.55
Total of field operations	1.29	1.30	1.40	1.99	1.34
Materials:					
Manure	.05	.01	.08	.....	.03
Seed	.32	.19	.28	.23	.24
Twine	.04	.01	.02	.....	.02
Total of materials	.41	.21	.38	.23	.29
Other costs:					
Taxes	.11	.06	.11	.06	.08
Crop insurance	.01	.03	.04	.13	.03
Use of automobile	.02	.04	.05	.06	.04
Other miscellaneous costs [1]	.01	.01	.01	.....	.01
Total of other costs	.15	.14	.21	.25	.16
Gross costs	1.85	1.65	1.99	2.47	1.79
Credits (deduction from cost) [2]	.01	.01	.03	.....	.01
Net cost	1.84	1.64	1.96	2.47	1.78
Interest:					
On land at 6 per cent	.55	.25	.42	.24	.36
On other capital at 6 per cent	.01	.01	.02	.....	.01
Total interest	.56	.26	.44	.24	.37
Net cash rental	.21	.14	.23	.16	.18
Total net cost delivered at elevator:					
With interest on land and other capital	2.40	1.90	2.40	2.71	2.15
With net cash rental on land and interest on other capital	2.06	1.79	2.21	2.63	1.97
Price received by farmers	2.34	2.23	2.18	2.11	2.25
Average yield per acre (bushels)	7.6	6.6	5.5	4.1	6.2

[1] Includes use of telephone, association dues, fence repairs, and other miscellaneous costs.
[2] Straw and screenings.

Costs for 1926.—In 1926 a drought extended over southern North Dakota and into central South Dakota. The yields per acre of flaxseed in this region were extremely low and on a number of farms the crop was an absolute failure. The yields in areas 7, 9, and 12 (see "Statistical appendix—yields and cost per acre by areas") were below 3 bushels per acre and are not included in the final comparison.

Table 11 shows the cost by States for 1926, not including areas 7, 9, and 12.

Table 12 shows the 2-year average costs, 1925 and 1926, using 13 areas for 1925 and 10 areas for 1926.

TABLE 11.—*Flaxseed: Farm cost of production in the United States for 1926, excluding two areas in North Dakota and one area in South Dakota* [1]

[Per bushel]

Cost item	Minnesota	North Dakota	South Dakota	Montana	Weighted average
Field operations:					
Preparation and seeding	$0.67	$0.72	$0.99	$0.89	$0.74
Harvesting and marketing	.55	.60	.65	.59	.58
Total field operations	1.22	1.32	1.64	1.48	1.32
Materials:					
Manure	.04	.02	.12	.....	.04
Seed	.24	.19	.33	.12	.23
Twine	.04	.02	.04	.....	.03
Total materials	.32	.23	.49	.12	.30
Other costs:					
Taxes	.10	.07	.13	.05	.09
Crop insurance	.01	.01	.05	.06	.02
Use of automobile	.03	.05	.06	.03	.04
Other miscellaneous costs [2]	.01	.02	.01	.02	.01
Total other costs	.15	.15	.25	.16	.16
Gross costs	1.69	1.70	2.38	1.76	1.78
Credits (deduction from cost) [3]	.04	.04	.03	.02	.04
Net cost	1.65	1.66	2.35	1.74	1.74
Interest:					
On land at 6 per cent	.47	.31	.61	.21	.41
On other capital at 6 per cent	.01	.02	.....	.01	.01
Total interest	.48	.33	.61	.22	.42
Net cash rental	.18	.17	.32	.18	.19
Total net cost delivered at elevator:					
With interest on land and other capital	2.13	1.99	2.96	1.96	2.16
With net cash rental on land and other capital	1.84	1.85	2.67	1.93	1.94
Price received by farmers	2.04	1.99	1.99	1.88	2.01
Average yield per acre (bushels)	7.6	7.0	5.2	4.8	6.7

[1] Areas 7, 9, and 12 were excluded because of drought and crop failure; average yield, 2.7 bushels or less per acre.
[2] Includes use of telephone, association dues, fence repairs, etc.
[3] Straw screenings, etc.

TABLE 12.—*Flaxseed: Farm cost of production in the United States, 2-year average, 1925 and 1926, using costs for 13 areas in 1925 and 10 areas in 1926* [1]

[Per bushel]

Cost item	Minnesota	North Dakota	South Dakota	Montana	Weighted average
Field operations:					
Preparation and seeding	$0.71	$0.74	$0.91	$1.07	$0.76
Harvesting and marketing	.55	.57	.61	.66	.57
Total field operations	1.26	1.31	1.52	1.73	1.33
Materials:					
Manure	.04	.02	.10	.....	.04
Seed	.28	.19	.31	.18	.23
Twine	.04	.01	.03	.....	.02
Total materials	.36	.22	.44	.18	.29

[1] Areas 7, 9, and 12 were excluded because of drought and crop failure, average yield 2.7 bushels or less per acre.

TABLE 12.—*Flaxseed: Farm cost of production in the United States, 2-year average, 1925 and 1926, using costs for 13 areas in 1925 and 10 areas in 1926*—Con.

[Per bushel]

Cost item	Minnesota	North Dakota	South Dakota	Montana	Weighted average
Other costs:					
Taxes	$0.11	$0.06	$0.12	$0.06	$0.09
Crop insurance	.01	.02	.04	.09	.02
Use of automobile	.02	.04	.06	.04	.04
Other miscellaneous costs [1]	.01	02	01	01	01
Total other costs	15	14	.23	.20	.16
Gross costs	1.77	1.67	2.19	2.11	1.78
Credit (deductions from cost) [2]	.03	.02	.03	.01	.02
Net cost	1.74	1.65	2.16	2.10	1.76
Interest:					
On land at 6 per cent	.51	.28	.51	.22	.39
On other capital at 6 per cent	.01	.02	.01	.01	.01
Total interest	.52	.30	.52	.23	.40
Net cash rental	.20	.15	.27	.17	.18
Total net cost delivered at elevator:					
With interest on land and other capital	2.26	1.95	2.68	2.33	2.16
With net cash rental on land and interest on other capital	1.95	1.82	2.44	2.28	1.95
Price received by farmers	2.19	2.11	2.08	2.00	2.13
Average yield per acre (bushels)	7.0	6.8	5.2	4.4	6.4

[1] Includes use of telephone, association dues, fence repairs, etc. [2] Straw, screenings, etc.

COST OF HANDLING FLAXSEED IN COUNTRY ELEVATORS

Scope of investigation.

Country elevators in the flaxseed region fall into two classes—the line elevators owned and operated by large concerns and the farmer cooperatives. In North Dakota there are over 500 cooperatively owned elevators, about one-third of the total number in the State. These elevators handle from 50,000,000 to 100,000,000 bushels of grain each year, or an average business of about $95,000,000.

The elevator costs of handling flaxseed were summarized from audited reports consisting of balance sheets, operating statements, and production statistics of over 40 cooperative elevators in Minnesota, North Dakota, South Dakota, and Montana. Permission was obtained from each elevator company to use these auditors' reports, some of which were on file at the United States Department of Agriculture, the remainder at offices of auditing companies located in Fargo, N. Dak.; Minneapolis, Minn.; and Aberdeen, S. Dak. For most elevators the reports covered the two fiscal years ended June 30, 1925, and June 30, 1926.

Table 13 shows, by States, the number of elevators studied; total value of sales; percentage distribution of side lines, flaxseed, and grain for fiscal years 1924–25 and 1925–26.

TABLE 13.—*Flaxseed: Number of elevators studied; total value of sales; and percentage distribution of side lines, flaxseed, and grain. Fiscal years 1924–25 and 1925–26*

	United States	Minnesota	North Dakota	South Dakota	Montana
1924-25					
Number of elevators studied	41	6	26	9	(1)
Total value of sales	$10,988,770	$1,331,561	$6,595,009	$3,062,201	(1)
Percentage distribution:	*Per cent*	*Per cent*	*Per cent*	*Per cent*	
Side lines	6	9	4	9	.....
Flaxseed	15	15	16	14	.....
Grain [2]	79	76	80	77	.....
	100	100	100	100	.....
1925-26					
Number of elevators studied	41	7	22	8	4
Total value of sales	$9,122,860	$1,182,376	$4,536,441	$2,316,591	$1,087,446
Percentage distribution:	*Per cent*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
Side lines	8	17	6	11	1
Flaxseed	12	13	12	14	10
Grain [2]	80	70	82	75	89
	100	100	100	100	100

[1] No elevator cost records were obtained in Montana for 1924-25.
[2] Wheat, rye, oats, barley, corn, buckwheat, and spelts.

Discussion of items entering into country elevator costs.

Operating costs.—The principal operating expenses for country elevators are management; extra labor; light, heat, and power; repairs and renewals; depreciation; insurance; taxes; directors' fees and expenses; legal and audit fees and bookkeeping; stationery and supplies; telephone and market service; collections and exchange; advertising (not sales); and miscellaneous.

Management.—This item includes the salary of the elevator manager who conducts the business under the direction of the board of directors. In the smaller cooperative elevators the manager is able to do the greater part of the work, requiring assistance only during busy seasons. Salaries paid to managers ranged from $1,500 to $8,000 per annum, and averaged about $2,700 for the region.

Extra labor.—In the large elevators and also in the small ones during the busy season it is necessary to employ additional labor. The cost of such labor is included in this account.

Light, heat, and power.—In this account are included all charges for fuel and electric current used for heating and lighting the elevator, and furnishing the necessary power for operation.

Repairs and renewals.—The cost of repairs to buildings and equipment, and of minor replacements (not to be capitalized) are included in this account.

Depreciation.—The amount of depreciation charged to costs was taken from the companies' books.

Insurance and taxes.—The charge for insurance represents coverage against loss or damage by fire and other causes to the elevator buildings and equipment and stocks of grain and side lines.

The taxes are the State and local assessments on the plant and stocks of grain. The methods of assessment on grain vary in the several States. In Minnesota and South Dakota the assessment is

based on the total quantity of grain handled during the tax year, while in North Dakota and Montana the tax is based upon the inventory at the time of assessment. Federal income taxes are excluded.

Director's fees, legal fees, auditing, and bookkeeping.—Directors usually receive compensation for attending regular meetings of the board. The charge for legal and audit fees is for services rendered in these special lines. Bookkeeping occurs only in the case of a few of the larger cooperatives that have sufficient business to justify a full-time bookkeeper. Usually the books are kept by the manager or by the extra labor.

Stationery and supplies.—This item includes the expense for both office and elevator supplies, such as stationery, oil, and grease.

Market news service.—Successful marketing of grain requires current news of market conditions. For this purpose most elevators subscribe to market news services, such as the daily price card and telephone price changes.

Collections, advertising, and exchange.—These include the expenses of collecting unpaid accounts, local advertising for purchases and labor, and discounts on drafts.

Miscellaneous.—Under this heading are grouped a number of minor cost items such as manager's bond and license, traveling expenses, car liners, donations, freight, drayage, office fuel, rent of additional land or buildings, and other small items.

Interest.—Interest on the investment has been included in the elevator costs. This was computed by adding imputed interest at 6 per cent on the net-owned equity to the actual payment of interest on borrowed capital. To finance their operations the country elevator companies usually open accounts with grain dealers in the terminal markets. Interest received was deducted from the total computed interest so that the amount finally charged to costs represents the cost of providing the capital actually required for the conduct of the business.

Credits (deductions from costs).

Elevator operating costs have been credited with receipts for custom grinding, cleaning of grain, sale of screenings, and small amounts of rent for buildings and land owned by the elevator companies.

Allocation of costs.

In addition to flaxseed the reporting elevators handled other kinds of grain and side lines. Operating expenses were allocated to side lines and grains in the ratio of their respective sales values.

The average unit cost of handling flaxseed at elevators could not be determined directly from the elevator records. These data gave the total net operating costs from which could be computed only the average cost per bushel of all grain including flaxseed. A study of the amounts ordinarily called margins, which elevators deduct from the card price issued daily by the Grain Bulletin of Minneapolis for operating costs and profits showed, however, considerable variation in margins between the different grains.

The Federal Grain Commission has shown in its report of the grain trade that several factors determine the margins on grain as

follows: (1) the relative normal selling values of different grains; (2) the weight of a legal bushel and the total number of bushels marketed; (3) the quality of the crop; (4) opportunity for hedging; and (5) a sufficient carrying charge.[5]

The average elevator margins given in this report for the northwestern grain regions for 1921, and a revision of these margins by the Grain Bulletin, of Minneapolis, for 1926, were as follows:

	1921	1926		1921	1926
	Cents	*Cents*		*Cents*	*Cents*
Wheat	7	7	Rye	7	7
Oats	4	3	Flaxseed	17	15
Barley	8	8	Corn	5	6

At the public hearing on flaxseed held by the Tariff Commission on December 5 and 6, 1928, the following reasons were set forth in explanation of the high margin for handling flaxseed as compared with other grains: (1) A larger financial risk from the standpoint of price changes; (2) greater physical losses unless the elevator bins and cars for shipment are made exceptionally tight; (3) bin space held in reserve for flaxseed is not always filled to capacity and the fact that it takes longer to accumulate carload lots; and (4) it is often necessary for flaxseed to be sacked and shipped on top of wheat or other grain.

The elevator costs of handling flaxseed in elevators have been allocated from total net elevator costs on the basis of the relation of margins between different grains and flaxseed as given for 1926. The method of allocation is as follows: The number of bushels of each grain and flaxseed handled by each elevator was multiplied by the margin for each, respectively, and the total value of margins on flaxseed was divided by the total value of margins on all grain including flaxseed thus found, in order to determine the percentage of the total elevator cost to be applied to flaxseed. The total cost of flaxseed was then divided by the number of bushels of flaxseed handled to obtain the average handling cost per bushel.

Method of weighting elevator costs.

The average unit cost for each area is the weighted average costs of elevators studied in that area. The average for each State for 1924–25 and 1925–26 was obtained by using as weights the total quantity of flaxseed produced in each area. (See Table 9.) The averages thus obtained were weighted by the total production of all areas studied to arrive at a representative average for the United States.

In the preliminary statement of information issued for use at the public hearing on December 5, 1928, it was assumed that the elevator cost of flaxseed was the same as for other grains, and the handling cost per bushel was obtained by dividing the total cost of handling all grains, including flaxseed, by the total number of bushels handled. The costs computed by this method and an explanation of the method used in the preliminary statement of information are shown on pages

[5] The Grain Trade, vol. 3, p. 218, by the Federal Grain Commission. Margins are based on a study made in 1921.

58 to 62 of the statistical appendix. At the public hearing on flaxseed, witnesses presented evidence showing that the cost of handling flaxseed at the country elevators was greater than that of handling the other grains. In view of the testimony presented and other information obtained in the investigation, the method explained above has been adopted. By this method the handling costs have been allocated according to the margins which elevators deduct from the card price issued by the Grain Bulletin of Minneapolis. These margins cover operating costs and profit of the local elevators.

Summary of elevator costs of handling flaxseed.

Tables 14 and 15 give the elevator costs of handling flaxseed for the years 1924–25 and 1925–26. These tables show the gross and net operating costs and the net costs including interest allocated to flaxseed by the method shown above.

