FARM BUSINESS NOTES

Prepared by the Divisions of Agricultural Economics and Agricultural Extension
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What Can I Pay for a Dairy Barn?

S. A. ENGENE

Satisfactory barns are needed for profitable dairy production. Many farmers will build new barns after the war and it is important for them to plan the use of funds carefully in order to provide satisfactory barns and, at the same time, good dwellings, education for the children, or other features of a high standard of living. Farm records kept by Minnesota dairy farmers provide some information about the costs of dairy barns that can be repaid from dairy income.

University Farm Radio Programs

HOMEMAKERS' HOUR—10:45 a.m.

UNIVERSITY FARM HOUR—12:30 p.m.

THE FRIENDLY ROAD—1:00 p.m.

Station KUOM (WLB)—770 on the dial

Detailed records on dairy costs were obtained in Stevens County in 1932-34, Winona County in 1935-40, and Nicollet County in 1941-43. Records were obtained from 20 to 25 farmers each year. The costs and returns for these 12 years were typical of a considerably longer period. The level of milk production in these herds was somewhat higher than the average of all dairy cattle in the state. The quality of the dairy buildings was slightly better than the average in their communities.

The average costs and returns for all farmers are presented in table 1, column 1. The data are for one cow and the young stock that go along with her. That is, the costs and returns for the entire dairy herd have been divided by the number of cows. On the average there were 1.2 head of other cattle for each cow.

Table 1. Costs and Returns for Dairy Cattle, 1932-43 Per Cow Basis*

Items	All herds	High producing herds	Low producing herds
Pounds butterfat per cow	232	299	175
Man hours per cow	157	191	140
Costs:			
Feed	$ 64.64	$ 76.41	$55.16
Horse work	.66	.72	.63
Equipment	4.58	6.48	3.31
Interest on cattle	4.47	5.38	4.26
Veterinary, testing, etc.	2.21	3.99	1.33
Total	$ 76.56	$ 92.98	$64.69
Manure credit	5.95	6.90	5.15
Net	$ 70.61	$ 86.08	$59.54
Value produced:			
Dairy products	86.30	115.94	63.54
Animals	36.24	40.82	31.29
Total	$122.54	$156.76	$94.83
Residual to labor and shelter	51.93	70.68	35.29
Residual to shelter with labor at			
20 cents per hour	20.53	32.48	7.29
25 cents per hour	12.68	22.93	.29
30 cents per hour	4.83	13.38	.00

* Costs and returns for entire dairy herd divided by the number of cows.

The costs listed in the upper part of the table are those which must be paid in cash or represent the use of readily marketable resources. The value of dairy products produced includes sales and value at current prices of products used in the house and fed to livestock other than cattle. The value produced by animals is the income from sales of cattle and the value of cattle butchered, with adjustments for purchases and changes in inventory.

The value produced exceeded the listed costs by $51.93 on these farms. This was the return these farmers received as payment for their labor and the use of the buildings. The buildings were the barn (including water system and milkhouse) and the silo.

How much could these men have paid for their dairy buildings if costs and returns continued on this level? The maximum would depend upon the return they would want for their labor in order to continue in dairying. If these farmers were satisfied with a return of 20 cents per hour for their labor, the total labor charge per cow would be $31.40, leaving $20.53 per cow per year available for paying the cost of buildings. If these farmers wanted 25 cents per hour for labor, only $12.68 would be available for building costs. Wages for hired men (cash wages and value of room and board) averaged 22 cents per hour on these farms during this twelve-year period.

The amount available annually for paying building costs would also vary with the level of production of the cows. The costs and returns for the fifth of the farms with the highest butterfat production and the fifth with the lowest are shown in columns 2 and 3 of table 1. With labor valued at 25 cents per hour, only $0.29 per cow would be available annually to pay building costs for the low producing herds, $22.93 for the high producing herds,

and $12.68 for the average of all herds. The amounts available to pay building costs with different rates for labor are shown in the lower part of table 1.

Summaries of building cost studies and farm records show the following to be reasonable estimates of annual dairy building costs in Minnesota, expressed as a percentage of the original cost.

Depreciation	2.5 per cent
Maintenance and repairs	1.2 per cent
Interest (5 per cent on the average value for the life of the building)	2.5 per cent
Insurance	.5 per cent
Taxes	1.3 per cent
Total	8.0 per cent

The annual cost will vary with the type of building and care in maintenance. Depreciation will frequently be less than 2.5 per cent, but it seems wise to estimate the probable life relatively short since changes in types of farming may render it obsolete. As an average, the annual cost is 8.0 per cent of the original cost, or a dairyman erecting buildings similar to those now in use can plan to invest 12½ times as much as will be available annually.

