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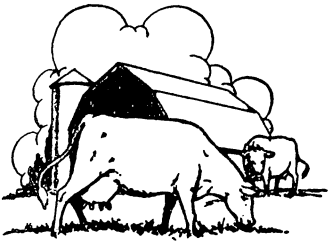
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MINNESOTA farm business NOTES



NO. 370

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Legal Controls Protect Public Grain Storage

Rex W. Cox and Harold C. Pederson

The principal purpose of legal control over public grain storage has been to protect owners of grain and operators of legitimate warehouses. This control assures the farmer or other owner that the quantity and quality of grain he places in public storage will be maintained.

Storage of grain aids the financing of its marketing through the use of warehouse receipts as loan collateral. Legal regulation of warehousing, in addition to the Uniform Warehouse Receipts Act, has doubtlessly enhanced the value of stored grain as loan collateral by reducing the uncertainty connected with storage.

Legal control over the public grain warehousing business rests primarily with the individual states. Generally, the states have a law providing for a regulatory body. This body has the responsibility of adopting and enforcing its own regulations. It's also responsible for the provisions of the law dealing with licensing, bonding, insurance, weighing and inspection, and control of warehouse receipts.

The Minnesota law delegates this responsibility to the Railroad and Warehouse Commission. The Commission supervises both terminal and local warehouses or country elevators. In general, any person or business firm is placed under the storage laws and regulations established by the Railroad and Warehouse Commission if he receives compensation for storing grain.

Grain storage warehouses located in the Twin Cities, Duluth, and other points in Minnesota which receive in carlots are terminal warehouses. The less than carlot receivers in these cities and all warehouses located elsewhere are classified as local.

Public terminal warehouses are under more supervision than public local

warehouses. For example, all grain received or delivered by a public terminal warehouse is inspected, graded, and weighed by an employee of the Railroad and Warehouse Commission. All warehouse receipts must be registered, and more extensive reports are required than in the case of the local warehouse.

Licensing Requirements

The regulation of grain storage begins with the granting of a license. Grain belonging to persons other than the warehouseman cannot be accepted for storage without a license.

Major requirements for obtaining a license consist of submitting a formal application, paying a fee, and arranging for a bond. All licenses expire on June 30, and a new application must be made each year.

Licenses are not transferable. A firm which buys a licensed warehouse must obtain a new license for it because the old one expired with the change of ownership.

The law provides for the suspension or revocation of a license if the Railroad and Warehouse Commission concludes after an investigation that the warehouseman is not operating in accordance with the specified rules and regulations. It is seldom that the Commission has found it necessary to either suspend or revoke a license.

Bonding Requirements

The heavy reliance upon the surety bond is revealed in the provisions of the state grain warehousing laws and regulations. As indicated above, the law specifies that a suitable bond is a prerequisite to licensing.

The bond provides for the faithful performance of the person bonded and assures full compliance with all laws and regulations pertaining to grain warehousing. Bonds are written in fa-

vor of the state for the benefit of all interested parties or their legal representative.

Since the warehouseman and surety company are both liable, first recourse is made to the former. Should assets be insufficient to meet all obligations, the bonding company becomes liable. It appears that the latter has seldom had to make payments. The chief value of the bond seems to be that of a deterrent to malpractice rather than that of a frequent source of indemnity.

The amount of bond required for terminal warehouses is based on the overall storage capacity. The minimum bond required of local warehouses is \$1,500. However, the amount actually required depends on the amount of grain in storage.

As the season advances and more grain is stored, an increase in the amount of bond is required. No decrease in the size of the bond is permitted during the life of the bond, i.e., the licensing year.

Warehouse Receipts

The formal acknowledgement of a warehouseman that grain has been received for storage is in the warehouse receipt. This is a negotiable instrument and is subject to most of the rules governing this type of instrument.

The receipt can be transferred from person to person without moving the grain. This feature has added immeasurably to the usefulness of the receipt in the marketing of grain.

The reason for most of the regulations governing the licensing, bonding, and the requirements of periodic reports from warehousemen is to maintain the integrity of the warehouse receipt. It insures that the quantities and grades placed in the custody of the warehouseman by the depositor will be available for withdrawal at any time.