TABLE 14.—*Flaxseed: Cost of handling in country elevators in the United States, 1924–25*

[Cents per bushel]

Item of cost	Minnesota	North Dakota	South Dakota	Montana [1]	United States weighted average
Operating costs:					
Manager's salary	1.78	2.81	2.36	2.19	2.45
Extra labor	.82	.97	.08	1.07	.78
Light, heat, and power	.23	.52	.20	.47	.38
Repairs and renewals	.13	.38	.22	.53	.28
Depreciation	.59	.85	.60	.67	.73
Insurance	.62	.57	.44	.61	.57
Taxes	.21	.45	.21	.19	.33
Director's fees and expense	.28	.21	.09	.28	.21
Auditing and bookkeeping	.16	.28	.30	.16	.26
Stationery and supplies	.21	.24	.19	.26	.21
Telephone and market service	.10	.28	.12	.28	.21
Collections and exchange	.03	.07	.02	.37	.07
Advertising	.05	.02	.06	.07	.05
Miscellaneous	.77	.43	.24	.12	.47
Total cost	6.00	8.08	5.13	7.07	7.00
Credits (deductions)	.23	1.51	.18	.14	.90
Net operating costs	5.77	6.57	4.95	7.13	6.10
Interest	1.50	1.80	1.65	.61	1.66
Net cost, including interest	7.27	8.37	6.60	7.74	7.76
Total quantity handled.....bushels	83,971	435,920	184,151	.....	704,042

[1] No elevator cost records were obtained in Montana for 1924-25. The costs in Montana for this year were projected from the cost in 1925-26 for area 8, North Dakota, on the basis of difference in cost per bushel for the 2 years.

TABLE 15.—*Flaxseed: Cost of handling in country elevators, in the United States, 1925–26*

[Cents per bushel]

Items of cost	Minnesota	North Dakota	South Dakota	Montana	United States weighted average
Operating costs:					
Manager's salary	2.53	3.96	3.37	2.66	3.12
Extra labor	1.14	1.43	.....	1.31	1.10
Light, heat, and power	.46	.83	.23	.56	.59
Repairs and renewals	.27	.71	.21	.65	.44
Depreciation	.76	1.26	1.03	.82	.98
Insurance	.68	.86	.62	.72	.71
Taxes	.44	.93	.38	.23	.61
Director's fees and expense	.44	.30	.20	.35	.32
Auditing and bookkeeping	.24	.43	.31	.21	.32
Stationery and supplies	.24	.43	.15	.30	.30
Telephone and market service	.16	.45	.10	.33	.27
Collections and exchange	.08	.08	.03	.44	.10
Advertising	.16	.13	.08	.07	.12
Miscellaneous	.44	.48	.36	.14	.42
Total cost	8.04	12.31	7.07	8.79	9.40
Credits (deductions)	.49	3.38	.33	.16	1.69
Net operating costs	7.55	8.93	6.74	8.63	7.71
Interest	1.55	1.87	1.15	.75	1.52
Net cost, including interest	9.10	10.80	7.89	9.38	9.23
Total quantity handled.....bushels	64,166	222,274	111,654	44,179	442,273

Table 16 gives the 2-year average elevator cost of handling flaxseed in the United States for 1924–25 and 1925–26.

TABLE 16.—*Flaxseed: Cost of handling in country elevators in the United States, 2-year average, 1924–25 and 1925–26*

[Cents per bushel]

Items of cost	Minnesota	North Dakota	South Dakota	Montana	United States weighted average
Operating costs:					
Manager's salary	2.10	3.38	2.86	2.42	2.78
Extra labor	.98	1.22	.04	1.19	.94
Light, heat, and power	.35	.65	.22	.51	.49
Repairs and renewals	.20	.54	.21	.59	.36
Depreciation	.68	1.06	.82	.75	.86
Insurance	.65	.72	.53	.67	.64
Taxes	.32	.69	.31	.21	.47
Director's fees and expense	.36	.26	.13	.32	.26
Auditing and bookkeeping	.20	.36	.31	.19	.29
Stationery and supplies	.22	.33	.17	.28	.26
Telephone and market service	.13	.36	.11	.30	.24
Collections and exchange	.06	.07	.02	.40	.08
Advertising	.10	.07	.07	.07	.08
Miscellaneous	.61	.46	.30	.13	.45
Total cost	7.02	10.20	6.10	8.03	8.20
Credits (deductions)	.36	2.45	.25	.15	1.30
Net operating costs	6.66	7.75	5.85	7.88	6.90
Interest	1.52	1.84	1.40	.68	1.59
Net cost, including interest	8.18	9.59	7.25	8.56	8.49
Average total quantity handled.....bushels	74,068	329,097	147,902	22,090	573,157

Argentine Cost of Production

The commission did not find it practicable to obtain data from producers in Argentina with respect to the cost of growing flaxseed in that country. Data on invoice prices were compiled from consular invoices of imports of flaxseed at New York, and on market prices of flaxseed at Buenos Aires. In addition, the commission gathered from published reports of the Argentine Minister of Agriculture information as to yields per acre, wages paid, value of land in the flaxseed-growing sections of Argentina, and cost per bushel of flaxseed. This additional information is summarized in the appendix.

Analysis of Argentine invoice data for flaxseed received at New York

As evidence of the cost of producing flaxseed in Argentina, an analysis was made of 69 invoices covering 5,102,600 bushels of flaxseed imported from Argentina in 1925, or 31 per cent of the total imports for that year; 171 invoices covering 11,764,500 bushels, or 53 per cent of total imports for 1926, and 119 invoices covering 10,511,300 bushels, or 48 per cent of the total imports in 1927. These invoices cover imports of seven companies in the United States.

The invoice price c. i. f. New York included the contract prices in Argentina and shipping charges to New York, such as ocean freight, loading expenses, export and statistical taxes, commission, marine insurance, and consular invoice charges; also landing charges, such as the cost of tallying, cutting bags, dumping, boat hire and wharfage, customs entry and supervision, and analysis and sampling.

The average unit price c. i. f. New York was obtained by dividing the total value of flaxseed delivered to New York by the total quantity of clean seed obtained according to the reports of analyses of invoice samples. Flaxseed is purchased according to La Plata contract which permits 4 per cent of extraneous matter. The official seed analysis gives the percentage of clean flaxseed for which full value is paid, the percentage of oleaginous (oil bearing) seed other than flax paid for at half value, and the percentage of seed considered worthless. Adjustments were made for the amount of clean flaxseed above or below 96 per cent and the value of oleaginous seed paid for by the importer. When the analysis shows a percentage above 96 per cent the importer makes final settlement for this amount; if below, the difference is deducted.

Flaxseed received in the United States from Argentina during the calendar years 1926 and 1927 was produced during the calendar years 1925 and 1926, respectively, and the invoice prices used as evidence of foreign cost of production for the years 1926 and 1927 have been compared with the cost of production in the United States for 1925 and 1926.

Table 17 shows Argentine invoice prices c. i. f. New York and the net landed value, computed on clean seed basis, for 1926, 1927, and the two-year average.

TABLE 17.—*Flaxseed: The costs of production in Argentina as evidenced by invoice data, including transportation to New York, for calendar years 1926, 1927, and the 2-year average* [1]

[Per bushel]

	1926	1927	2-year average
Total price, f. o. b. Argentina	$1.904	$1.803	$1.854
Total price, f. o. b. Argentina, adjusted on clean-seed basis	1.930	1.815	1.873
Deduction for used bags	.011	.009	.010
Deductions for Argentine export tax [2]	.025	.009	.017
Total deductions	.036	.018	.027
Net price, f. o. b. Argentina, clean-seed basis	1.894	1.797	1.846
Transportation to New York	.128	.147	.137
Net price c. i. f. New York	2.022	1.944	1.983

[1] Prices converted to United States money on New York rates of exchange at dates of invoice. No consigned shipments used in analysis.

[2] Includes statistical charges which it was impracticable to separate, as export duties and statistical charges were not reported separately.

Table 18 gives the quantity of flaxseed, from importers' records, on settlement basis (96 per cent clean seed), the quantity of clean seed received, and the percentage of clean seed contained in the quantity imported, for the calendar years 1926, 1927, and the 2-year average.

TABLE 18.—*Flaxseed: Quantity, per cent of clean seed, and dutiable value of screenings imported from Argentina, 1926, 1927, and the 2-year average*

	1926	1927	2-year average
Seed:			
Number of bushels—settlement basis	12,209,722	11,113,965	11,706,843
Number of bushels of clean seed	11,764,491	10,511,282	11,137,886
Average per cent of clean seed	95.65	94.58	95.14
Screenings:			
Number of bushels [1]	535,231	602,683	568,957
Number of short tons	14,986	16,875	15,931
Total value of screenings [2]	$67,439	$75,938	$71,689

[1] The weight of flaxseed used was 56 pounds per bushel.

[2] Computed at $4.50 per ton, the dutiable value.

As further evidence of the cost of production in Argentina there is presented in the table below the average monthly prices at Buenos Aires for 1926 and 1927 weighted on the total exports from Argentina. These prices have been substituted for the total invoice prices f. o. b. Argentina in Table 18a of the report for the same period.

TABLE 18a.—*Flaxseed: Costs of production in Argentina as evidenced by Buenos Aires prices of flaxseed, inland transportation, and ocean transportation to New York, 1926, 1927, and the 2-year average*

[Price per bushel for clean seed]

	1926	1927	2-year average
Total price f. o. b. Argentina [1]	$1.770	$1.751	$1.760
Total price c. i. f. New York [2]	1.890	1.890	1.890
Landing charges at New York	.008	.008	.008
Total c. i. f. price and landing charges	1.898	1.898	1.898
Credits, deduction for used bags	.011	.011	.011
Net landed value at New York	1.887	1.887	1.887
Net landed value less Argentina export duties	1.862	1.878	1.870

[1] Weighted average weekly prices of flaxseed at Buenos Aires from Review of the River Plate to which has been added loading and other charges in Argentina as computed in the analysis of invoices from that country.

[2] Prices at Buenos Aires have been computed on a clean-seed basis, and adjustments as given in Table 17 have been omitted.

MARKETING AND TRANSPORTATION

Methods of marketing domestic flaxseed.

Domestic flaxseed, like grain, is marketed through country elevators of three types: (1) Line elevators, (2) independent elevators, and (3) farmers' elevators. The line elevator is one operated as a unit of an organization owning or controlling two or more elevators. The farmers' cooperative elevator movement started about 1900; by 1923 the organization controlled about 29 per cent of the grain elevators in North Dakota, and 35 per cent of the storage capacity.[6] In recent years the farmers' cooperative elevators have become more numerous.

Most of the grain handled by elevators in the spring wheat and flax region is wheat; the quantity of flaxseed is relatively small compared with wheat. Data obtained from 423 reports received in 1914 and 1915 by the North Dakota Agricultural Experiment Station [7] show that nearly 70 per cent of the grain received at country elevators was wheat and only 6 per cent flaxseed; of the remainder, 12 per cent was rye, 7 per cent barley, and 5 per cent oats. The methods used in sampling, cleaning, elevating, storing, and selling flaxseed are practically identical with methods of handling wheat and other grain.

The handling of side lines is a more or less important business activity of a large number of grain elevators. The side lines commonly handled are coal, flour, feed, twine, machinery, wood, seeds, lumber, and salt.

Sampling and screening.—Flaxseed is sampled at country elevators, and from this sample the grade and dockage determined. In the areas covered by the commission's inquiry, all flaxseed was sold under the name of "Northwestern" as distinguished from southwestern seed from Missouri, Nebraska, Kansas, and Wyoming. Northwestern flaxseed is sold under two grades known as No. 1 and No. 2.

Dockage is the extraneous material separated by ordinary grain-cleaning machinery and consists of other grain, weed seed, and dirt, the amount removed ranging from 6 to 28 per cent. The average found in the commission's study for 1926 was 15.1 per cent, and 10.7 per cent in 1925.

Cleaning practices.—The practice of cleaning flaxseed to improve the quality results in increased prices and reduces the weight of the quantity shipped, thereby reducing freight charges. The demand for these removed materials, termed "screenings," as feed for livestock is increasing so that the sale of screenings is an additional source of revenue for the country elevator. However, but few of the country elevators operated by line elevator companies are equipped with cleaning machinery, the cleaning being done at the terminal elevators in the large markets and the screenings disposed of there. In a study of the grain elevator business of North Dakota in 1923–24 it was found that 85 per cent of the farmers' elevators were equipped with cleaning machinery, and that about 40 per cent of the number of elevators studied, cleaned from 90 to 100 per cent of the grain handled.[8] The study also disclosed that 34 per cent of these elevators sold their

[6] Bulletin No. 206, North Dakota Agricultural Experiment Station, p. 15.
[7] Bulletin No. 206, Farmers' Elevators in North Dakota, North Dakota Agricultural Experiment Station pp. 15 to 21.
[8] Bulletin No. 206, North Dakota Agricultural Experiment Station, p. 21.

screenings at from $1 to $5 per ton, 57 per cent at from $6 to $10, and a few elevators received as high as $11 to $15.

Methods of handling and selling.—Flaxseed received at country elevators is handled as follows: (1) purchased from farmers at time of delivery; (2) stored for farmers; and (3) shipped in carload lots for farmers. It is more common for elevators to store flaxseed on their own account than to ship in carload lots for farmers. When elevators ship for farmers they usually charge from 1 to 2 cents per bushel for elevating and loading on cars.

Country elevators employ three methods of selling flaxseed, as follows: (1) On consignment; (2) to arrive; and (3) on track. When flaxseed is consigned it is shipped to a commission firm or some other representative, at a terminal market, who sells the seed on a commission or brokerage basis to terminal elevator companies or to flaxseed crushers. Flaxseed sold "to arrive" applies to a shipment which the buyer agrees to purchase at a certain price provided the grade is that specified by the seller and that it reaches the buyer's market within a specified number of days. When cars of seed are sold at country points for cash, these transactions are known as "on track" sales. More elevators sell grain "on consignment" than either "to arrive" or "on track." Flaxseed is more often sold on the "to arrive" basis. Country elevators are now selling flaxseed to commission firms "to arrive" in lots less than 1,000 bushels whereas formerly flaxseed was hedged in 1,000-bushel lots and later consigned in carload lots.

Storing.—Only relatively small quantities of flaxseed are stored at the country elevators. The elevators, as a rule, make shipments to the terminal markets as soon as enough seed has accumulated to make a carload. Oftentimes flaxseed is sacked and shipped with a small carload of grain. Most of the flaxseed is stored at the terminal markets and at the plants of the flaxseed crushers. Seed purchased by elevator companies in the terminal markets is held in storage until sold to the crushers, and is usually withdrawn from storage in the spring and early summer before the arrival of the new crop.

Methods of marketing Argentine flaxseed.

Methods of marketing in Argentina.—In Argentina flaxseed is sold by the producer through several channels. If he is a colonist, he usually sells to the colonizer who finances him. If he is a renter, he generally sells to the owner of the land who in turn sells to the country grain buyer at the nearest buying station. Station buyers and large-scale producers sell to commission men, brokers, and exporters at the terminal markets.

Since colonists and renters are usually dependent on colonizers and landowners for financial assistance, they are unable to take advantage of better bids from station buyers and commission men. Moreover, daily price quotations at the nearest markets and other market data of the type available to farmers in the United States are not available to the small-scale producer in Argentina.

There is no system of country elevators in Argentina for handling, grading, and storing grain and flaxseed. In 1925, there were only 22 grain elevators in that country, most of which were located at terminal markets. Most of the country warehouses are controlled by the railroads and are leased to large subsidiary companies. Seed from the

country stations is shipped in bags to the principal Parana River and seaboard terminals such as Santa Fe, Rosario, San Nicolas, and Buenos Aires. About one-half of the rail shipments are transported in open flat cars.

The bulk of the seed does not move to the terminal ports until it is sold, i. e., it is seldom shipped to the ports on consignment to be held for sale. Colonizers and large-scale producers are enabled to hold the seed for longer periods than producers in the United States, because the banks will advance them as much as 70 per cent of the value of their seed without additional security. Since most of the flaxseed passes through these middlemen, the pressure to sell in Argentina is not so urgent as it is in the United States.

Methods of marketing Argentine seed in the United States.—Some of the seed exported to the United States is consigned by Argentine seed houses to their representatives in New York who usually sell it to domestic crushers, c. i. f. New York or Philadelphia. Most of the small-scale consumers and some of the large-scale crushers in the United States buy Argentine seed on this basis. New York agents of Argentine flaxseed exporters do not hold seed in storage at the ports of entry for subsequent sale. They merely act as brokers. When a shipload of Argentine seed arrives in New York, the agent sells it, the bags are loaded on barges and towed to the crusher's plant or to the railroad dock if shipped inland, samples are taken and tested, and the seed is paid for on the basis of the test.

