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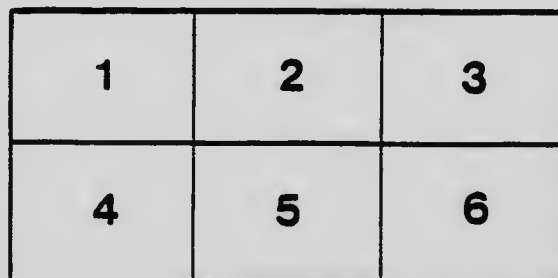
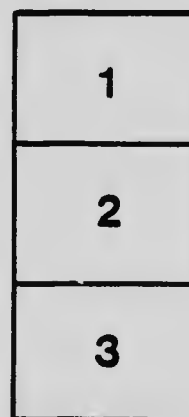
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ONTARIO AGRICULTURAL COLLEGE

BULLETIN 278

Farm Management 1919

PART II.

THE BEEF RAISING BUSINESS IN WESTERN ONTARIO
THE MIXED FARMING BUSINESS IN WESTERN ONTARIO
THE DAIRY FARMING BUSINESS IN EASTERN ONTARIO
(SECOND SURVEY)

By

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TORONTO, ONTARIO, JUNE, 1920

Farm Management

Part II.

CHAPTER I.

During the year beginning March 1st, 1919, the Department of Farm Management at the Ontario Agricultural College, under the direct supervision of the Minister of Agriculture, commenced an extensive series of investigations into the economic conditions of three of the important types of farming found in the province—dairying, beef-raising, and mixed farming. These investigations took the form of complete statements of farm transactions for a whole year on from 300 to 400 farms in each of the areas under investigation. The areas studied, the types of farming represented by each area, and the number of farms were as follows:

- Oxford County, Western Ontario, Dairying, 351 farms.
- Dundas County, Eastern Ontario, Dairying, 310 farms.
- Middlesex County, Western Ontario, Beef-Raising, 385 farms.
- Dufferin, Peel and Wellington Counties, Western Ontario, Mixed Farming, 329 farms.

The results of the Oxford County work for the year have already been published in Bulletin 275, Ontario Department of Agriculture. The following bulletin gives in some detail the information derived from the investigations of the other areas surveyed.

OBJECTS OF THE WORK.

Although three different types of the farming business were under investigations a common purpose underlies the work, the objects of which are as follows:

- (1) To secure reliable information regarding farming, the basic industry of the province, and based on conditions as they exist on the average farm of the various types.
- (2) To determine just what factors have the greatest influence in raising or lowering farm profits, by comparing methods employed on successful and unsuccessful farms.
- (3) To give suggestions as to the most profitable organization of the farm.
- (4) To determine costs of production of the farm products.

METHOD OF COLLECTING DATA.

Although different types of farming were studied the same methods were used in each area surveyed. Men were sent to the individual farms to get detailed accounts of all business transactions for the entire year. Special forms were used, which enabled these enumerators to ask questions in a logical manner and thereby assist the farmer's memory regarding the minor details of his business. The large items he could remember without assistance, even though he kept no books.

Record was made of the following items:

- (1) The number of acres under each crop grown, and in pasture, waste or woodlot.
- (2) The yields of the various crops, and the amount of each sold during the year.

(3) The amount of feed on hand at the beginning and end of the year, and the amount purchased during the year.

(4) The numbers and values of each kind of live stock, at the beginning and end of the year, together with purchases, sales and deaths of animals within the year.

(5) Receipts from all live stock products—milk, eggs, wool, hides, etc.

(6) An itemized account of current expenses—taxes, labor, repairs to buildings and machinery, threshing, silo-filling, binder-twine and all minor expenses.

(7) Valuation of buildings and machinery, with an estimate of the future life of each building and machine.

(8) Valuation of the farm itself, in order to arrive at the total amount of capital invested in the business.

EXPLANATION OF TERMS USED.

LABOR INCOME.—The Labor Income is the basis upon which the comparison of different farms is made. It is the measure of profit or loss on the farm business for the year. To permit of a clearer understanding of what the term implies, a brief outline of the method employed to calculate the Labor Income is given below:

(1) All farm receipts for the year are totalled—crops sold, live stock and stock products sold, increase in value of young stock, miscellaneous.

(2) All expenses for the year are totalled—current expenses as outlined in a preceding paragraph, depreciation on buildings and machinery.

Notes: In "current expenses" a charge is made for labor performed by members of the family who work for no stated wages. The farmer is asked to estimate the amount he would have to pay out if he had to hire men to do the work which is done by his family. This places the farmer with no family on an equal basis with the man who has a large family.

In calculating the total receipts and total expenses, due allowance is made for any increase or decrease in the value of mature live stock, for stock purchased and for any difference in the amounts of feed on hand at the beginning and end of the year.

(3) From the total receipts is deducted the amount of total expenses, and the balance is the farmer's net revenue for the year—the earnings of both his labor and his capital invested.

(4) Interest at five per cent. on the total capital invested is calculated and deducted from the amount of net revenue. This leaves only the amount earned by the farmer's labor and managing ability—which amount is termed Labor Income.

If then the "net revenue" of a farm (as defined in clause 3 above) does not amount to as much as five per cent. on the capital invested, that farmer is said to have a "minus" Labor Income—that is, he has worked for less than nothing, for the capital would have brought in at least five per cent. in any secure investment, with absolutely no labor on the part of the farmer. On the other hand, if the "net revenue" of the farm is several hundreds, or thousands, of dollars greater than five per cent. interest on capital, that difference is caused by successful work and good business management of the farmer. A comparison of the methods employed by the farmers having low Labor Incomes with methods of farmers having high Labor Incomes is set forth in the following pages.