The value available annually for the average herd, with labor at 25 cents, was $12.68. The amount that could be spent for dairy buildings would then be $12.68 × 12½ or $158 per cow. For the high producing herds the possible expenditure would be $22.93 × 12½ or $287. The possible investment per cow with different levels of production and different rates for labor are presented in the upper half of table 2.

The possible expenditures for dairy buildings for a 15 cow herd, with different levels of production and rates for labor, are shown in the lower half of table 2. These buildings would include a barn, about 34 by 60 feet, a water system, a milk room or milkhouse, and possibly a silo, about 14 by 34 feet. Higher investments would be needed to provide room for horses or other livestock in the same building. With a butterfat production of 232 pounds per cow and labor at 25 cents per hour, only $2,370 could be spent for buildings of quality comparable to those now in use. This is less than the cost of these buildings at prewar prices. The dairyman with high levels of production could pay considerably more, but the dairyman obtaining only 175 pounds of butterfat per cow could pay nothing. The average dairyman in the state, with less than 200 pounds of butterfat per cow, cannot expect to earn as much as 25 cents an hour and also pay for the dairy buildings needed in Minnesota or other northern states.

Some of these barns would be more satisfactory for dairy cattle if insulation and ventilation were improved. Little definite information is available to indicate the change in milk production or in the production of animals that would result from better insulation and ventilation. The data in table 2 provide a basis for calculating the gain in production necessary to repay a given cost for building improvement. With labor valued at 25 cents, the maximum possible investment for the herds averaging 232 pounds of butterfat per cow was $2,370, and the investment for herds averaging 299 pounds was $4,305. The difference in investment was $1,935 with a difference in production of 67 pounds of butterfat per cow, or almost $30 per

Table 2. Possible Investments in Dairy Buildings with Different Levels of Production and Different Rates of Return to Labor

	All herds	High producing herds	Low producing herds
	Investment per cow		
With labor at 20 cents per hour	$ 257	$ 406	$ 91
25 cents	158	287	4
30 cents	60	167	0
	Investment for 15 cow herd		
With labor at 20 cents per hour	$3,855	$6,090	$1,365
25 cents	2,370	4,305	60
30 cents	900	2,505	0

pound. An investment of $300 in insulation and ventilation would have to make possible a gain of 10 pounds of butterfat per cow, or its equivalent in economy of gain for the young stock.

Many of these barns could be made more convenient with slight increases in cost. This convenience can reduce chore time materially. With labor valued at 25 cents per hour, a reduction of 10 hours per cow in chore work would reduce costs and increase net returns by $2.50. The justifiable increase in building investment would be $31 per cow or $465 for a herd of 15 cows. The amount that an individual farmer can spend for greater convenience in the barn will be determined by the value of the labor that will be saved on his farm.

The value that can be invested in dairy buildings differs widely from farm to farm, with variations in production and costs for the dairy herd and types of construction. According to the records gathered from these farms, the investment in buildings must be modest if butterfat production is below 230 pounds of butterfat per cow. Investments can be larger for higher producing herds, but material increases in expenditure must permit greater efficiency in production in order not to reduce the return to labor.

Industrial Uses for Farm Products

O. B. Jesness

While the primary job of agriculture is to produce commodities for use as food and clothing, some farm products are used extensively in industry. Cotton, for example, is an important constituent of rubber tires. The automobile industry uses large quantities of wool for upholstery. Flaxseed is the source of linseed oil for paints and linoleum. Expansion in the use of farm products by industry may come from increased activity in present uses or from the development of new uses. A high level of industrial activity will aid in bringing about the former. The development of new products may aid the latter. New uses may represent entirely new products or may involve replacement of other raw materials by farm products. In turn, farm products may be replaced, as happens when rayon or nylon is used in the place of cotton or wool.

Chemistry has shown that the elements and compounds in farm products may be put to a variety of uses. The possibilities which this suggests invite the imagination to run wild. If disappointment is to be avoided, enthusiasm for new uses for farm products needs to be tempered by the

sobering realization that the mere fact that certain uses are possible is not sufficient. They must be attractive on a dollars and cents basis before they will lead to new outlets.

Industries are concerned with raw material costs and naturally endeavor to use those products which can be obtained at lowest costs, everything considered. The price which a given industry can pay may not be sufficient to warrant farmers to produce for its use. Problems of assembly often add to the costs. Paper can be made out of cornstalks but the costs of handling and assembling limit their availability for such use.