Some large-scale consumers in the United States obtain Argentine seed through brokers at Buenos Aires who buy the seed, arrange for its storage and transportation to the ports, and ship it to New York. The consumer provides the broker with funds to carry on these operations and pays him a commission for his services. Other large-scale crushers in the United States maintain their own buying organizations in Argentina and import direct. These organizations buy from Argentine growers and dealers, handle the seed from points of shipment in the interior to Rosario and Buenos Aires, and ship it in chartered ships to New York.

There are no merchant importers and distributors of Argentine flaxseed on the Atlantic seaboard of the United States. Practically all Argentine seed imported through Atlantic coast ports is either purchased c. i. f. port of entry from the New York agents of Argentine exporters, or is imported direct by domestic crushers for their own consumption. Small quantities of Argentine seed are handled on the Pacific coast by merchant importers.

Ports of entry.

Most of the imported Argentine seed is entered through the port of New York. During the 2-year period of 1926 and 1927, about 74 per cent of the imports from Argentina were entered at New York, 9 per cent at Philadelphia, 7 per cent at Buffalo, and 10 per cent through other customs districts. Canadian flaxseed is imported chiefly at Buffalo and Chicago.

Table 19 shows imports for consumption by customs districts for 1926 and 1927.

TABLE 19.—*Flaxseed: Imports for consumption at New York, Buffalo, Philadelphia and other districts, 1926 and 1927*

Customs district	1926		1927	
	Number of bushels	Per cent	Number of bushels	Per cent
New York	17,294,949	77.5	15,546,343	70.6
Buffalo	1,997,634	8.9	1,063,508	4.8
Philadelphia	844,300	3.8	2,984,380	13.6
All other districts	2,179,489	9.8	2,414,126	11.0
Total	22,316,372	100.0	22,008,363	100.0

Markets and consuming centers.

New York, Minneapolis, Buffalo, Chicago, and Milwaukee are the principal markets for flaxseed in the United States, in the order named. These cities, in the order named, are also the chief consuming centers.

Flaxseed grown in South Dakota and southern Minnesota is usually shipped to Minneapolis. The crop from North Dakota, Montana, and northern Minnesota is generally marketed at Duluth, where it is transshipped to Buffalo and other consuming centers on the Great Lakes. Shipments to Chicago are usually made by rail, the seed being diverted to its destination without passing through Minneapolis.

From 50 to 75 per cent of the domestic crop is consumed at Minneapolis, St. Paul, Chicago, Superior, Wis., and Milwaukee, and the remainder is shipped via the Great Lakes to Buffalo and Toledo, and from Buffalo to New York via the barge canal or by rail. Rail shipments from Buffalo to New York are usually made during the winter months when the canal is closed to navigation. Practically all domestic flaxseed consumed in Buffalo and points farther east is shipped from Duluth via water.

New York is the principal market for Argentine seed. Imports of Argentine seed are consumed chiefly in the Greater New York area, at Buffalo, and at Philadelphia. Argentine seed consumed at Buffalo is usually shipped from New York City via the barge canal from May to October, inclusive, and by rail when the canal is closed to navigation.

Buffalo and Chicago are the principal domestic markets and the chief consuming centers for Canadian flaxseed. Canadian seed consumed at Buffalo and points farther east is shipped via water from Fort William and Port Arthur, Canada.

Atlantic coast plants for the most part crush Argentine seed; western plants crush domestic and Canadian seed. Mills at Buffalo crush domestic seed and seed from Argentina and Canada. A large domestic crop with consequent lower prices at Minneapolis usually results in more domestic seed being diverted to mills on the Atlantic seaboard. For example, the 1924 domestic crop was unusually large and about 15 per cent of the seed produced was crushed at mills in the New York district; in 1926, when the crop was smaller, only a negligible quantity was crushed at New York. When the domestic flaxseed crop is larger than is necessary to meet the requirements of western plants, domestic seed is crushed in Atlantic coast mills; when the domestic and Canadian crops are not sufficient to

supply the western mills, Argentine seed is crushed as far west as Chicago and Milwaukee.

Table 20 shows the quantity of domestic and imported seed crushed at the principal consuming centers for the calendar years 1925 and 1926. The data included in this table were taken from the records of 8 companies operating 25 mills, or about 85 per cent of the mills operated during the period covered by the investigation.

TABLE 20.—*Flaxseed: Quantities crushed at principal consuming centers, by countries of origin, calendar years 1925 and 1926* [1]

[Source: Data obtained in commission's study of linseed oil]

Consuming center	Domestic seed		Argentine seed		Canadian seed	
	Bushels	Per cent of total	Bushels	Per cent of total	Bushels	Per cent of total
1925						
New York [1]	4,368,763	17.96	6,251,311	100.00	1,023,644	24.15
Minneapolis-St. Paul district [2]	10,728,268	44.11			325,075	7.67
Buffalo	5,232,688	21.51			2,144,905	50.59
Chicago	2,195,398	9.03			308,364	7.27
Milwaukee	941,752	3.87			266,911	6.30
Toledo	855,670	3.52			170,274	4.02
Total	24,322,539	100.00	6,251,311	100.00	4,239,373	100.00
1926						
New York [1]	190,993	1.14	14,768,619	91.28	76,252	3.78
Minneapolis-St. Paul district [2]	9,090,816	54.10				
Buffalo	3,437,851	20.46	1,370,463	8.47	1,353,905	67.15
Chicago	2,064,727	12.29			417,068	20.69
Milwaukee	1,232,457	7.33	39,950	.25	168,916	8.38
Toledo	785,981	4.68				
Total	16,802,825	100.00	16,179,032	100.00	2,016,261	100.00

[1] Includes Port Richmond and Brooklyn, N. Y.; Edgewater and Newark, N. J.; Philadelphia, Pa.
[2] Includes Minneapolis, St. Paul, and Red Wing, Minn.; Superior, Wis.

Transportation.

Transportation and other charges from Argentine ports to New York.—Data for ocean freight and other charges on shipments of flaxseed from Argentina to New York were obtained from consular invoices covering 11,764,491 bushels, or about 53 per cent of the seed imported from Argentina in 1926, and 10,511,282 bushels, or about 48 per cent of the quantity imported from that country in 1927.

In 1926 and 1927 ocean freight rates on flaxseed from Buenos Aires and Rosario, Argentina, to New York ranged from $2.50 to $8 per long ton (2,240 pounds); the average was about $4.85 per ton. The ocean rates per bushel of seed averaged 11.5 cents in 1926, 13.4 cents in 1927; the 2-year average was 12.5 cents.

Other charges shown on the invoices include loading expenses at Argentine ports, export taxes, commissions, marine insurance and consular charges (stamps, consular fees, and a charge for inspection certificates). Various landing charges at New York were also incurred. These include the cost of tallying, cutting bags, dumping the seed into barges, boat hire, wharfage, customs fees, sampling, and testing. Data with respect to landing charges were obtained from importers of the seed covered by the invoice analysis.

Table 21 shows transportation and other charges incurred in shipping flaxseed from Argentine ports to the crushers' mill or railroad

dock at New York in 1926 and 1927. In making the tabulations, all charges appearing on each invoice were converted to United States money at the rate of exchange in effect on the date of the invoice.

TABLE 21.—*Flaxseed: Transportation and other charges from Argentine ports to New York, 1926, 1927, and average for the period* [1]

	Cost per bushel, clean-seed basis		
	1926	1927	2-year average
Transportation:	*Cents*	*Cents*	*Cents*
Ocean freight	11.5	13.4	12.5
Marine insurance	.5	.5	.5
Landing charges at New York	.8	.8	.8
Total transportation costs	12.8	14.7	13.8
Other charges:			
Loading expense	3.2	2.2	2.7
Commissions	2.0	2.1	2.0
Consular charges [2]	.6	1.3	1.0
Total other charges	5.8	5.6	5.7
Total transportation and other charges from Argentina to New York	18.6	20.3	19.5
Export tax	2.5	.9	1.7

[1] Items appearing on each invoice converted to United States money at the rate of exchange on the date of invoice. Consigned shipments not included.
[2] Includes stamps, consular fees, and charges for inspection certificate.

Freight rates on domestic flaxseed to principal markets.—Minneapolis and Duluth are two important receiving points for domestic flaxseed. From 1925 to 1927, inclusive, receipts at Minneapolis averaged over 11,000,000 bushels annually, and at Duluth over 9,000,000 bushels. The Minneapolis market is largely a consuming market, whereas Duluth is largely a transit point for shipments by water eastward. Usually more than 75 per cent of the Minneapolis receipts are consumed there. In calculating costs of domestic flaxseed delivered at Buffalo and New York, therefore, the rates have been calculated via Duluth. There are little or no rail shipments from Minneapolis to Buffalo and New York markets.

Transportation to Duluth.—Actual shipments of flaxseed from each area and each State covered by the commission's investigation to Duluth were not available. Tabulations based upon an estimated division of the market between Duluth and Minneapolis indicate that there is little difference in the weighted average freight rate to Duluth from all areas from which costs were obtained, and from those areas primarily in the Duluth shipping territory. The transportation charges to Duluth are weighted upon the total production of the areas studied for each of the crop years 1925 and 1926. This average charge was computed as follows: The average freight rate to Duluth from each area was obtained by taking a simple average of the rates from the principal shipping points within the area. To obtain the average transportation costs by States, the average rate for each area within the State was weighted by the production of flaxseed in that area for 1925 and for 1926 as reported by State statisticians. The average transportation cost from each State to Duluth for each year was then weighted by the flaxseed production of the State for the

respective years, as represented by the areas studied, to obtain the weighted average transportation cost from the entire northwest flaxseed region.

Table 22 shows the weighted average transportation cost to Duluth from the flaxseed region calculated as outlined above. The rates and transportation costs in Table 22 are based on the freight rates in effect prior to July 6, 1927. Similar transportation data based on the rates in effect since July 6, 1927, are shown in the appendix.

TABLE 22.—*Flaxseed: Weighted average transportation costs on domestic seed from production centers to Duluth, 1925 and 1926, based on freight rates in effect prior to July 6, 1927* [1]

[Cents per bushel]

	Duluth	
	1925	1926
United States [2]	13.40	12.35
Minnesota	10.13	10.08
North Dakota	13.79	12.95
South Dakota	16.19	14.97
Montana	20.58	20.58

[1] The weighted average costs were obtained by weighting the simple average freight rate from each area to Duluth by the production of flaxseed in that area for 1925 and 1926 as reported by State statisticians.
[2] Includes the Northwest flaxseed region, consisting of Minnesota, North Dakota, South Dakota, and Montana.

Handling charges at Duluth.—Table 23 shows handling and other charges incurred in shipping flaxseed from Duluth, Minn., to Buffalo, and other lake ports in 1925 and 1926. In the publication [9] from which this table was compiled, the rates for weighing, inspecting, and sampling were expressed in dollars per thousand bushels—$1 for weighing, $1.25 for inspecting, and $0.50 for sampling. The insurance rate was 7½ cents per hundred dollars worth of seed. For purposes of comparison, all rates in Table 23 are expressed in cents per bushel. In converting the insurance rate from a value basis to a quantity basis, flaxseed was valued at about $2.50 per bushel.

TABLE 23.—*Flaxseed: Handling rates and other charges at Duluth, Minn., on shipments to Buffalo, N. Y., 1925 and 1926*

[Cents per bushel]

Item	Rate
Elevation to boat	1.500
Weighing	.100
Inspection	.125
Sampling	.050
Brokerage	.125
Commissions	.125
Insurance	.175
Total	2.200

Transportation charges to Buffalo.—For the years 1925 and 1926 the weighted average transportation rate based upon actual shipments of flaxseed from Duluth to Buffalo, covering 1,230,426 bushels,

[9] I. C. C. Docket No. 17000, Part 8, page 22, presented in behalf of the Minneapolis Traffic Association, the Minneapolis Civic and Commerce Association, and the Chamber of Commerce of Duluth.

was 2.93 cents per bushel. The total transportation charge from the domestic areas for which costs were obtained to Buffalo consisted of freight by rail to Duluth (13.40 cents per bushel in 1925, and 12.35 cents per bushel in 1926); handling charges at Duluth 2.2 cents per bushel; and lake freight from Duluth to Buffalo 2.93 cents, or a total of 18.53 cents per bushel in 1925, and 17.48 in 1926.

Transportation charges to New York.—The transportation on flaxseed from the domestic areas from which costs were obtained to New York City is calculated via Duluth and Buffalo. The rate to New York, therefore, is the charge to Buffalo, plus the rate from Buffalo to New York. The rail rate from Buffalo to New York during 1925 and 1926 was 12.20 cents per bushel. When shipments are made by barge on the Erie Canal and Hudson River, there is a transfer charge at Buffalo of 1.6 cents per bushel. The total charge by barge, including the transfer, is 9.37 cents per bushel. The weighted average transportation cost from Buffalo to New York, both by rail and by barge, based upon 460,664 bushels shipped in 1925 and 1926, was 11.90 cents per bushel.

The total transportation costs on flaxseed from the domestic producing areas for which costs were obtained to Buffalo and to New York are summarized in Table 24 below.

TABLE 24.—*Flaxseed: Weighted average transportation costs on domestic seed from all areas covered by the investigation to Buffalo and to New York City, via Duluth, 1925 and 1926*

[Source: For rail transportation—Interstate Commerce tariffs. For lake freight and handling charges—I. C. C. docket No. 17000. Part 8, page 2, presented in behalf of the Minneapolis Traffic Association, the Minneapolis Civic and Commerce Association, and the Chamber of Commerce of Duluth. For barge transportation—Records of shippers and crushers of flaxseed]

[Cents per bushel]

	Crop year	
	1925	1926
Transportation costs from northwest flaxseed region to Buffalo:		
Freight from flaxseed region to Duluth	13.40	12.35
Handling and other charges at Duluth [1]	2.20	2.20
Lake freight, Duluth to Buffalo	2.93	2.93
Total transportation costs to Buffalo	18.53	17.48
Transportation costs from northwest flaxseed region to New York:		
Transportation Buffalo to New York, by—		
Rail	12.20	12.20
Barge [2]	9.37	.....
Rail and barge [3]	11.90	.....
Total transportation costs from producing regions to New York: From Buffalo to New York, by—		
Rail	30.73	29.68
Barge [2]	27.90	.....
Rail and barge [3]	30.43	.....

[1] For detail costs see Table 23.
[2] Includes transfer charges at Buffalo of 1.6 cents per bushel.
[3] Weighted on total shipments by barge canal and by rail as shown by records of flaxseed crushers examined in commission's study of linseed oil.

Transportation charges on Argentine flaxseed from New York City to Buffalo.—There were practically no shipments of flaxseed from New York to Buffalo in 1925. In 1926 the total shipments were 1,417,220 bushels, of which 87 per cent was shipped by the barge canal and 13 per cent by rail. The charge from New York to Buffalo

by rail for that year was 12.3 cents per bushel and by barge canal 7.2 cents per bushel. The weighted average rate by barge canal and by rail was 7.8 cents per bushel.

Comparison of Domestic and Foreign Costs of Production

Table 25 shows for the years 1925, 1926, and for the 2-year average a comparison of the domestic and foreign costs of production of flaxseed, including transportation to the chief consuming markets, New York and Buffalo.