SOYBEAN ACREAGE HAS GROWN

S. A. Engene

The growth of the soybean acreage in Minnesota has been spectacular. In the last 15 years it has grown from a minor crop to our second most important cash crop.

Before 1930, Minnesota farmers raised about 5,000 acres of soybeans a year. Most of this was used for emergency hay. Farmers increased the acreage rapidly during the 30's, but soybeans were still used primarily as a hay crop. The acreage increase from 1940 to date is shown in table 1.

Not only did farmers increase their soybean acreage very rapidly after 1940, but they began to harvest most of the crops for beans rather than for hay. They also stepped up yields by using better varieties and practices.

In 1955 soybeans ranked fourth in acreage among harvested crops in Minnesota. The principal crops in order of importance were:

Corn	5,815,000 acres
Oats	4,828,000 acres
All hay	3,795,000 acres
Soybeans	2,316,000 acres
Barley	1,155,000 acres
Flax	843,000 acres
All wheat	625,000 acres

Table 1. Acreage and Yields of Soybeans in Minnesota

Year	Acreage planted, all purposes	Acreage harvested for beans	Yield per harvested acre
	1,000 acres	1,000 acres	bushels
1940	251	53	14.3*
1945	528	464	16.5*
1950	1,200	1,148	15.5
1951	1,140	1,077	17.5
1952	1,197	1,155	19.0
1953	1,400	1,351	20.5
1954	2,044	2,014	21.0
1955	2,350†	2,316	19.5

* Averages for 1940-44 and 1945-49.

Source: *Minnesota Agricultural Statistics*, State-Federal Crop and Livestock Reporting Service.

† Preliminary estimate.

Soybeans have grown to second place as a cash crop. In 1954 the cash income from sales of the principal crops were:

Corn	\$128 million
Soybeans	86 million
Oats	26 million
Wheat	25 million
Flax	23 million
Barley	22 million

Minnesota now ranks fourth among the states in soybean acreage. Illinois, Iowa, and Indiana, in that order, have larger acreages.

Most of the soybeans are grown in the southwestern counties of Minnesota.

Draw a line from Preston to Breckenridge. Draw another from Jackson through Marshall to the southwestern part of the Lac qui Parle County. More than 75 per cent of the soybeans are grown in the areas between these lines.

Soybeans are grown on 19 per cent or more of the cropland in 15 counties. These counties and the percentage of cropland in soybeans are:

Blue Earth (30), Renville (28), Faribault (24), Chippewa (24), Waseca (22), Brown (22), Redwood (21), Dodge (20), Watonwan (20), Cottonwood (20), Lac qui Parle (20), Mower (19), Sibley (19), and Chippewa (19). These counties produce more than one-half of the total soybean acreage of the state.

The soybean acreage is quite small in some of the counties in the extreme southwestern corner of the state. Only 3 to 6 per cent of the cropland is used for soybeans in Lincoln, Pipestone, Rock, and Lyon Counties.

Soybeans Important to State's Economy

Harold Pederson, S. A. Engene, and R. W. Cox

The production, marketing, and utilization of soybeans and soybean products have become important segments of Minnesota's economy—both in agriculture and in industry.

The rapid growth of soybeans has meant a major change in cropping systems in many counties. This is clearly seen by a study of a few counties. (See table 1.)

In all of these counties there has been a big increase in the proportion that soybean acreage is of total har-

Table 1. Changes in the Proportion of Crop Acreage, 1945 and 1954

Crop	Blue Earth-Faribault		Redwood-Renville		Chippewa-Swift	
	1945	1954	1945	1954	1945	1954
	per cent					
Corn	35	40	29	38	26	35
Soybeans	5	29	2	26	1	22
Oats	26	22	21	21	25	26
Barley	7	*	13	2	9	2
Flax	9	1	15	6	14	5
All wheat	3	*	8	*	11	*
All hay	15	8	12	7	14	10
Total	100	100	100	100	100	100

* Less than .5.

MINNESOTA farm business

NOTES

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Soybeans are an important part of the cropping system in east central Minnesota. For example, 12 to 17 per cent of the cropland in Isanti, Sherburne, Chisago, and Anoka Counties is used for soybeans. The total acreage in this area is not very large, however.