Industrial alcohol is an important product which may be made out of a variety of raw materials, including such farm products as corn, wheat, and potatoes. Under usual conditions, however, blackstrap molasses, a by-product of sugar, represents a more economical source than these farm products.

During times of price-depressing farm surpluses, many have seen attractive market possibilities in requiring the blending of alcohol made from farm products with gasoline for motor fuel use. More recently, the importance of alcohol in the production of synthetic rubbers has directed attention to this field as a possible new outlet for farm products.

Because proposals to develop these and other outlets may be expected during future periods of unsatisfactory conditions, it may be in order to suggest certain fundamental considerations which should be kept in mind. A review of some of the major questions which deserve consideration in the case of the alcohol-gasoline proposal may serve to illustrate the problem. First of all, will a replacement for gasoline be necessary and, if so, how soon? If a substitute fuel is needed, what promises to be the most economical and satisfactory replacement? Will it be coal, shale, alcohol, or something else? If it should turn out to be alcohol, what will be the best and most economical source? It is not a foregone conclusion that farm products will be the answer.

Similar questions arise in connection with synthetic rubbers. Synthetics may be better than natural rubber in some uses. To the extent they prove to be more economical than rubber, they may be expected to replace the latter. It will not be advantageous to force their use beyond this point. As in the case of industrial alcohol or other products, the sources of materials should depend on long-run cost considerations and availability rather than on the occurrence of temporary surpluses of farm commodities.

The World Wool Situation

D. C. Dvoracek

The estimated average annual world production of wool for the years 1939 to 1943 was 4,136,000,000 pounds. Approximately 59 per cent of this wool was produced in the southern hemisphere and 41 per cent in the northern hemisphere. The five countries leading in the production of wool are: Australia with a 5-year (1939-43) average annual production of 1,126,000,000 pounds; Argentina with 488,000,000 pounds; United States with 463,000,000 pounds; New Zealand with 327,000,000 pounds; and the Soviet Union with 294,000,000 pounds.

World stocks of wool on September 1, 1944, were estimated at about four and a half billion pounds, or somewhat over one year's production. Two years of drouth in Australia reduced their sheep numbers materially. The 1944 wool clip there was reduced as much as 10 per cent, with a further reduction in 1945 in prospect. The Argentina wool clip in 1944 was estimated 4 per cent below that of 1943. The 1944 wool crop in the United States was 418 million pounds compared with nearly 440 million pounds in 1943, or a reduction of nearly 5 per cent. Sheep numbers continue to decline in 1945 and consequently the 1945 wool crop can also be expected to be reduced further. World production of wool this fall will probably be below that of a year ago.

World consumption and demand for wool should remain stable or perhaps increase slightly in the next year. Any reduction of military needs for wool may be offset by the increased demand for woolen clothing in the liberated countries of Europe. Several European countries are already bidding for wool, strengthening wool prices in exporting countries. About 88 million pounds of the British stock pile of wool in the United States, estimated at 470 million pounds early in 1945, is now being shipped to France and Belgium. France used about 500 million pounds of wool in prewar years. Expanded use of wool in other liberated countries can be expected.

World stocks of wool have been accumulating during the war and will present a problem in postwar marketing. A conference of wool-producing countries of the British Empire met in London in April to consider some of these problems. Because a great deal of the world carry-over and current production of apparel wool in the early postwar period will be owned by the British government, the policies adopted by that government for postwar sales will be determining factors in the world wool price situation. Since the United States is on an import basis for wool, British sales policies and our policies in regard to tariffs on imports and supporting measures will be important factors in the domestic price situation.

Outlets for domestic wool are restricted because of lower prices of foreign wools of comparable grades. Australian fine combing wools were quoted in Boston at 70-76 cents per pound, scoured basis, early in April. Adding the duty of 34 cents a pound, those wools are available to mills at about $1.04-$1.10 a pound. Similar domestic combing wools are quoted at $1.14-$1.21 per pound. Because Australian wools are prepared more carefully for market, the tariff commission has estimated this preparation differential on fine wools is 9 cents a pound. Thus it appears that domestic wool prices are about 19 cents a pound higher than prices of comparable grades of imported Australian wools. The spread on medium wools is somewhat smaller than for fine wools. As a result of this differential the outlet of domestic wool is restricted, largely to the 50 per cent required content of such wools in goods manufactured for military purposes.

Minnesota wool growers are vitally interested in the world wool situation and marketing policies in the postwar period.

Minnesota Farm Prices For May, 1945

Prepared by W. C. WAITE and R. W. Cox

The index number of Minnesota farm prices for May, 1945, is 180. This index expresses the average of the increases and decreases in farm product prices in May, 1945, over the average of May, 1935-39, weighted according to their relative importance.