Table 25.—*Flaxseed: Comparison of domestic and foreign costs of production for 1925, 1926, and the 2-year average, including transportation charges to the principal consuming markets, New York and Buffalo*

[Per bushel]

	1925		1926		2-year average, 1925–26	
	United States	Argentina [1]	United States	Argentina [1]	United States	Argentina
Cost of production:						
Farm cost	$2.150		$2.160		$2.155	
Elevator cost	.078		.092		.085	
Total	2.228	[2] $1.894	2.252	[2] $1.797	2.240	[2] $1.846
Transportation charges to [3]—						
New York	.304	.128	[4] .294	.147	.299	.137
Buffalo	.185	.206	.175	.225	.180	.215
Total cost, including transportation to—						
New York	2.532	2.022	2.546	1.944	2.539	1.983
Buffalo	2.413	2.100	2.427	2.022	2.420	2.061
Amount by which domestic costs exceed Argentine costs, including transportation to—						
New York	0.510		0.602		[5] 0.556	
Buffalo	.313		.405		.359	

[1] Invoice prices of imports from Argentina during 1926 have been used as evidence of the cost of the 1925 crop, and invoice prices of 1927 as evidence of cost of the 1926 crop.

[2] Includes loading expenses, commissions, and consular charges in Argentina. Argentine export taxes are not included.

[3] There is practically no difference in the transportation costs on domestic flaxseed whether charges to Duluth be weighted by the production of all areas studied or by the production of only the areas in the Duluth shipping territory. On imported flaxseed from Argentina transportation charges include ocean freight, marine insurance, and landing charges at New York.

[4] No shipments by barge canal in 1926. The weighted average rate for rail and barge shipments between Buffalo and New York for 1925 was used in computing transportation costs for 1926.

[5] Vice Chairman Dennis, and Commissioners Dixon and Clark believe that the export tax should be included in the costs of Argentine flaxseed. If the export tax of $0.017 per bushel on flaxseed from Argentina be included in the Argentine costs of production, the difference in the costs of domestic and Argentine flaxseed, including transportation to New York, exclusive of duty, is $0.539 per bushel.

Domestic costs of production cover the farm costs, including interest on investment, elevator charges, and transportation charges. Foreign costs of production are based on invoice prices of imports of flaxseed from Argentina, the principal competing country.

In the flax region covered by the commission's investigation, relatively few farms are operated under the cash-rental system. Out of a total of 324 farms for which cost records were obtained by the commission, only 5 farms were wholly cash rented, and 30 farms were operated by owners who had rented for cash some additional land. For 1925 the Bureau of the Census reports cash rental as follows: North Dakota, 2.3 per cent; South Dakota, 5.6 per cent; Minnesota,

7.8 per cent; and Montana, 4.5 per cent. In view of these facts it is not believed that the cash-rental rates are sufficiently well established to be used as a charge for land in cost comparisons for purposes of section 315. Farm costs on the cash-rental basis have, therefore, not been included in the following cost comparisons.

The transportation costs on domestic flaxseed are based on the total production of flaxseed shipped by rail from shipping points to Duluth and on the total shipments by boat from Duluth to Buffalo, and by the weighted average shipments by rail and barge canal from Buffalo to New York. The results would be practically the same if transportation charges were based upon shipments instead of production from shipping points to Duluth, and for total production rather than shipments from Duluth to New York.

On the imported flaxseed transportation charges from Argentina to United States ports, insurance, landing, and other charges have been included.

SUMMARY

Findings of fact to the following effect are, in the judgment of the United States Tariff Commission, warranted by the evidence collected in the investigation and summarized in the commission's report:

1. Argentina is the principal competing country.

2. The present rate of duty on flaxseed of 40 cents per bushel of 56 pounds, prescribed in paragraph 760 of the tariff act of 1922, does not equalize the difference in costs of production of flaxseed in the United States and in the principal competing country.

3. New York is the principal market for flaxseed in the United States. During 1925 and 1926 the quantity of flaxseed crushed at New York was about 38 per cent of the total domestic consumption. The quantity of Argentine flaxseed crushed at New York during the calendar years 1925 and 1926 was about 91 per cent of the total domestic consumption of Argentine seed; the quantity of domestic flaxseed crushed at New York during this period was about 11 per cent of the total consumption of domestic seed.

4. The weighted average cost of production of flaxseed in the United States, including transportation to New York, for the calendar years 1925 and 1926, was $2.539 per bushel of 56 pounds; and the cost of production of Argentine flaxseed, including transportation to New York, was $1.983 per bushel of 56 pounds. Said cost of production in the United States exceeds said cost of production in Argentina by $0.556 per bushel.

5. The rate of duty necessary to equalize said difference in costs of production in the United States and in said principal competing country, is 56 cents per bushel.

Respectfully submitted.

THOMAS O. MARVIN,
Chairman.
ALFRED P. DENNIS,
Vice Chairman.
EDGAR B. BROSSARD,
SHERMAN J. LOWELL,
LINCOLN DIXON,
FRANK CLARK,
Commissioners.

COMMENT OF VICE CHAIRMAN DENNIS

The flaxseed case presents certain inadequacies and weaknesses which should be pointed out.

In the first place, no production costs were obtained from the Argentine growers. In the second place, the validity of the domestic costs obtained by the commission's field agents is open to serious question.

INHERENT DIFFICULTIES

The ascertainment of correct agricultural costs is beset with difficulties. To obtain the factory costs of producing a ton of steel or a gallon of alcohol is a relatively simple matter. To obtain the farm costs of producing a pound of butter or a bushel of corn is an extremely difficult matter. A farm is a good deal more than a factory. It is a place on which to live. The farmer's return in money does not exactly measure the success of his enterprise, nor are the services of himself and his family susceptible of a rating in cash. The character of farm work is intermittent and self-administered. It is impossible in the case of a farmer to state as in the case of a factory worker that his time is valued at so many hours out of every day with so many days of work in every week. With the best of intentions our farm-cost accountants impute value to time which has not been actually occupied by a farmer and his family just as they impute a value to roughages such as straw, which have no actual cash value.

Costs as ascertained by interrogating farmers as to their expenses are bound to be inflated. In 1923 this commission, with painstaking and conscientious efforts, set about to obtain the domestic costs of producing butter. The costs so obtained pointed to the disconcerting conclusion that our dairy farmers were consistently marketing butter below its cost of production, whereas we know that our dairy industry was actually expanding in the year 1923 and was regarded by experts as the most importantly remunerative branch of American agriculture. In other words, the presumptively high coefficient of error which inheres in farm cost accounting is corroborated by actual experience in obtaining costs.

The futility of the enterprise is aptly set forth by former Secretary of Agriculture Mr. Jardine in his report to the President in 1926:

> * * * The experiences of recent years have convinced me that the system of basing tariff rates on differences in production costs is inapplicable to agricultural products. It is quite impossible to obtain trustworthy production costs, weighted either for the total crop or for the bulk of it. A certain cost of cultivation and overhead, a certain agricultural effort, may in one year be rewarded with twice the crop that is obtained in another year. Therefore, costs of cultivation can not be relied upon to indicate costs of crop units in a particular year.

CONCRETE DEFECTS

How the production-cost formula breaks down when applied to farm products is abundantly illustrated by the flaxseed case.

First, the two years employed as a statistical base for ascertaining domestic costs are both abnormal. The yields for these two particular years were exceptionally low as judged by a five-year average. The yields being abnormally low the costs were correspondingly high. The costs in these two exceptional years do not correctly picture the normalities of the situation. Tariff rates should not be based upon

the exceptional but upon the usual; not upon costs of the marginal producer, but upon costs that are representative of the entire industry.

Second, the elevator costs furnish intrinsic evidence of inflation. Table No. 16 of the final report carries a higher item of elevator costs straight down the line as compared to the costs presented in Table No. 22 of the preliminary report. It is conceded that elevator costs for handling flaxseed are necessarily higher than for wheat, rye, or corn, but how the method of allocation used in the final report can make so large a difference in the cost of such items as managers' salaries, light, heat, power, taxes, directors' fees and expenses, stationery and supplies, telephone and market services, and advertising is a mystery of cost accounting which baffles attempts at satisfactory analysis. Common sense rejects as a libel upon actuality an average cost item of approximately 2½ cents allocated to manager's salary for every bushel of flaxseed run through the elevators in the four producing States. In both the items of actual production and elevator charges domestic costs bear intrinsic evidence of inflation. One discovers the same evidence of inflation in transportation charges.

STRAINED APPLICATION OF TRANSPORTATION CHARGES

Certain commissioners insist that the entire domestic flaxseed crop should be credited with a transportation charge to New York. It is enough to say that nature never intended New York as the principal competing market for domestic flaxseed. Under the scepter of nature the principal producing areas are located half the breadth of the continent from our eastern coastal markets. An industry develops through processes of evolution peculiar to its own genius. In this case soil, climate, and the habitudes of the population have localized the production of flaxseed in a circumscribed region quite remote from our coastal areas. Under the economic laws which govern the evolution of the industry flaxseed produced for purposes of conversion into linseed oil seeks its nearest market. Practical men engaged in converting flaxseed to linseed oil have found it more expedient to move the mills to the flaxseed than to move the flaxseed to the mills. We find a concentration of these mills in the Minneapolis-St. Paul district, some 1,500 miles from the Atlantic coast, some 1,700 miles from the Pacific coast, and some 1,300 miles from the Gulf.

The domestic producers have two strings to their bow. They are not confined to their near-by mills. They may and do ship their seed to Duluth, from which point it moves by water through the Great Lakes to Buffalo, and occasionally under the stimulus of favorable conditions to New York. In the year 1925 about 25 per cent of the domestic seed actually reached New York. In the following year, however, the movement to New York represented only about two-fifths of 1 per cent of the output. Year in and year out the Minneapolis-St. Paul district is the principal market for domestic flaxseed. Year in and year out New York is the principal market for imported flaxseed. Buffalo represents a point where the streams of imports from Argentina, Canada, and the United States product habitually meet in actual physical competition. Argentine seed by no chance physically competes with domestic seed in the Minneapolis

market. Domestic seed does actually compete year in and year out with Argentine seed in the Buffalo market. The crushing mills have sprung up along the Atlantic seaboard in obedience to the natural economic law which draws the linseed oil mills toward the areas of production. Propinquity to raw material is the desideratum of the flaxseed crusher. The coastal crushing mills derive their raw material from Argentina chiefly because of the cheapness of ocean transportation. The Minneapolis-St. Paul mills draw their supplies by cheap rail haul from near-by domestic sources of production. These two zones are to a large extent mutually distinct and exclusive, domestic flaxseed within its own zone being immune to the intrusion of foreign flaxseed. Argentine flaxseed moving from coastal points to the interior of our country is under the double handicap of a duty of 40 cents a bushel and land transportation which completely exhausts the competitive reach overland of the foreign article at Buffalo, N. Y. Crushers find it advantageous to obtain supplies of flaxseed from Argentina, but on occasion if conditions warrant are able to draw on domestic sources of supply. It lies with Congress to decide as to how far government should go in compensating producers for disadvantages imposed by nature. No man with a sense of justice would ask to exclude a domestic product from our great coastal centers of population. One may well inquire, however, whether a natural disadvantage to the producer such as remoteness from centers of population is to receive an artificial recompense in tariff form at the expense of the consumer. In this case the consumer is legion since he is identical with the users of linseed oil, paint, and linoleum throughout the country. The number of American farmers who produce flaxseed is small as compared to the number of farmers who consume flaxseed products. If a rate of duty is to be determined which will give the Montana grower of flaxseed an equal opportunity in the New York market with the Argentine producer what shall be said on the practical side about hauling Montana seed past the crushing plants in Minneapolis where no foreign competition exists and carrying the product over 1,500 miles to the Atlantic coast? It seems fairly clear that the equities of the situation are better satisfied either by adopting Buffalo as the one principal competing market or by selecting Minneapolis as the principal market for the domestic product and New York as the principal market for the foreign commodity. It is a question as to whether the transportation costs should be based upon the actual movement of goods to a competing market or whether realities shall be abandoned for suppositions as to what should be ideally regarded as the principal market in case advantages or disadvantages in transportation should be equalized by an increase in existing tariff rates.

So much for the critique of the domestic costs. The business is worse confounded when it comes to foreign costs. We have no foreign costs worthy the name. Field ascertainment of costs has been excluded from the scope of our reference by the action of the Argentine Government. When it comes, therefore, to the correct determination of production costs we are left with but one leg to stand on, and that leg a feeble one. We have been compelled to accept invoice prices in lieu of foreign costs. The invoice price of a factory product may in many cases carry sound inferential conclusions as to the cost of its production, though the determinations at best

rest upon supposition rather than certitude. An inference that is questionable in the case of a factory-product becomes doubly dubious in the case of a farm product. The director of an industrial enterprise may adjust his output to market demand, withholding at pleasure his product from an unwilling market or in times of depression shut down his factory altogether. Not so with the farmer. The Argentine planter sowing his crop of flax or corn is in no position to adjust his output to the market demand and trim crop expenditures to a figure that will insure a margin of profit on his harvest. His business is a haphazard one. He knows that if he does not sow he shall not reap. His sowing is more or less of a gamble and in the last resort he offers his surplus of corn or flaxseed on the world market for what it will fetch and the price he realizes in a particular year on a particular crop is no just criterion as to the cost of producing that particular crop.

FACTORS OMITTED FROM THE EQUATION

We are completely in the dark as to the actual cost of producing flaxseed in Argentina in the two years under consideration. Not only that, certain factors are entirely omitted from consideration which should count heavily in the equation of Argentine world trade in flaxseed.

First, the report does not present the true competitive situation. We are comparing domestic costs for 1925 and 1926 with the invoice prices as represented by imports of 1926 and 1927. The invoice price of imports of 1926 representing the 1925 Argentine crop (flaxseed delivered at New York) is 56 cents lower (by reason of a higher yield) than if the 1925 invoice price were taken as indicative of cost of that year's crop. These violent fluctuations point to a coefficient of error that is bound to subsist where one compares the actual cost of growing a domestic crop in a given year with the invoice prices at New York of a similar crop grown in the Southern Hemisphere the year before.

Second, the report takes no adequate account of the large quantities of Argentine flaxseed that are exported from the United States after conversion into cake and linseed oil with the benefit of a drawback of 99 per cent of the duty paid at the time of importation. Actual competition, therefore, of Argentine flaxseed in our markets is not represented by the amount which enters our ports, but by that amount minus the reexported products.

Third, the value of a bushel of flaxseed is largely determined by the quality and quantity of oil that can be extracted from it. The report does not present an accurate comparison either quantitatively or qualitatively of domestic and foreign flaxseed oil content.

Fourth, the export tax levied by Argentina upon flaxseed is ignored as an advantage or disadvantage in competition. If an export tax, as in the case of Chilean nitrate, may be recognized as part and parcel of a permanent economic policy for raising revenue, the tax, in our opinion, should be regarded as a disadvantage in competition and must be reckoned with. On the other hand, if the export tax is levied for the purpose of influencing the tariff policy of our own country it would be proper to ignore it. The Argentine export tax on flaxseed would appear to have been laid as a revenue producer with no purpose whatever to influence the American tariff policy.

CONCLUSIONS AND SUGGESTIONS

Misgivings and dubieties to the contrary notwithstanding, the undersigned commissioners have thought it proper to affix their names to this report for the following reasons:

First, because the data, procured under exceptionally adverse conditions, are about the only thing we have to go on under the limitations of the statute.

Second, because we are unwilling to see the work of the commission nullified by the adverse action of a foreign government.

Third, because beset by perplexities and uncertainties we prefer on principle to resolve doubts in favor of the domestic producer.

It has been a disagreeable and ungracious task to point out the weaknesses and inadequacies of this report. Our justification lies in the hope that through so doing attention of the constituted authorities may be drawn to the baffling limitations which hamper the commission in the administration of the flexible provision of the tariff act. It is a case of making bricks without straw. With the best efforts and best intentions accompanied by an inordinate expenditure of time and money we find ourselves compelled to accept inferences for actualities, suppositions for certitude.

The undersigned commissioners, through this report to the President, respectfully call to the attention of Congress the urgent need for making the flexible provision of the present tariff law a more efficient instrument of government for correcting inequalities in tariff rates. Under existing law the harbor of certitude we seek continues to dip below the horizon as we seek to approach it.