Soybeans have been rapidly moving northward. In 1945 eight counties produced one-half of the acreage. Six of these counties were in the southern two tiers of counties. Only Redwood and Renville were farther north. New varieties adapted to colder climate have been a major factor in this shift. This northward shift is likely to continue.

vested crop acreage. There also has been an acreage shift towards more corn, with the biggest shift in the northern counties. To make room for soybeans and corn, the wheat, barley, flax, and hay acreage has been reduced.

Soybeans have fitted well into the farming plans of these farmers. Income from soybeans as a cash crop has been good. The equipment already on the farm has been adequate.

Labor requirements have been about equal to that of small grains, but the distribution of work through the year is better. Planting comes relatively late, thus decreasing the rush in early spring.

Competition with Butter

This increase in soybeans has changed many competitive situations in the state. By 1954, Minnesota was producing more pounds of soybean oil than pounds of butterfat in all the milk produced. (See table 2.)

In 1955 Minnesota farmers produced 1.4 pounds of soybean oil for every pound of butterfat. In 19 counties the ratios were 3 or more to 1. This ratio is likely to be even higher in 1956.

Soybean oil is a strong competitor of butter. It makes up 70 per cent of the oils used in margarine. At the present

Table 2. Production of Butterfat and Soybean Oil in Minnesota

Year	Butterfat*	Soybean oil*	Pounds of oil per pound of butterfat
		million pounds	
1935-39	282	2	.06
1945-49	302	123	.41
1954	310	423	1.36
1955	318	452	1.42

* Total butterfat in all milk, and oil equivalent of all soybeans.

time Minnesota farmers are producing more raw material for margarine than they are for butter. The soybean farmers, then, are competing with the dairy farmers for these spreads.

Soybean oil also makes up 50 per cent of the oils used in shortening. Here the soybeans compete with lard.

This shift to margarine and shortening is shown clearly in table 3. In 1931-34 consumers used 10 pounds of butter for every pound of margarine. Now the quantity of margarine consumed is practically equal to that of butter.

Shortening also has been substituted for lard to some extent, although the change has not been as great as for butter.

Table 3. Per Capita Consumption of Edible Fats and Oils, United States, 1931-54*

Year	Butter	Margarine	Lard	Shortenings	Edible oils†
			pounds		
1931-34	18.1	1.8	13.5	8.3	5.1
1935-39	16.8	2.8	10.9	11.6	6.4
1940-44	14.3	3.1	13.1	9.3	7.3
1945-49	10.5	4.9	12.0	9.5	6.8
1950	10.6	6.0	12.4	10.9	8.5
1951	9.5	6.5	12.1	8.9	7.6
1952	8.6	7.8	11.7	10.0	8.6
1953	8.5	7.9	11.3	10.1	8.9
1954	9.0	8.4	10.2	11.6	9.4

* Fats and Oils Situation, USDA, AMS, 1955.

† Mainly salad and cooking oils.

Competition with Flax

Soybean oil also is competing with linseed oil in the drying industries. Technical improvements in processing soybean oil have made it possible to substitute it for some of the linseed oil in these uses.

Back in the 1920's linseed oil provided 85 per cent of these oils, while soybean oil made up only a trace. By 1955 soybean oil had taken over 20 per cent of this use, and linseed oil had fallen to 43 per cent.

The preceding discussion might suggest that soybean oil has been displacing butterfat, lard, and linseed oil. To some extent that is true. To a larger extent, however, soybean oil has come in to fill the extra requirements of our larger population and expanded industry.

Soybean meal has become the main source of high protein, plant by-product feed. (See table 4.) Even as recently as 1925-29, scarcely any soybean meal was produced. Now twice as much soybean meal is produced in the United States as linseed and cottonseed meal combined.

Table 4. Production of Oil Meals, United States, 1925-54

	Linseed	Soybean	Cottonseed	Peanut	Total
			1,000 tons		
1925-29	716	19	2409	14	3158
1930-34	405	118	2033	19	2575
1935-39	492	849	2102	49	3492
1940-44	783	2747	1898	100	5528
1945-49	569	4135	1922	118	6744
1950-54	577	5581	2485	121	8764

This rapidly growing local supply of soybean meal has been favorable for the livestock industry. However, it has offered strong competition for the flax growers, since a strong market for linseed meal would help to support prices for flaxseed.