Average Farm Prices Used in Computing the Minnesota Farm Price Index, May, 1945, with Comparisons*

	May 15, 1945	Apr. 15, 1945	May 15, 1944		May 15, 1945	Apr. 15, 1945	May 15, 1944
Wheat	$ 1.52	$ 1.51	$ 1.49	Hogs	$14.00	$14.00	$12.90
Corn	.89	.84	1.01	Cattle	12.50	12.20	12.00
Oats	.61	.63	.73	Calves	13.30	13.50	13.40
Barley	.97	.99	1.13	Lambs-Sheep	12.90	12.72	12.83
Rye	1.15	1.14	1.09	Chickens	.22	.22	.21
Flax	2.91	2.91	2.86	Eggs	.32	.32	.28
Potatoes	1.70	1.60	1.10	Butterfat	.53	.53	.54
Hay	9.30	9.10	11.40	Milk	2.60	2.60	2.65
				Wool†	.41	.41	.41

* These are the average prices for Minnesota as reported by the United States Department of Agriculture.
† Not included in the price index number.

The most significant change in Minnesota farm prices of grain from April to May was the 5 cent advance in corn prices. Among the various classes of livestock, cattle and lamb prices increased, calf prices declined, and hog prices remained the same. No change occurred in prices of livestock products. The net result of the various price changes was an average increase of .8 per cent over April prices. The Minnesota farm price index is 4.3 points higher than in May 1944. The decline of 9.1 points in the crop price index is due mainly to lower prices received for corn, oats, and barley. As a result of higher hog and cattle prices, the livestock price index shows a gain of 9.4 points.

The feed ratios are all much higher than one year ago. If the feed payment of 10 cents per pound of butterfat were added to the reported price of this product, the butterfat-farm-grain ratio would be raised to 34.0.

Indexes and Ratios for Minnesota Agriculture*

	May 15, 1945	May 15, 1944	May 15, 1943	Average May 1935-39
U. S. farm price index	188.0	182.3	182.3	100
Minnesota farm price index	179.6	175.3	177.5	100
Minn. crop price index	171.0	180.1	149.6	100
Minn. livestock price index	177.2	167.8	178.5	100
Minn. livestock product price index	184.0	179.5	185.5	100
U. S. purchasing power of farm products	131.2	130.9	137.1	100
Minn. purchasing power of farm products	125.3	125.8	133.5	100
Minn. farmers' share of consumers' food dollar	64.6†	62.5	61.6	46.3
U. S. hog-corn ratio	13.1	11.0	13.4	10.7
Minnesota hog-corn ratio	15.7	12.8	15.4	14.6
Minnesota beef-corn ratio	14.0	11.9	13.8	12.7
Minnesota egg-grain ratio	15.7	12.6	18.0	14.6
Minnesota butterfat-farm-grain ratio	28.6	24.8	32.1	29.7

* Explanation of the computation of these data may be had upon request.
† Figure for March, 1945.

Subsidies on Milk and Butterfat

Subsidy payments to the dairy industry in the United States during 1944 totaled approximately 500 million dollars. The total in 1945 will be larger because of increased rates recently announced for the feed subsidy payments. The nature and the amount of these payments in 1944 is indicated in the table below.

Type of paymeat	Estimated amount
Feed subsidy payments	$384,418,000
Rollback subsidy on butter	74,325,600
Rollback subsidy on cheese	29,005,275
Milk dealers	8,960,000
Total	$496,708,875

The subsidy on cheese of 3¾ cents per pound began on December 1, 1942. This is paid to cheese factories on American cheddar cheese and is intended to increase returns to farmers supplying milk to such factories without raising the retail price ceilings on cheese. The rollback subsidy on butter began on June 1, 1943. It was designed to permit a lowering of the ceiling on butter prices in retail and wholesale markets by 5 cents while allowing the farm price of butterfat to remain at the previous level. It is paid to the creameries. The milk dealer subsidies are paid to milk distributors in some of the larger cities. They are for the purpose of permitting higher returns to farmers without increasing the milk and cream retail price ceilings in these cities. New York, Philadelphia, Baltimore, Washington, Omaha, and Fort Wayne, Indiana, are among the cities in which these subsidies are paid. The subsidy in the New York market began on November 1, 1943, and now amounts to 20 cents a hundredweight on milk. The feed subsidies are made directly to farmers. They began in October, 1943, and are designed to increase milk production without increasing the farm price of milk, by compensating farmers for increased feed costs. The combined sales of milk and cream by farmers in the United States are estimated at about 3 billion dollars in 1944. The subsidies now paid are thus nearly one sixth of the income from sales.

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