The navigator, to be successful, should not only be equipped with chart and compass, but also endowed with a reasonable amount of discretionary power.

ALFRED P. DENNIS,
Vice Chairman.

STATEMENT BY COMMISSIONERS DIXON AND CLARK

The undersigned commissioners have concurred in the final report on flaxseed. We think, however, that attention may be properly called to certain facts. The two years covered by the commission's investigation were to some degree abnormal—domestic yields per acre were below normal, Argentine production was above normal. Considerable quantities of linseed oil and linseed cake made from imported flaxseed are exported annually under the drawback provisions with a refund to the exporter of 99 per cent of the duty paid. The report fails to make allowance in the analysis of the competitive conditions for such exports which, however, do not affect domestic costs. We feel that the domestic elevator charges may be somewhat too high and that the Argentine export tax should be included in the final costs of the imported flaxseed. We have called attention to the above items in order that the record of the investigation may be complete. Notwithstanding these inadequacies of the investigation, but on the basis of the facts shown in the report, the difference in costs obtained is justified.

LINCOLN DIXON,
FRANK CLARK,
Commissioners.

SECTION II

STATISTICAL APPENDIX

DRAWBACK FROM EXPORTS OF FLAXSEED PRODUCTS

Under the tariff act of 1922, producers of exported linseed oil, linseed cake and meal, and other products made from imported flaxseed are entitled to a refund or drawback equivalent to 99 per cent of the duty paid on the seed used in making the exported products if all the products are exported. In recent years the refund of duty on exported products, chiefly linseed cake, and on manufactured articles containing linseed oil made from imported seed, ranged from 18 to 25 per cent of the duty collected on flaxseed imports. This refund averaged 9.6 cents per bushel on all seed imported in 1924, 8.16 cents in 1925, and 7.18 cents in 1926.

Table 26 shows the amount refunded on various flaxseed products exported with the benefit of drawback.

TABLE 26.—*Flaxseed: Products exported with benefit of drawback, 1925–1927*

[Source: Commerce and Navigation, United States Department of Commerce]

Item	Drawback paid		
	1925	1926	1927
Linseed cake	$1,262,287.74	$1,538,553.23	$1,936,359.19
Linseed meal	29,663.54	1,161.04	28,839.38
Linseed oil	12,655.34	17,414.32	27,575.49
Oilcloth and waterproof garments	15,763.75	13,609.64	13,927.38
Paints	29.79	32.27	1,329.09
Varnishes	5,542.04	5,763.59	5,376.45
Total	1,325,942.20	1,576,534.09	2,013,407.58
Refund:			
Per cent of duty paid	20.08	17.66	22.87
Cents per bushel	8.03	7.06	9.15

Linseed cake is the principal flaxseed product exported from the United States. Table 27 shows the domestic production of linseed cake from imported flaxseed, the exports with benefit of drawback, and the ratio of the latter to the former. For the 4-year average, 1923–1926, exports of linseed cake with benefit of drawback have amounted to 66.2 per cent of the quantity produced from imported flaxseed.

TABLE 27.—*Linseed cake and meal: Production from imported flaxseed, exports with benefit of drawback, and ratio of latter to former, United States, 1923–1926*

Calendar year	Production [1]	Exports [2]	Ratio of exports to production
	Short tons	*Short tons*	*Per cent*
1923	453,067	120,345	26.6
1924	308,886	314,532	101.8
1925	307,410	267,952	87.2
1926	415,531	280,644	67.5
Total and average per cent	1,484,894	983,473	66.2

[1] Computed from imports of flaxseed, as shown in Foreign Commerce and Navigation of the United States, on the basis of an estimated yield of 66.5 per cent of cake.

[2] Quantity on which drawback was paid, as shown in Foreign Commerce and Navigation of the United States.

The following pages give information on yields, wages, and cost of production of flaxseed in Argentina; invoice prices including transportation and other charges per bushel of clean seed from Argentine ports to New York for 1925, 1926, and the 2-year average.

Yields per acre.—Table 28 gives the average yield per acre in the Provinces of Buenos Aires, Santa Fe, Cordoba, and Entre Rios for the crops of 1924–25 and 1925–26, and the average yields in Argentina, 1919–20 to 1925–26.

TABLE 28.—*Flaxseed: Yields per acre in flax-growing regions of Argentina, 1919–20 to 1925–26* [1]

[Bushels]

Year	Buenos Aires	Santa Fe	Cordoba	Entre Rios	Average for Argentina
1919–20					[2] 11.4
1920–21					[2] 12.6
1921–22					[2] 9.3
1922–23					[2] 11.0
1923–24					[2] 10.8
1924–25	9.1	7.7	6.9	10.0	8.4
1925–26	13.4	12.5	12.2	10.9	12.4
7-year average					10.9

[1] Source: Anuario de Estadistica Agro-Pecuaria, Ministerio de Agriculture, Sección B, 1925–26. No data by Provinces for 5 years, 1919–1924.
[2] Production divided by acres planted.

Of the annual average production in Argentina—120,203,657 bushels—for the two years, 1924–25 and 1925–26, the Province of Buenos Aires produced 25.2 per cent; Santa Fe, 34.5 per cent; Entre Rios, 15.2 per cent; Cordoba, 13.8 per cent; and 11.3 per cent was produced in all other Provinces. The average yield per acre of flaxseed in Argentina for the 7-year period, 1919–20, to 1925–26, was 10.9 bushels as compared with 8.2 bushels per acre in the United States for the same period.

Wages.—Table 29 gives the average wages in Argentina for different classes of labor, converted to United States money at the average New York rates of exchange for the period when operations were performed.

TABLE 29.—*Flaxseed: Average wage in Argentina per day and per month for different classes of labor, crop year 1924–25* [1]

Province	Peon labor			Tractor operators in preparing land [3]	Daily wages paid harvesters [3]		
	Preparation and seeding [2]		Harvesting [2]		Machine operators	Wagoners	Ox drivers
	Per day	*Per Mo.*	*Per day*	*Per day*			
Buenos Aires	$0.98	$21.12	$2.08	$3.75	$3.77	$2.29	$1.04
Santa Fe	.88	19.56	2.52	4.27	3.90	2.58	.88
Cordoba	.92	22.27	2.87	3.88	4.24	2.93	1.02

[1] Source: Anuario de Estadistica Agro-Pecuaria, Sección B, 1924–25, pp. 138 and 139. With or without board not stated, it is assumed to be with board.
[2] At average rate of exchange for May, June, July, and August, 1924.
[3] At average rate of exchange for November and December, 1924.

Cost of production.—The Minister of Agriculture and the Rural Society of Argentina have published data concerning the cost of producing flaxseed in Argentina. These costs are based largely on statistics of land values, wages, land rentals, and yields.

Table 30 gives the cost of producing flaxseed as published by the Argentine Minister of Agriculture in January, 1924, converted to United States money at the average rates of exchange at New York for 1923. To what extent the cost of producing flaxseed in terms of Argentine money has changed between 1923 and 1926 because of the increase in the value of the gold peso during that period is not known. This report assumes a typical farm in the flax region where the work is performed by the farmer, his family, one regular hired laborer, and extra labor at harvest time. It considers an average-sized farm of 370 acres, of which 99 acres are devoted to flax, 237 acres to other farm crops, and 34 acres to pasture, garden, and home grounds. The capital invested in machinery and tools was $1,500. The costs of producing flaxseed are computed on the basis of a yield of 11.1 bushels of seed per acre.

TABLE 30.—*Flaxseed: Cost of production in Argentina* [1]

Item of cost	Cost per bushel	
	Argentine money (paper pesos)	Converted to United States money for 1923 [2]
Field operations:		
Management and labor	0.53	$0.19
Horse work	.16	.06
Cutting	.38	.13
Threshing and sewing bags	.41	.14
Total of field operations	1.48	.52
Materials:		
Seed	.39	.14
Bags and thread	.13	.04
Total of materials	.52	.18
Other costs:		
Hail insurance	.08	.03
Taxes	.02	
Repairs and replacements	.05	.02
Carting and hauling to railroad station	.15	.05
Depreciation	.04	.01
Total of other costs	.34	.11
Total costs	2.34	.81
Capital charges:		
Rent	.87	.30
Interest—		
Improvements in value of land at 7 per cent	.04	.01
On value of work stock, machinery, and tools at 7 per cent	.07	.03
On working capital at 8 per cent	.05	.02
Total of capital charges	1.03	.36
Cost delivered to railroad station	3.37	1.17
Cost to the port	3.67	1.27
Cost to the hold of boat	3.97	1.37

[1] Source: "Cuenta Cultural y Costo de Produccion del Lino," by the "Dirección Géneral de Economía Rural y Estadistica del Ministerio de Agricultura," Argentina, Jan. 7, 1924.
[2] Paper pesos converted to gold pesos at 0.44. Average value of Argentine gold peso = $0.7857.

In January, 1928, La Sociedad Rural Argentina published costs of producing flaxseed per hectare and per 100 kilos based on flax land at various values and on various yields per hectare. These data appeared in Anales de la Sociedad Rural, published at Buenos Aires. Table 31 shows the costs contained in this publication per hectare, per acre, and per bushel, converted to United States money at the average rates of exchange at New York for 1926.

TABLE 31.—*Flaxseed: Cost of production in Argentina at different values of land and yields per acre* [1]

Average value of land		Average yield		Average cost in paper pesos			Average cost in United States money	
Pesos per hectare	Dollars per acre	Per hectare	Per acre	Per hectare	Per acre	Per bushel	Per acre	Per bushel
		Quintals	*Bushels*					
100	16.41	3.33	5.30	65.98	26.70	5.04	$10.83	$2.04
200	32.82	5.56	8.86	83.69	33.87	3.82	13.73	1.55
300	49.23	7.14	11.37	98.27	39.77	3.50	16.13	1.42
400	65.64	8.32	13.25	110.94	44.90	3.39	18.21	1.37
500	82.05	9.25	14.74	122.40	49.53	3.36	20.08	1.36
600	98.46	10.00	15.93	133.00	53.82	3.38	21.82	1.37
700	114.87	10.61	16.90	142.93	57.84	3.42	23.45	1.39
800	131.28	11.11	17.70	152.31	61.64	3.48	24.99	1.41
900	147.69	11.54	18.38	161.37	65.30	3.55	26.48	1.42
1,000	164.10	11.89	18.94	170.10	68.84	3.63	27.91	1.47

[1] Source: "Anales de la Sociedad Rural Argentina," published monthly at Buenos Aires appearing in issue of January, 1928, page 39. Converted to United States money at the average value of Argentine gold peso for 1926 at $0.921497. (Federal Reserve Board.) Paper pesos converted to gold pesos at .44.

Table 32 analyzes invoices of imports of flaxseed from Argentina through the port of New York in 1924 and 1925.

TABLE 32.—*Flaxseed: Analysis of Argentine invoice data for flaxseed received at New York, calendar years 1925, 1926, and 2-year average* [1]

	Price per bushel of clean seed		
	1925	1926	2-year average
Total price f. o. b. Argentina	$2.513	$1.904	$2.223
Total price c. i. f. New York, including export duties	[2] 2.650	2.024	2.337
Analysis adjustments for clean seed	.026	.026	.026
Total c. i. f. price and adjustments	2.676	2.050	2.363
Landing charges at New York	.008	.008	.008
Total c. i. f. price, adjustments, and landing charges	2.684	2.058	2.371
Credits, deductions for used bags	.011	.011	.011
Net landed value at New York	2.673	2.047	2.360
Net landed value less Argentine export duties [3]	2.556	2.022	2.304
Quantities covered in analysis: Bushels of clean seed	5,102,600	11,764,491	8,432,546

[1] Prices converted to United States money on New York rates of exchange at dates of invoice. No consigned shipments used in analysis.

[2] Includes statistical charges which were impossible to separate as export duties and statistical charges were not reported separately.

Table 33 shows transportation and other charges on flaxseed imported from Argentina, 1925 and 1926.

TABLE 33.—*Flaxseed: Transportation and other charges from Argentine ports to New York, 1925 and 1926* [1]

Item	Cost per bushel, clean-seed basis		
	1925	1926	2-year average
Transportation: Ocean freight	$0.100	$0.115	$0.108
Other charges:			
Loading expenses	.030	.032	.031
Export taxes	.087	.025	.056
Commissions	.023	.020	.022
Marine insurance	.007	.005	.006
Consular charges [2]	.007	.006	.006
Landing charges at New York	.008	.008	.008
Total	.162	.096	.129
Total transportation and other charges from Argentina to New York	.262	.211	.237

[1] Items appearing on each invoice converted to United States money at the rate of exchange on the date of the invoice. Consigned shipments not included.
[2] Includes stamps, consular fees, and charges for inspection certificate.

Tables 34–37 give domestic costs per acre for 1925 and 1926, costs per bushel for 1926, and the 2-year average, 1925–26, using all areas covered by the commission's investigation. Table 38 gives an array showing farms, acres, and bushels produced at varying costs, the cumulation number, and the per cent of each for 1926.

TABLE 34.—*Flaxseed: Farm costs of production in the United States by areas, 1925*

[Cost per acre]

Cost item	Minnesota			North Dakota						South Dakota			Montana, area 13, Scobey	United States
	Area 1, Hallock	Area 2, Morris	Area 3, Dodge Center	Area 4, Park River	Area 5, Valley City	Area 6, Rugby	Area 7, Washburn	Area 8, Stanley	Area 9, Dickinson	Area 10, Watertown	Area 11, Ipswich	Area 12, Miller		
Acres harvested	1,645	820	782	878	2,402	550	3,370	855	1,865	1,405	2,994	1,498	1,702	20,756
Bushels produced	11,024	6,252	7,466	8,180	17,403	3,505	22,227	6,215	7,616	10,396	17,226	4,904	7,056	129,470
Field operations:														
Preparation and seeding	$5.49	$5.79	$5.16	$5.30	$3.99	$3.64	$5.70	$6.79	$5.81	$3.86	$5.17	$5.35	$5.19	$5.24
Harvesting and marketing	3.78	4.08	5.14	4.94	4.16	3.59	3.42	3.79	3.15	3.81	3.29	2.29	3.06	3.80
Total of field operations	9.27	9.87	10.30	10.24	8.15	7.23	9.12	10.58	8.96	7.67	8.46	7.64	8.25	9.04
Materials:														
Manure	.18	.40	1.12	.01	.07	.04	.06	.11	.04	1.13				.19
Seed	1.91	2.69	1.98	1.42	1.50	1.30	1.14	1.27	1.23	1.56	1.38	1.70	.98	1.55
Twine	.22	.28	.33	.19	.17	.10	.01	.01		.24				.12
Total material	2.31	3.37	3.43	1.62	1.74	1.44	1.21	1.39	1.27	2.93	1.38	1.70	.98	1.86
Other costs:														
Taxes	.81	.75	.84	.53	.58	.33	.30	.35	.31	.61	.62	.65	.22	.51
Crop insurance	.07	.14	.02	.02	.13	.01	.10	.16	.55	.27	.37	.12	.52	.20
Use of automobile	.32	.12	.32	.53	.23	.23	.19	.26	.25	.18	.27	.38	.25	.27
Other miscellaneous costs [1]	.07	.06	.12	.16	.10	.06	.06	.04	.06	.06	.03	.05	.02	.07
Total of other costs	1.27	1.07	1.30	1.26	1.04	.63	.65	.81	1.17	1.12	1.29	1.20	1.01	1.05
Gross costs	12.85	14.31	15.03	13.12	10.93	9.30	10.98	12.78	11.40	11.72	11.13	10.54	10.24	11.95
Credits (deductions from cost) [2]			.98		.03	.11	.03	.06	.16	.06	.44	.01	.01	.08
Net cost	12.85	14.31	14.05	13.12	10.90	9.19	10.95	12.72	11.24	11.66	10.69	10.53	10.23	11.87
Interest:														
On land at 6 per cent	3.11	4.69	4.74	2.79	1.86	1.84	1.47	1.56	1.18	2.82	2.18	1.99	.98	2.34
On all other capital at 6 per cent	.02	.09	.05	.15	.06	.04	.09	.03	.05	.03	.06	.14	.02	.06
Tota linterest	3.13	4.78	4.79	2.94	1.92	1.88	1.56	1.59	1.23	2.85	2.24	2.13	1.00	2.40
Net cash rental	1.29	1.77	1.76	1.79	1.00	1.06	.76	1.04	.54	1.58	.92	1.39	.65	1.19
Total net cost delivered at elevator:														
With interest on land and other capital	15.98	19.09	18.84	16.06	12.82	11.07	12.51	14.31	12.47	14.51	12.93	12.66	11.23	14.27
With net cash rental on land and interest on other capital	14.16	16.17	15.86	15.06	11.96	10.29	11.80	13.79	11.83	13.27	11.67	12.06	10.90	13.12

[1] Includes use of telephone, association dues, and fence repairs.