Importance of Exports

The price paid the farmer for soybeans depends on both the domestic and foreign demand for soybeans and its products. The market price of soybeans has always been above the support level, notwithstanding the large increase in production. A strong export market has helped make this possible.

The record 1955 crop of 382 million bushels is being moved at prices above the support level because of the heavy movement into export channels. (See table 5.)

Table 5. United States Exports of Soybeans

Year beginning October	Total supply	Soybeans exported	Percentage of total supply exported
		million bushels	per cent
1945-49	213.6	9.2	4.3
1950	302.2	27.8	9.2
1951	286.7	17.0	6.0
1952	301.7	31.9	15.8
1953	278.6	39.7	14.0
1954	344.1	60.1	17.8
1955	381.9	70.0*	18.5*

* Estimated.

Canada is one of the important export outlets. Trade relations are such that soybeans have moved freely across the border to supply Canada's expanding oil-seed crushing industry. Increased trade restrictions by importing countries, or stronger competition from other countries such as Manchuria would have a serious impact on our soybean producers.

Minnesota farmers market approximately 90 per cent of the soybeans

through local county elevators and the remaining 10 per cent directly to nearby processors.

Since soybeans have expanded at the expense of some crops which were not marketed through elevators, the local elevator has benefited from increased volume of business. Volume is one of the deciding factors in determining the efficiency of local elevators.

Soybeans, like flax, have a high value per bushel compared with grains. Thus, the truck has assumed an important role in the farmer's decision on where to market his soybeans. At times, soybeans have been trucked long distances because of an economic incentive to do so.

New Processing Industry

Soybeans have brought a new processing industry to Minnesota. The first soybean crushing plant was constructed in 1939. Some soybeans, however, had been crushed in a linseed oil plant prior to that time.

The potential capacity of the crushers in 1951 was estimated to be around 1,000 tons of beans per day. The facilities in existence at that time were not used to capacity and there has been some decrease in capacity since then. But, even with the large increase in soybean production, it is probable that crushing facilities today are adequate to meet the demand.

The soybean processing industry in Minnesota enjoys a location advantage which is believed sufficient to insure its position for some time.

Decatur, Illinois is considered the center of the soybean processing industries. Therefore, prices of the processed product are priced f.o.b., Decatur. The supply of soybeans purchased by the processors are usually priced Chicago minus freight.

Minnesota processors, therefore, enjoy a transportation advantage both in the purchase of soybeans and in the sale of soybean oil meal. This competitive advantage in selling meal is limited to areas within Minnesota and to the west.

Minnesota processors have a disadvantage in selling soybean oil. Most of the industries which manufacture margarine, shortenings, products of the drying industries, and others are located east and south of Minnesota. This means higher transportation costs and lower net prices to Minnesota processors.

While expansion of soybeans has been great, this growth may not be complete. The development of new varieties, for instance, could provide another much needed intertilled crop for the northwestern part of the state.

Minnesota Farm Prices, Feb. and Mar. 1956

Prepared by R. A. Andrews
Average Farm Prices for Minnesota, February 1956, March 1954, 1955, 1956*

	Feb. 1956	Mar. 1956	Mar. 1955	Mar. 1954
Wheat	\$2.09	\$2.09	\$2.30	\$2.17
Corn	1.13	1.14	1.19	1.30
Oats .....	.55	.55	.66	.71
Barley .....	.88	.91	1.07	1.11
Rye .....	.91	.97	1.08	.99
Flax	3.13	3.32	2.92	3.66
Potatoes	1.40	1.70	.80	.70
Hay	15.30	15.60	16.70	15.10
Soybeans†	2.18	2.30	2.41	3.14
Hogs	11.80	12.50	15.40	25.00
Cattle	13.40	14.00	17.30	16.70
Calves	17.80	17.60	16.80	19.50
Sheep-lambs	17.20	17.79	19.31	20.87
Chickens .....	.188	.172	.175	.170
Eggs .....	.320	.340	.350	.330
Butterfat .....	.620	.620	.620	.700
Milk	3.050	3.000	3.000	3.150
Wool† .....	.38	.40	.48	.46

* Average prices as reported by the USDA.