[2] Straw and screenings.

TABLE 35.—*Flaxseed: Farm costs of production in the United States by areas, 1926*

[Cost per acre]

Cost item	Minnesota			North Dakota						South Dakota			Montana, Area 13, Scobey	United States
	Area 1, Hallock	Area 2, Morris	Area 3, Dodge Center	Area 4, Park River	Area 5, Valley City	Area 6, Rugby	Area 7, Washburn	Area 8, Stanley	Area 9, Dickinson	Area 10, Watertown	Area 11, Ipswich	Area 12, Miller		
Acres harvested	3,131	1,625	866	1,129	2,906	1,064	2,255	1,044	1,508	1,931	1,896	1,614	1,899	22,868
Bushels produced	20,717	12,253	9,290	10,076	17,199	7,224	5,982	5,487	2,309	10,147	6,454	4,060	10,604	121,812
Field operations:														
Preparations and seeding	$5.01	$5.02	$5.09	$5.03	$4.71	$4.83	$7.58	$6.10	$5.63	$4.36	$5.78	$5.36	$5.00	$5.20
Harvesting and marketing	3.78	4.21	5.55	4.88	4.25	3.80	2.41	3.05	2.01	3.26	2.74	2.10	3.27	3.38
Total field operations	8.79	9.23	10.64	9.91	8.96	8.63	10.99	9.15	7.64	7.62	8.52	7.46	8.27	8.58
Materials:														
Manure	.09	.31	.99	.17	.02	-------	.04	.23	.05	.80	.01	-------	-------	.20
Seed	1.54	1.83	2.49	1.35	1.49	1.36	1.25	1.09	1.21	1.57	1.52	1.76	.69	1.41
Twine	.25	.29	.36	.18	.18	.08	-------	.02	-------	.27	-------	.01	-------	.14
Total material	1.88	2.43	3.84	1.70	1.69	1.44	1.29	1.34	1.26	2.64	1.53	1.77	.69	1.75
Other costs:														
Taxes	.62	.76	.91	.52	.61	.46	.35	.36	.31	.62	.66	.63	.28	.52
Crop insurance	.05	.18	.24	.02	.11	.01	.34	.14	.42	.25	.16	.09	.33	.20
Use of automobile	.28	.11	.36	.54	.25	.23	.22	.27	.31	.25	.27	.34	.18	.27
Other miscellaneous costs [1]	.11	.07	.14	.14	.18	.03	.03	.04	.02	.05	.02	.12	.05	.08
Total other costs	1.06	1.12	1.65	1.22	1.15	.73	.94	.81	1.06	1.17	1.13	1.18	.84	1.07
Gross costs	11.73	12.78	16.13	12.83	11.80	10.80	12.22	11.30	9.96	11.43	11.18	10.41	9.80	11.40
Credits (deductions from cost) [2]	.11	.23	1.33	.30	.44	.08	.22	.14	.29	.13	.12	.07	.10	.25
Net cost	11.62	12.55	14.80	12.53	11.36	10.72	12.00	11.16	9.67	11.30	11.06	10.34	9.70	11.15
Interest:														
On land at 6 per cent	2.58	3.93	5.16	2.61	2.09	1.77	1.65	1.83	1.32	3.00	2.49	2.04	1.19	2.38
On all other capital at 6 per cent	.07	.07	.09	.14	.11	.03	.04	.04	.03	.03	.08	.11	.04	.06
Total interest	2.65	4.00	5.25	2.75	2.20	1.80	1.69	1.87	1.35	3.03	2.57	2.15	1.23	2.44
Net cash rental	.97	1.52	1.90	1.55	1.00	1.04	.98	.91	.57	1.66	1.07	1.03	1.01	1.12
Total net cost delivered at elevator:														
With interest on land and other capital	14.27	16.55	20.05	15.28	13.56	12.52	13.69	13.03	11.02	14.33	13.63	12.49	10.93	13.59
With net cash rental on land and interest on other capital	12.66	14.14	16.79	14.20	12.47	11.79	13.02	12.11	10.27	12.99	12.21	11.50	10.75	12.33

[1] Includes use of telephone, association dues, fence, and repairs.

[2] Straw and screenings.

TABLE 36.—*Flaxseed: Farm costs per bushel of production in the United States, 1926, using 15 areas as shown in the scope of investigation*

	Minnesota	North Dakota	South Dakota	Montana	Weighted average
Field operations:					
Preparation and seeding	$0.67	$1.23	$1.09	$0.89	$0.98
Harvesting and marketing	.55	.70	.67	.59	.63
Total	1.22	1.93	1.76	1.48	1.61
Materials:					
Manure	.04	.02	.11	.....	.04
Seed	.24	.28	.36	.12	.26
Twine	.04	.01	.04	.....	.03
Total	.32	.31	.51	.12	.33
Other costs:					
Taxes	.10	.09	.15	.05	.10
Crop insurance	.01	.08	.05	.06	.04
Use of automobile	.03	.07	.06	.03	.05
Other miscellaneous costs [1]	.01	.01	.01	.02	.01
Total	.15	.22	.27	.16	.20
Gross costs	1.69	2.46	2.54	1.76	2.14
Credits (deductions from cost) [2]	.04	.06	.03	.02	.05
Net cost	1.65	2.40	2.51	1.74	2.09
Interest:					
On land at 6 per cent	.47	.40	.62	.21	.45
On other capital at 6 per cent	.01	.02	.01	.01	.01
Total	.48	.42	.63	.22	.46
Net cash rental	.18	.21	.33	.18	.21
Total net cost delivered at elevator:					
With interest on land and other capital	2.13	2.81	3.14	1.96	2.55
With net cash rental on land and interest on other capital	1.84	2.63	2.85	1.93	2.31
Price received by farmers	2.04	1.97	1.99	1.88	2.00
Average yield per acre (bushels)	7.5	4.9	3.8	5.6	5.4

[1] Includes use of telephone, association dues, fence repairs, and other miscellaneous costs.
[2] Straw and screenings.

TABLE 37.—*Flaxseed: Farm cost per bushel of production in the United States; 2-year average, 1925 and 1926*

	Minnesota	North Dakota	South Dakota	Montana	Weighted average
Field operations:					
Preparation and seeding	$0.71	$1.00	$0.96	$1.07	$0.89
Harvesting and marketing	.55	.62	.62	.67	.59
Total	1.26	1.62	1.58	1.74	1.48
Materials:					
Manure	.04	.02	.09	.....	.03
Seed	.28	.23	.32	.18	.25
Twine	.04	.01	.03	.....	.03
Total	.36	.26	.44	.18	.31
Other costs:					
Taxes	.10	.08	.13	.05	.09
Crop insurance	.01	.04	.04	.10	.04
Use of automobile	.03	.05	.06	.04	.04
Other miscellaneous costs [1]	.01	.01	.01	.01	.01
Total	.15	.18	.24	.20	.18
Gross costs	1.77	2.06	2.26	2.12	1.97
Credits (deductions from cost) [2]	.03	.04	.03	.01	.03
Net cost	1.74	2.02	2.23	2.11	1.94

[1] Includes use of telephone, association dues, fence repairs, and other miscellaneous items.
[2] Straw and screenings.

TABLE 37.—*Flaxseed: Farm cost per bushel of production in the United States; 2-year average, 1925 and 1926*—Continued

	Minnesota	North Dakota	South Dakota	Montana	Weighted average
Interest:					
On land at 6 per cent	$0.51	$0.32	$0.52	$0.22	$0.40
On other capital at 6 per cent	.01	.02	.02	.01	.01
Total	.52	.34	.54	.23	.41
Net cash rental	.20	.17	.23	.17	.19
Total net cost delivered at elevator:					
With interest on land and other capital	2.26	2.36	2.77	2.34	2.35
With net cash rental on land and interest on other capital	1.95	2.21	2.53	2.29	2.14
Price received by farmers	2.19	2.10	2.08	2.00	2.12
Average yield per acre (bushels)	7.6	5.7	4.7	4.9	5.8

TABLE 38.—*Flaxseed: Number of farms, acres, and bushels, produced at varying costs per bushel, the cumulative number, and per cent of each, 1926*

Cost per bushel	Farms			Acres			Bushels		
	Number	Cumulative number	Cumulative per cent of total	Number	Cumulative number	Cumulative per cent of total	Number	Cumulative number	Cumulative per cent of total
Less than $0.90	2	2	0.6	222	222	1.0	3,345	3,345	2.6
$0.90 and less than $1	6	8	2.5	228	450	2.0	3,296	6,641	5.2
$1 and less than $1.10	5	13	4.0	330	780	3.4	4,335	10,976	8.6
$1.10 and less than $1.20	4	17	5.2	163	943	4.1	1,814	12,790	10.0
$1.20 and less than $1.30	8	25	7.7	383	1,326	5.8	4,057	16,847	13.2
$1.30 and less than $1.40	8	33	10.2	796	2,122	9.3	5,350	22,227	17.3
$1.40 and less than $1.50	13	46	14.2	655	2,777	12.1	6,052	28,279	22.1
$1.50 and less than $1.60	14	60	18.5	568	3,345	14.6	5,252	33,531	26.2
$1.60 and less than $1.70	14	74	22.8	1,385	4,730	20.7	11,050	44,581	34.8
$1.70 and less than $1.80	13	87	26.9	1,176	5,906	25.8	7,315	52,006	40.7
$1.80 and less than $1.90	14	101	31.2	814	6,720	29.4	5,589	57,685	45.0
$1.90 and less than $2	16	117	36.1	1,093	7,813	34.2	7,580	65,265	50.9
$2 and less than $2.10	14	131	40.4	2,063	9,876	43.2	12,801	78,066	60.9
$2.10 and less than $2.20	9	140	43.2	800	10,736	46.9	4,814	82,880	64.7
$2.20 and less than $2.30	9	149	46.0	645	11,381	49.8	3,299	86,179	67.3
$2.30 and less than $2.40	14	163	50.3	661	12,042	52.7	4,003	90,182	70.4
$2.40 and less than $2.50	7	170	52.5	523	12,565	54.9	3,213	93,395	72.9
$2.50 and less than $2.60	10	180	55.6	876	13,441	58.8	4,448	97,843	76.4
$2.60 and less than $2.70	3	183	56.5	180	13,621	59.6	673	98,946	77.2
$2.70 and less than $2.80	7	190	58.6	805	14,426	63.1	4,018	102,514	80.0
$2.80 and less than $2.90	2	192	59.3	76	14,502	63.4	350	102,864	80.3
$2.90 and less than $3	3	195	60.1	220	14,722	64.4	1,052	103,916	81.1
$3 and less than $3.10	2	197	60.8	125	14,847	64.9	480	104,396	81.5
$3.10 and less than $3.20	4	201	62.0	396	15,243	66.6	1,488	105,884	82.6
$3.20 and less than $3.30	6	207	63.9	660	15,903	69.5	2,213	108,097	84.4
$3.30 and less than $3.40	2	209	64.5	38	15,941	69.7	157	108,254	84.5
$3.40 and less than $3.50	4	213	65.7	222	16,163	70.7	1,035	109,289	85.3
$3.50 and less than $3.60	3	216	66.7	102	16,265	71.1	298	109,587	85.5
$3.60 and less than $3.70	5	221	68.2	270	16,535	72.3	811	110,398	86.1
$3.70 and less than $3.80	3	224	69.2	245	16,780	73.4	755	111,123	86.7
$3.80 and less than $3.90	4	228	70.4	339	17,119	74.9	1,008	112,131	87.5
$3.90 and less than $4	2	230	71.0	115	17,234	75.3	308	112,439	87.8
$4 and less than $4.10	2	232	71.6	94	17,329	75.8	283	112,722	88.0
$4.10 and less than $4.20	2	234	72.2	105	17,434	76.5	405	113,127	88.3
$4.20 and less than $4.30	3	237	73.1	59	17,553	76.8	193	113,320	88.5
$4.30 and less than $4.40	3	240	74.1	82	17,635	77.1	245	113,565	88.6
$4.40 and less than $4.50	1	241	74.4	25	17,660	77.2	42	113,607	88.7
$4.50 and less than $4.60	1	242	74.7	70	17,730	77.5	100	113,707	88.8
$4.60 and less than $4.70	2	244	75.3	120	17,850	78.1	257	114,024	89.0
$4.70 and less than $4.80	4	248	76.5	215	18,065	79.0	437	114,461	89.3
$4.80 and less than $4.90	1	249	76.9	100	18,165	79.4	282	114,743	89.6
$4.90 and less than $5	4	253	78.1	520	18,685	81.7	1,451	116,194	90.7
$5 and less than $5.10	2	255	78.7	68	18,753	82.0	240	116,434	90.9
$5.10 and less than $5.20	1	256	79.0	33	18,786	82.1	64	116,498	90.9
$5.20 and less than $5.30	3	259	79.9	99	18,885	82.6	158	116,656	91.1
$5.30 and less than $5.40	2	261	80.5	22	18,907	82.7	38	116,724	91.1
$5.40 and less than $5.50	1	262	80.9	60	18,967	82.9	108	116,832	91.2
$5.50 and less than $5.60	2	264	81.5	115	19,082	83.4	192	117,024	91.3

TABLE 38.—*Flaxseed: Number of farms, acres, and bushels, produced at varying costs per bushel, the cumulative number, and per cent of each, 1926*—Continued

Cost per bushel	Farms			Acres			Bushels		
	Number	Cumulative number	Cumulative per cent of total	Number	Cumulative number	Cumulative per cent of total	Number	Cumulative number	Cumulative per cent of total
$5.60 and less than $5.70	3	267	82.4	104	19,186	83.9	177	117,201	91.5
$5.70 and less than $5.80	2	270	83.0	53	19,239	84.1	156	117,357	91.6
$5.80 and less than $5.90	2	271	83.6	140	19,379	84.7	430	117,787	91.9
$5.90 and less than $6	2	273	84.3	38	19,417	84.9	81	117,868	92.0
$6 and less than $6.10	4	277	85.5	139	19,556	85.5	241	118,109	92.2
$6.10 and less than $6.20	1	278	85.8	20	19,576	85.6	39	118,148	92.2
$6.20 and less than $6.30	1	279	86.1	300	19,876	86.9	429	118,577	92.5
$6.30 and less than $6.40	3	282	87.0	210	20,086	87.8	320	118,897	92.8
$6.40 and less than $6.50	2	284	87.7	165	20,251	88.5	285	119,182	93.0
$6.50 and less than $6.60	1	285	88.0	60	20,311	88.8	93	119,272	93.1
$6.60 and less than $6.70	1	286	88.3	100	20,411	89.3	101	119,378	93.2
$6.70 and less than $6.80	1	287	88.6	50	20,461	89.5	125	119,503	93.3
$6.80 and less than $6.90	1	288	88.9	4	20,465	89.5	34	119,537	93.3
$6.90 and less than $7	2	290	89.5	70	20,535	89.8	166	119,703	93.4
$7 and over	34	324	100.0	2,333	22,868	100.0	8,409	128,112	100.0

Table 39 shows for the United States the average value of flax land in the areas covered by the commission's investigation with census data of the average value of all farm land including buildings in the same areas. Table 40 shows the average and renting value of farm land in Argentina.

TABLE 39.—*Flaxseed: Weighted average values per acre of flax land in the United States for 1926, as found in the commission's investigation, compared with the weighted average value of all farm land, including buildings, as reported by the census for the year 1924*

	Number of counties	Centers studied	Average value [1] of flax land from commission's schedules	Average value [2] of farm land including buildings, census of 1924
Minnesota:				
Area 1	10	Hallock	$45.50	$47.88
Area 2	15	Morris	65.50	83.12
Area 3	4	Dodge Center	56.00	103.19
Weighted average			60.55	71.60
North Dakota:				
Area 4	8	Park River	43.50	42.08
Area 5	9	Valley City	34.83	45.00
Area 6	8	Rugby	29.50	29.83
Area 7	8	Washburn	27.50	24.34
Area 8	7	Stanley	30.50	20.96
Area 9	13	Dickinson	22.00	16.96
Weighted average			32.83	27.78
South Dakota:				
Area 10	10	Watertown	50.00	63.00
Area 11	7	Ipswich	41.50	35.37
Area 12	8	Miller	33.83	39.66
Weighted average			45.94	44.81
Montana: Area 13	8	Scobey	19.83	12.00
Average for the flaxseed-growing region			41.52	36.16

[1] Weighted by acres of flax harvested as given in crop estimates by State crop reporters.
[2] Weighted by acres of farm land reported in the census of 1925 for the year 1924.

TABLE 40.—*Flaxseed: Average value per acre and renting value of land in Argentina by districts, 1922–1925* [1]

Miles from "estación" [2]	Current value			Rent value		
	1922–23	1923–24	1924–25	1922–23	1923–24	1924–25
Buenos Aires district:						
3.1	$69.82	$63.90	$76.69	$4.58	$4.17	$5.28
6.2	61.92	56.34	63.54	4.10	3.76	4.67
9.3	55.75	50.44	60.05	3.65	3.33	4.23
12.4	48.77	44.50	50.13	3.27	3.00	3.68
15.5	44.83	40.91	46.93	3.06	2.79	3.42
18.6	39.96	36.26	41.64	2.65	2.42	3.01
Santa Fe district:						
3.1	57.60	53.76	61.19	4.17	3.97	4.54
6.2	54.82	50.96	56.34	3.94	3.72	4.35
9.3	50.68	46.97	54.21	3.55	3.36	4.04
12.4	49.14	45.72	52.25	3.52	3.31	3.93
15.5	43.57	42.00	48.03	3.28	3.01	3.51
18.6	41.39	38.45	44.22	3.01	2.93	3.41
Cordoba district:						
3.1	37.59	36.00	40.75	2.72	2.58	3.16
6.2	33.53	31.73	37.59	2.40	2.27	2.87
9.3	33.14	30.52	34.35	2.14	1.99	2.49
12.4	30.03	26.98	31.65	1.94	1.79	2.24
15.5	25.72	23.33	28.61	1.88	1.68	1.98
18.6	24.33	22.55	25.39	1.60	1.43	1.69
La Pampa district:						
3.1	27.13	22.61	31.11	1.79	1.36	1.84
6.2	24.76	20.93	28.83	1.64	1.29	1.72
9.3	21.11	17.69	26.44	1.41	1.11	1.54
12.4	19.15	14.26	23.91	1.32	1.08	1.42
15.5	17.18	13.50	21.93	1.25	.98	1.29
18.6	15.96	13.50	19.97	.88	.86	1.14

[1] Anuario de Estadística Agro-Pecuaria, Ministerio de Agricultura de Argentina, 1925–26, Sección B, p. 147. Converted to United States money at average exchange rates of the Federal Reserve Bank of New York.

[2] This is interpreted to mean railroad station.

Tables 41 and 42 show freight rates from shipping points to Minneapolis and Duluth, average freight rates from each area and weighted average rates for each State and for the whole flaxseed region prior and since July 6, 1927.

TABLE 41.—*Flaxseed: Freight rates in cents per hundred pounds from principal shipping points in each area covered by the commission's investigation to Minneapolis and Duluth*

From—	Via	To— Minneapolis, Minn.		Duluth, Minn.	
		Prior to July 6, 1927	Effective July 6, 1927 [1]	Prior to July 6, 1927	Effective July 6, 1927 [1]
Area 1:					
Rathsay, Minn.	Great Northern	14½	15½	16	17½
Perley, Minn.	do	16	17½	17	18½
Barnesville, Minn.	do	14½	15½	16	17½
East Grand Forks, Minn.	do	17	18½	17	18½
Eldred, Minn.	do	16	18	17	18½
Fisher, Minn.	do	16	18½	17	18½
Alvarado, Minn.	Soo Line	17½	19	17½	19
Area 2:					
Sacred Heart, Minn.	Chicago, Milwaukee & St. Paul.	12½	14	19	21½
Echo, Minn.	Minneapolis & St. Louis.	12½	14	20½	21½
Danube, Minn.	Chicago, Milwaukee & St. Paul.	12	13½	18½	20½
Ortonville, Minn.	do	14½	15	20½	22½
Alexandria, Minn.	Great Northern	12½	14	14½	15½

[1] The tariffs on file with the Interstate Commerce Commission give the rates as shown herein. In some instances these tariffs state that the increased rates, effective July 6, 1927, apply only on traffic moving interstate from point of shipment to destination in Minnesota.

TABLE 41.—*Flaxseed: Freight rates in cents per hundred pounds from principal shipping points in each area covered by the commission's investigation to Minneapolis and Duluth*—Continued

From—	Via	To— Minneapolis, Minn.		Duluth, Minn.	
		Prior to July 6, 1927	Effective July 6, 1927	Prior to July 6, 1927	Effective July 6, 1927
Area 3:					
LeRoy, Minn.	Chicago, Milwaukee & St. Paul.	12½	14	19	21½
Zumbrota, Minn.	Chicago & North Western.	(1)	(1)	21	22½
Do.	Chicago & Great Western.	11½	12½		
Do.	Chicago, Milwaukee & St. Paul.	11½	12½	17½	19½
Blooming Prairie, Minn.	do.	11	12½	17½	19
Area 4:					
Hillsboro, N. Dak.	Great Northern.	17	18½	17	18½
Kloton, N. Dak.	do.	21	22	21	22
Grafton, N. Dak.	do.	18½	19½	18½	19½
Park River, N. Dak.	do.	20½	22	20½	22
Garske, N. Dak.	Farmers' Grain & Shipping Co.	21	22	21	22
Area 5:					
Fullerton, N. Dak.	Soo Line.	24	23½	24	23½
Forman, N. Dak.	do.	22	22½	22	22½
Lidgerwood, N. Dak.	Great Northern.	19	19	20½	20
Eckelson, N. Dak.	Northern Pacific.	22	22½	22	22½
Area 6:					
Hamar, N. Dak.	Great Northern.	21	22	21	22
Sheyenne, N. Dak.	Northern Pacific.	22	22½	22	22½
Maddock, N. Dak.	do.	24	23½	24	23½
Area 7:					
Windsor, N. Dak.	Northern Pacific.	23	23	23	23
Steele, N. Dak.	do.	25	26	25	26
Napoleon, N. Dak.	Soo Line.	26	26½	26	26½
Cole Harbor, N. Dak.	do.	27½	28½	27½	28½
Area 8:					
Berthold, N. Dak.	Great Northern.	26	26½	26	26½
Sherwood, N. Dak.	do.	26	26½	26	26½
Noonan, N. Dak.	do.	29½	30	29½	30
Williston, N. Dak.	do.	29½	30	29½	30
Area 9:					
Werner, N. Dak.	Northern Pacific.	32½	33	32½	33
Regent, N. Dak.	Chicago, Milwaukee & St. Paul.	29½	30	29½	30
Unscoyne, N. Dak.	do.	32½	33	34½	34½
Hettinger, N. Dak.	do.	29½	30	34½	34½
Petrel, N. Dak.	do.	29½	29½	34½	34½
New Salem, N. Dak.	Northern Pacific.	28	29½	28	29½
Area 10:					
Rosholt, S. Dak.	Soo Line.	18½	18½	20	20
Langford, S. Dak.	Chicago, Milwaukee & St. Paul.	23	23	26½	26½
Webster, S. Dak.	do.	21½	21½	26	26
Area 11:					
Leola, S. Dak.	Minneapolis & St. Louis.	25	25	32½	32½
Selby, S. Dak.	Chicago, Milwaukee & St. Paul.	29½	29½	29½	29½
Akaska, S. Dak.	Minneapolis & St. Louis.	29½	29½	37	37
Hoven, S. Dak.	do.	29½	29½	37	37
Area 12:					
Orient, S. Dak.	Chicago, Milwaukee & St. Paul.	28	28	35½	35½
Mansfield, S. Dak.	Chicago & North Western.	23½	23½	31	31
Blunt, S. Dak.	do.	29½	29½	37	37
Area 13:					
McCabe, Mont.	Great Northern.	34½	34½	34½	34½
Scobey, Mont.	do.	42	42	42	42
McElroy, Mont.	Soo Line.	36	36	36	36
Westby, Mont.	do.	34½	34½	34½	34½

1 Rates not on file with the Interstate Commerce Commission.

TABLE 42.—*Flaxseed: Average freight rates per bushel on domestic seed from production centers to Minneapolis and Duluth (based on rates prior to and effective since July 6, 1927)*

[Source: Interstate Commerce Commission tariffs]

Area [1]	Prior to July 6, 1927		Effective since July 6, 1927	
	Minneapolis	Duluth	Minneapolis	Duluth
	Cents	*Cents*	*Cents*	*Cents*
Minnesota:				
1	8.92	9.40	9.80	10.24
2	7.11	10.42	7.90	11.57
3	6.52	10.08	7.28	11.20
North Dakota:				
4	10.98	10.98	11.65	11.65
5	12.18	12.39	12.25	12.39
6	12.50	12.50	12.70	12.70
7	14.21	14.21	14.56	14.56
8	15.54	15.54	15.82	15.82
9	16.94	18.06	17.26	18.30
South Dakota:				
10	11.76	13.54	11.76	13.54
11	15.89	19.04	15.89	19.04
12	15.12	19.32	15.12	19.32
Montana: 13	20.58	20.58	20.58	20.58

[1] Simple average freight rates from the principal shipping points in each area to Minneapolis and Duluth.

Tables 43 to 46 show acreage and production of flaxseed 1925 and 1926, by areas covered in the commission's investigation; hours of man labor and horse work per acre, and rate per hour per 10-hour day; general imports by months from Argentina 1921 to 1927; and average monthly exchange rates for the Argentine gold peso, 1923–1927.

TABLE 43.—*Flaxseed: Acreage and production in the United States, by areas, 1925, 1926*

Area	Number of farms		Acreage				Per cent harvested		Production		Yield per acre [1]	
			Planted		Harvested							
	1926	1925	1926	1925	1926	1925	1926	1925	1926	1925	1926	1925
			Acres	*Acres*	*Acres*	*Acres*			*Bushels*	*Bushels*	*Bushels*	*Bushels*
United States	324	285	24,958	21,389	22,868	20,756	91.62	97.04	121,812	129,470	5.33	6.24
Minnesota	82	63	5,669	3,524	5,622	3,247	99.17	92.14	42,260	24,742	7.52	7.62
1. Hallock	30	17	3,154	1,832	3,131	1,645	99.27	89.79	20,717	11,024	6.62	6.70
2. Morris	27	23	1,639	910	1,625	820	99.14	90.11	12,253	6,252	7.54	7.62
3. Dodge Center	25	23	876	782	866	782	98.86	100.00	9,290	7,466	10.73	9.55
North Dakota	148	137	11,338	10,084	9,906	9,920	87.37	98.37	48,287	65,146	4.87	6.57
4. Park River	28	21	1,189	917	1,129	878	94.95	95.75	10,076	8,180	8.92	9.32
5. Valley City	28	24	3,152	2,402	2,906	2,402	92.20	100.00	17,199	17,403	5.92	7.25
6. Rugby	18	12	1,198	550	1,064	550	88.81	100.00	7,224	3,505	6.79	6.37
7. Washburn	27	35	2,983	3,395	2,255	3,370	75.60	99.26	5,982	22,227	2.66	6.60
8. Stanley	26	21	1,163	945	1,044	855	89.77	90.48	5,487	6,215	5.26	7.27
9. Dickinson	21	24	1,653	1,875	1,508	1,865	91.23	99.47	2,319	7,616	1.54	4.08
South Dakota	73	64	6,052	6,079	5,441	5,887	89.90	96.84	20,661	32,526	3.80	5.52
10. Watertown	29	24	1,980	1,405	1,931	1,405	97.53	100.00	10,147	10,396	5.26	7.40
11. Ipswich	23	23	2,206	3,004	1,896	2,994	85.95	99.67	6,454	17,228	3.40	5.75
12. Miller	21	17	1,866	1,670	1,614	1,488	86.50	89.10	4,060	4,904	2.52	3.30
Montana	21	21	1,899	1,702	1,899	1,702	100.00	100.00	10,604	7,056	5.58	4.15
13. Scobey												

[1] Net yield, dockage deducted.

TABLE 44.—*Flaxseed: Hours of man labor per acre with teams and with tractor; hours of horse work per acre; and rates per hour for man labor and horse work in preparation of land, seeding, and cutting, 1926* [1]

	Minnesota	North Dakota			South Dakota	Montana
		Eastern	Central	Western		
Hours per acre: [2]						
Man labor—						
Teamsters	4.1	4.2	1.9	3.0	2.7	1.3
Tractor operators	1.0	.5	1.2	1.2	1.5	1.8
Total man labor	5.1	4.7	3.1	4.2	4.2	3.1
Hours of horse work [3]	17.6	19.6	8.7	12.3	11.6	.....
Rates per 10-hour day: [2]						
Man labor, teamsters	$3.34	$3.24	$3.61	$3.62	$3.47	$4.50
Horse work	1.22	1.22	1.11	.71	1.09	.93
Tractor, including operator, rate per hour [4]	1.88	1.74	2.79	2.46	2.37	2.07

[1] Does not include threshing and marketing. These operations were performed at custom rates.
[2] From data obtained in the commission's cost study for 1926.
[3] From unpublished data at agricultural colleges in the region, and the commission's cost study.
[4] The higher rates usually due to larger units with sometimes an extra man to operate the plow gangs.

TABLE 45.—*Flaxseed: General imports from Argentina, by months, 1921–1927*

[Source: Monthly summaries of Foreign Commerce, U. S. Department of Commerce]

[Thousands of bushels]

Month	1921	1922	1923	1924	1925	1926	1927	7-year average	
								Quantity	Per cent of annual import
January	283	1,023	1,287	85	236	1,140	2,222	899	6.97
February	298	922	1,644	1,027	1,366	1,648	1,236	1,163	7.72
March	691	674	2,214	2,241	736	2,805	1,906	1,621	10.76
April	734	346	2,988	1,857	1,434	1,969	2,237	1,552	10.31
May	1,196	1,074	4,149	3,070	424	1,481	1,800	1,885	12.51
June	570	1,257	3,132	2,153	614	2,344	2,363	1,776	11.79
July	374	1,594	2,203	1,858	503	862	1,202	1,228	8.15
August	1,617	1,044	1,625	891	547	955	895	1,087	7.21
September	175	1,335	817	424	571	1,081	1,497	843	5.60
October	371	1,036	775	206	820	2,475	1,492	1,025	6.81
November	1,316	1,007	102	19	1,468	2,322	1,496	1,103	7.32
December	1,260	901	215	7	1,778	1,031	969	880	5.85
Total	8,885	12,213	21,151	13,838	10,537	19,443	19,365	15,062	100.00

TABLE 46.—*Monthly average exchange rates for the Argentine gold peso, 1923–1927* [1]

[Par $0.9648 per gold peso]

Month	1923	1924	1925	1926	1927
January	$0.847354	$0.736542	$0.910754	$0.941328	$0.938488
February	.842164	.764517	.903314	.932719	.947186
March	.841452	.765527	.897115	.903333	.959811
April	.831454	.748019	.868835	.907873	.961733
May	.816785	.746308	.902444	.913100	.962006
June	.805609	.738912	.913304	.916635	.964373
July	.777376	.741158	.917477	.920504	.965540
August	.744861	.766538	.917042	.919573	.968468
September	.748533	.800272	.917096	.922012	.971245
October	.736581	.833458	.933565	.927586	.971572
November	.711450	.854865	.944391	.923554	.970521
December	.723308	.883177	.942131	.932792	.972304
Yearly averages	.785727	.781308	.913822	.921497	.96277)

[1] Monthly averages as reported by the Federal Reserve Bank of New York.