† Not included in Minnesota farm price indexes.

Higher potato and flax seed prices increased the crop price index 27 per cent from the 1955 March level even though prices of all other crops were below 1955 March prices.

The purchasing power of Minnesota farm products was 3 per cent below purchasing power March 1955. It was at the lowest March level since 1935, the earliest year for which data are readily available.

Comparison of February and March Prices

Commodity class	Average March prices as a percentage of average February prices
Crops	109
Livestock	104
Livestock products	100
All commodities	104

Indexes for Minnesota Agriculture*

	Average March 1935-39	March 1956	March 1955	March 1954
U. S. farm price index	100	210.6	223.4	234.4
Minnesota farm price index	100	192.4	200.1	227.2
Minnesota crop price index	100	218.8	172.2	167.1
Minnesota livestock price index	100	181.4	218.2	268.8
Minnesota livestock products price index	100	191.9	192.7	208.1
Purchasing power of farm products				
United States	100	93.7	98.7	103.9
Minnesota	100	85.5	88.3	100.7
U. S. hog-corn ratio	13.4	10.2	11.3	17.2
Minnesota hog-corn ratio	16.5	10.8	12.9	19.2
Minnesota beef-corn ratio	12.9	12.3	14.5	12.8
Minnesota egg-grain ratio	13.6	13.3	12.5	11.7
Minnesota butterfat-farm-grain ratio	32.4	33.7	29.2	30.9

* Minnesota index weights are the average of sales of the five corresponding months of 1935-39. U. S. index weights are the average sales for 60 months of 1935-39.

The Outlook Corner — Soybean Oil

Soybeans provide (1) meal for feed, (2) oil for human food, and (3) ingredients for many industrial products.

Over 80 per cent of the soybean oil produced is consumed as food. The amount of soybeans used for industrial purposes has gone up but it is still a small proportion of the total crop. Since 1951, the monetary value of soybean meal processed from a bushel of soybeans has exceeded the returns received from oil. (See table below).

The major outlets for soybean oil as food are shortenings, margarine, and salad oils. Soybean oil accounted for less than 5 per cent of the food fats and oils consumed annually in the late thirties. It has since climbed to around 30 per cent.

The expansion of the use of soybean oil in food products occurred at the expense of other fats and oils because the total annual per capita consumption of these foods has remained surprisingly stable.

Soybean oil as a food competes mainly with lard, cottonseed oil, and butter in both shortenings and in spreads for bread. In other edible food products, soybean oil competes with cottonseed oil and vegetable oils that are derived largely from corn and peanuts.

Considerable interchange occurs between fats and vegetable oils in the processing of many foods so the "price" factor becomes highly significant. There is keen competition between most fats and oils.

In the industrial field, paint technology has undergone major changes in the last 15 years. These changes, plus cheapness of soybean oil, are reasons why the latter ranks second among drying oils—comprising 20 per cent of total use.

The export market took 6 per cent of the total supply of soybeans in 1951, 11 per cent in 1952, 14 per cent in 1953, and 17 per cent in 1954. While export demand is mostly for soybeans and not soybean products, a buoyant effect on the market for edible oils also results.

Present trends indicate that the outlook for soybean oil will depend upon several factors. The more important ones in the food market are "price" and the extent to which soybean oil is "interchangeable" with other edible fats and oils.

In the industrial field, "price" and "changes in technology" loom important. As an export item, "price" and "production trends" in other countries emerge as competing factors.

Value of Products per Bushel of Soybeans Crushed, United States, 1947-54*

Year	Total value dollars	Percentage distribution	
		Oil per cent	Meal
1947	4.17	54	46
1948	2.84	45	55
1949	2.77	44	56
1950	3.26	53	47
1951	3.12	36	64
1952	2.95	44	56
1953	3.38	44	56
1954	2.72	48	52

* Fats and Oils Situation, USDA, AMS, November, 1955.

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