Methods of allocation and discussion of items entering into country elevator costs.

Allocation of costs.—In addition to flaxseed the reporting elevators handled other kinds of grain and side lines. Operating expenses were allocated to side lines and grains in the ratio of their respective sales values. The costs thus apportioned to grains were allocated between flaxseed and other grains in the ratio of the number of bushels of flaxseed handled in proportion to the number of bushels of other grains.

Operating costs.—The principal operating expenses for country elevators are management; extra labor; light, heat, and power; repairs and renewals; depreciation; insurance; taxes; directors' fees and expenses; legal and audit fees and bookkeeping; stationery and supplies; telephone and market service; collections and exchange; advertising (not sales); and miscellaneous.

Management.—This item includes the salary of the elevator manager who conducts the business under the direction of the board of directors. In the smaller cooperative elevators the manager is able to do the greater part of the work, requiring assistance only during busy seasons. Salaries paid to managers ranged from $1,500 to $8,000 per annum, and averaged about $2,700 for the region.

Extra labor.—In the large elevators and also in the small ones during the busy season it is necessary to employ additional labor. The cost of such labor is included in this account.

Light, heat, and power.—In this account are included all charges for fuel and electric current used for heating and lighting the elevator, and furnishing the necessary power for operation.

Repairs and renewals.—The cost of repairs to buildings and equipment, and of minor replacements (not to be capitalized) are included in this account.

Depreciation.—The amount of depreciation charged to costs was taken from the companies' books.

Insurance and taxes.—The charge for insurance represents coverage against loss or damage by fire and other causes to the elevator buildings and equipment and stocks of grain and side lines.

The taxes are the State and local assessments on the plant and stocks of grain. The methods of assessment on grain vary in the several States. In Minnesota and South Dakota the assessment is based on the total quantity of grain handled during the tax year, while in North Dakota and Montana the tax is based upon the inventory at the time of assessment. Federal income taxes are excluded.

Directors' fees, legal fees, auditing, and bookkeeping.—Directors usually receive compensation for attending regular meetings of the board. The charges for legal and audit fees are for services rendered in these special lines. Bookkeeping occurs only in the case of a few of the larger cooperatives that have sufficient business to justify a full-time bookkeeper. Usually the books are kept by the manager or by the extra labor.

Stationery and supplies.—This item includes the expense for both office and elevator supplies, such as stationery, oil, and grease.

Market news service.—Successful marketing of grain requires current news of market conditions. For this purpose most elevators subscribe to market news services, such as the daily price card, and telephone price changes.

Collections, advertising, and exchange.—These include the expenses of collecting unpaid accounts, local advertising for purchases and labor, and discounts on drafts.

Miscellaneous.—Under this heading are grouped a number of minor cost items, such as manager's bond and license, traveling expenses, car liners, donations, freight, drayage, office fuel, rent of additional land or buildings, and other small items.

Interest.—Interest on the investment has been included in the elevator costs. This was computed by adding imputed interest at 6 per cent on the net-owned equity to the actual payment of interest on borrowed capital. To finance their operations the country elevator companies usually open accounts with grain dealers in the terminal markets. Interest received was deducted from the total computed interest so that the amount finally charged to costs represents the cost of providing the capital actually required for the conduct of the business.

Credits (deductions from costs).

Elevator operating costs have been credited with receipts for custom grinding, cleaning of grain, sale of screenings, and small amounts of rent for buildings and land owned by the elevator companies.

Method of weighting elevator costs.

The average unit cost for each area is the weighted average costs of elevators studied in that area. The average for each State for 1924–25 and 1925–26 was obtained by using as weights the total quantity of flaxseed produced in each area (see Table 11). The averages thus obtained were weighted by the total production of all areas studied to arrive at a representative average for the United States.

Summary of elevator costs of handling flaxseed.

Tables 47 and 48 give the elevator costs of handling flaxseed for the years 1924–25 and 1925–26. These tables show the gross and net operating costs and the net costs including interest.

TABLE 47.—*Flaxseed: Cost of handling in country elevators, in the United States, 1924–25*

[Cents per bushel]

Item of cost	Minnesota	North Dakota	South Dakota	Montana [1]	United States weighted average
Operating costs:					
Manager's salary	0.69	1.19	1.17	0.94	1.04
Extra labor	.32	.41	.04	.46	.33
Light, heat, and power	.09	.22	.10	.20	.16
Repairs and renewals	.05	.16	.11	.23	.12
Depreciation	.23	.36	.30	.29	.31
Insurance	.24	.24	.22	.26	.24
Taxes	.08	.19	.12	.08	.14
Director's fees and expense	.11	.09	.03	.12	.09
Auditing and bookkeeping	.09	.12	.15	.07	.11
Stationery and supplies	.08	.10	.09	.11	.09
Telephone and market service	.04	.12	.06	.12	.09
Collections and exchange	.02	.03	.01	.16	.03
Advertising	.02	.01	.03	.03	.02
Miscellaneous	.30	.18	.12	.05	.20
Total cost	2.33	3.42	2.65	3.12	2.97
Credits (deductions)	.09	.64	.09	.06	.38
Net operating costs	2.24	2.78	2.46	3.06	2.59
Interest	.58	.76	.82	.26	.70
Net cost, including interest	2.82	3.54	3.28	3.32	3.29
Quantity handled (bushels)	83,971	435,920	184,151	.....	704,042

[1] No elevator cost records were obtained in Montana for 1924–25. The costs in Montana for this year were projected from the cost in 1925–26 for area 8, North Dakota, on the basis of difference in cost per bushel for the 2 years.

TABLE 48.—*Flaxseed: Cost of handling in country elevators, in the United States, 1925–26*

[Cents per bushel]

Item of cost	Minnesota	North Dakota	South Dakota	Montana	United States, weighted average
Operating costs:					
Manager's salary	0.93	1.57	1.31	1.14	1.27
Extra labor	.42	.58	.....	.56	.45
Light, heat, and power	.17	.33	.09	.24	.24
Repairs and renewals	.10	.28	.05	.28	.18
Depreciation	.28	.50	.40	.35	.40
Insurance	.25	.34	.24	.31	.29
Taxes	.16	.37	.15	.10	.25
Director's fees and expense	.16	.12	.08	.15	.13
Auditing and bookkeeping	.09	.17	.12	.09	.13
Stationery and supplies	.09	.17	.06	.13	.12
Telephone and market service	.08	.18	.04	.14	.11
Collections and exchange	.03	.03	.01	.19	.04
Advertising	.06	.05	.03	.03	.05
Miscellaneous	.16	.19	.14	.06	.17
Total cost	2.96	4.88	2.75	3.77	3.83
Credits (deductions)	.18	1.34	.13	.07	.69
Net operating costs	2.78	3.54	2.62	3.70	3.14
Interest	.57	.74	.45	.32	.62
Net cost, including interest	3.35	4.28	3.07	4.02	3.76
Quantity handled (bushels)	64,166	222,274	111,654	44,179	442,273

Table 49 gives the 2-year average elevator cost of handling flaxseed in the United States for 1924–25 and 1925–26.

TABLE 49.—*Flaxseed: Cost of handling in country elevators in the United States, 2-year average, 1924–25, 1925–26*

[Cents per bushel]

Item of cost	Minnesota	North Dakota	South Dakota	Montana	United States, weighted average
Operating costs:					
Manager's salary	0.91	1.38	1.24	1.04	1.16
Extra labor	.37	.50	.02	.51	.39
Light, heat, and power	.13	.28	.10	.22	.20
Repairs and renewals	.08	.22	.10	.25	.15
Depreciation	.25	.43	.35	.32	.36
Insurance	.24	.29	.23	.28	.26
Taxes	.12	.28	.14	.09	.19
Director's fees and expense	.14	.10	.06	.13	.11
Auditing and bookkeeping	.08	.14	.14	.08	.12
Stationery and supplies	.08	.14	.06	.12	.10
Telephone and market service	.05	.15	.05	.13	.10
Collections and exchange	.02	.03	.01	.18	.04
Advertising	.04	.03	.03	.03	.04
Miscellaneous	.23	.18	.13	.06	.18
Total cost	2.64	4.15	2.65	3.44	3.40
Credits (deductions)	.13	.99	.11	.06	.54
Net operating costs	2.51	3.16	2.54	3.38	2.86
Interest	.58	.75	.64	.29	.66
Net cost, including interest	3.09	3.91	3.18	3.67	3.52
Quantity handled (bushels)	74,068	329,097	147,902	22,090	573,157

From a study of costs as presented in the preceding tables it will be seen that the volume of business—bushels of grain handled—is an important factor in the unit cost per bushel. This is noticeable particularly in North Dakota for the crop year 1925–26. In this State the net operating costs for this year were 3.54 cents per bushel as compared with 2.78 cents for the preceding year, an increase of over 27 per cent. The quantity of grain and flaxseed handled in 1925–26 was about 70 per cent of the quantity handled in 1924–25. The wages paid are also a variable factor in costs. In North and South Dakota some managers were paid salaries of over $5,000 per year. The wages paid to helpers varied widely, depending on whether such help did clerical work. Eighty per cent of the elevators paid on an average from $75 to $100 per month for help.

Table 50 shows the quantity of flaxseed handled in country elevators as compared with other grains handled, 1924–25 and 1925–26.

TABLE 50.—*Flaxseed: Comparison of the quantities of flaxseed handled in country elevators with quantities of various grains, 1924–25 and 1925–26*

[Bushels]

State	Area	Flaxseed	Wheat	Rye	Oats	Barley	Corn	Buckwheat	Total
1924–25									
Minnesota	1	58,052	344,365	42,438	234,760	148,170	.....	17,400	845,185
Do	2	20,543	56,705	4,372	111,379	11,644	73,914	.....	278,557
Do	3	5,376	526	18,385	87,193	9,943	16,815	4,252	142,493
North Dakota	4	61,589	399,747	92,306	44,694	122,866	.....	.....	721,498
Do	5	39,343	332,217	56,910	51,424	82,233	.....	.....	562,127
Do	6	32,009	504,706	74,637	12,179	47,553	.....	.....	671,075
Do	7	97,181	734,554	149,358	61,328	137,400	.....	.....	1,179,921
Do	8	100,214	757,380	132,833	53,778	33,681	.....	.....	1,077,826
Do	9	105,293	601,592	53,820	126,117	50,932	.....	.....	837,804
South Dakota	10	61,236	344,160	51,912	246,242	150,650	66,635	270	921,095
Do	11	93,580	510,311	69,494	128,540	160,220	63,200	.....	1,025,345
Do	12	26,345	361,392	15,950	129,016	87,768	76,132	.....	699,603
Montana	[1] 13	.....	.....	.....	.....	.....	.....	.....	.....
1925–26									
Minnesota	1	38,157	219,222	9,130	220,227	142,805	.....	.....	629,541
Do	2	16,634	80,769	3,922	187,453	26,057	44,335	.....	359,220
Do	3	9,355	6,114	75,888	14,604	49,629	.....	1,519	157,109
North Dakota	4	44,044	375,211	40,422	43,447	127,293	.....	.....	630,417
Do	5	21,507	306,834	32,477	57,445	77,005	.....	.....	495,268
Do	6	16,288	482,686	44,455	14,182	17,280	.....	.....	574,891
Do	7	35,312	391,105	70,441	24,405	82,119	.....	.....	603,382
Do	8	50,609	456,470	48,631	12,524	52,726	.....	.....	650,960
Do	9	54,514	412,241	51,464	39,306	35,544	12,301	.....	605,373
South Dakota	10	48,449	359,880	20,171	218,751	159,021	31,386	340	837,998
Do	11	38,234	241,675	8,727	58,390	48,315	3,177	285	375,803
Do	12	24,971	228,149	2,387	87,426	71,019	11,091	.....	425,043
Montana	13	44,179	604,022	10,276	38,610	373	1,205	.....	698,665

[1] Elevator costs including the quantities of grain handled were not obtained for this State in 1924–25. (See footnote [1] on page 24 of this report.)

A PROCLAMATION

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

INCREASING RATE OF DUTY ON FLAXSEED

Whereas in and by section 315 (a) of Title III of the Act of Congress approved September 21, 1922, entitled "An act to provide revenue, to regulate commerce with foreign countries, to encourage the industries of the United States, and for other purposes," it is, among other things, provided that whenever the President, upon investigation of the differences in cost of production of articles wholly or in part the growth or product of the United States, and of like or similar articles wholly or in part the growth or product of competing foreign countries, shall find it thereby shown that the duties fixed in this act do not equalize the said differences in costs of production in the United States and the principal competing country he shall, by such investigation, ascertain said differences and determine and proclaim the changes in classifications or increases or decreases in rates of duty provided in said act shown by said ascertained differences in such costs of production necessary to equalize the same;

Whereas in and by section 315 (c) of said act it is further provided that in ascertaining the differences in costs of production, under the provisions of subdivisions (a) and (b) of said section, the President, in so far as he finds it practicable, shall take into consideration (1) the differences in conditions in production, including wages, costs of material, and other items in costs of production of such or similar articles in the United States and in competing foreign countries; (2) the differences in the wholesale selling prices of domestic and foreign articles in the principal markets of the United States; (3) advantages granted to a foreign producer by a foreign government, or by a person, partnership, corporation, or association in a foreign country; and (4) any other advantages or disadvantages in competition;

Whereas, under and by virtue of said section of said act, the United States Tariff Commission has made an investigation to assist the President in ascertaining the differences in costs of production of and of all other facts and conditions enumerated in said section with respect to the article described in paragraph 760 of Title I of said tariff act of 1922, namely, flaxseed, being wholly or in part the growth or product of the United States, and of and with respect to a like or similar article wholly or in part the growth or product of competing foreign countries;

Whereas in the course of said investigation a hearing was held, of which reasonable public notice was given and at which parties interested were given reasonable opportunity to be present, to produce evidence, and to be heard;

And whereas the President upon said investigation of said differences in costs of production of the said article wholly or in part the growth or product of the United States and of the like or similar article wholly or in part the growth or product of competing foreign countries, has thereby found that the principal competing country is Argentina and that the duty fixed in said title and act does not equalize the differences in costs of production in the United States and in said principal competing country, namely, Argentina, and has ascertained and determined the increased rate of duty necessary to equalize the same.

Now, therefore, I, Herbert Hoover, President of the United States of America, do hereby determine and proclaim that the increase in the rate of duty provided in said act shown by said ascertained differences in said costs of production necessary to equalize the same is as follows:

An increase in said duty on flaxseed from 40 cents per bushel of fifty-six pounds to 56 cents per bushel of fifty-six pounds.

In witness whereof, I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the city of Washington this fourteenth day of May in the year of our Lord one thousand nine hundred and twenty-
[SEAL] nine, and of the Independence of the United States of America the one hundred and fifty-third.

HERBERT HOOVER.

By the President:
HENRY L. STIMSON,
Secretary of State.

[No. 1881]

O