The question is some times asked, "How does the farmer who has a low or "minus" Labor Income manage to live throughout the year?" If that farmer had to pay out actual cash for the interest on total investment, the depreciation on his buildings and machinery and for the labor performed by his family, he

could not continue in the farming business. But in many cases of low Labor Income there is only a small mortgage, or none at all, on the property, and often much of the extra labor is performed by the farmer's wife and children. Depreciation on buildings and machinery is charged each year to form a reserve fund to replace those buildings and machinery at the conclusion of their period of usefulness; but neither is this an actual cash payment during the year. These charges for interest, family labor, and depreciation, not being actually paid out as such, can be used for the necessary personal expenses of the farmer and his family. But they cannot in any way be included as part of the farm profit for the year. The farm profit or Labor Income is the surplus after these legitimate charges have been made. This places the young farmer, whose farm may be heavily mortgaged and whose children are not old enough to help with the work, on the same basis as his older and better established neighbor. The man whose Labor Income is low or minus, year after year, will eventually be forced out of business, for he will be unable to make the necessary replacements of buildings and equipment, which in time, will be required.

EXPLANATION OF OTHER TERMS.

ANIMAL UNIT.—A mature cow kept on the farm for twelve months is termed one animal unit or live stock unit. A mature cow kept only six months is one-half unit. Other animals are fractions of units, based on the relative amounts of feed consumed, and the number of months kept. Hence, a farm having twenty animal units has sufficient live stock to consume the same amount of feed that twenty mature cows would use in twelve months.

LIVE STOCK INDEX.—The gross receipts per animal unit on each farm is calculated. Then the average receipts per animal unit for the whole area is found. The farm showing receipts per animal unit exactly the same as the average figure for the area has a Live Stock Index of 100. Likewise farms with receipts per animal unit 10 per cent. above or 10 per cent. below the average figure, have, respectively, Live Stock Indexes of 110 or 90.

CROP INDEX.—As the Live Stock Index is a measure of efficiency in stock production, so is the Crop Index a measure of efficiency in crop production. The average yield per acre of each group in the district is determined. The yields per acre of the crops on each farm are compared with these district averages. The farm which has crop yields just equal to the district averages has a Crop Index of 100. Crop yields 10 per cent. above the average give a Crop Index of 110, while crop yields 10 per cent. below the average give a Crop Index of 90.

TILLABLE AREA.—The rough pasture land and pastured woods add to the feed capacity of the farm, and hence must be taken into consideration. It is estimated that three acres of rough land or ten acres of woods pastured will produce the same amount of pasture as one acre of tillable land. Hence, to the actual number of tillable acres on each farm is added one-third of the number of acres of rough pasture and one-tenth of the number of acres of pastured woods. The new figure is taken as the Tillable Area of the farm, and is used as the basis in grouping farms according to size.

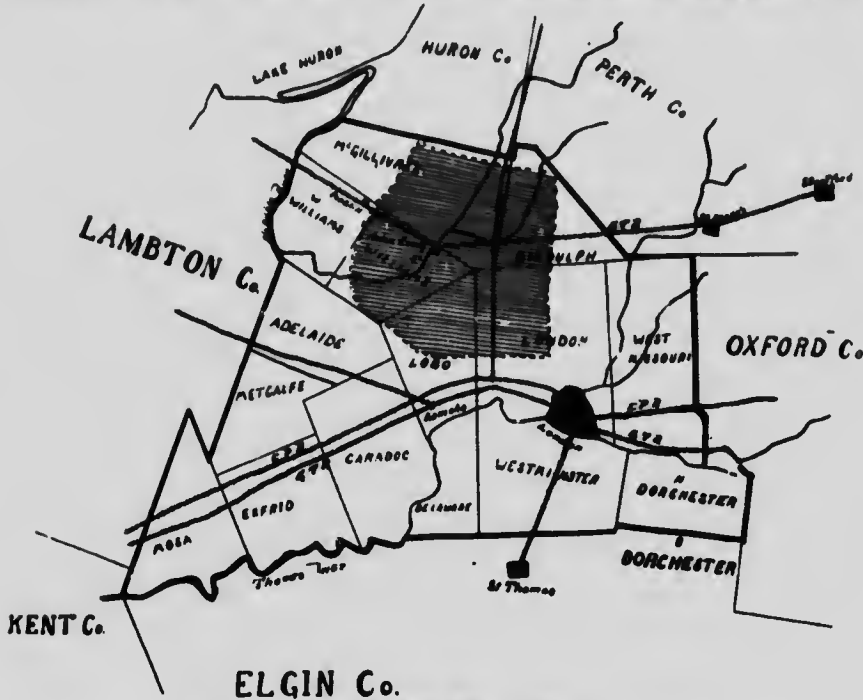
In the following pages will be found tables showing the details of farm business on different sized farms. The farms were divided up on the basis of Tillable Area as explained above.

CHAPTER II.

BEEF-RAISING IN MIDDLESEX COUNTY.

FOR THE YEAR ENDING FEBRUARY 28TH, 1919.

The northern half of the county of Middlesex is largely devoted to the raising of market beef. A rich clay loam, level in topography with a high water table, makes this section and the neighboring area of South Huron the best grazing district in Ontario. This is practically the only large area in the southern part of the province where the pastures do not get extremely dry during the middle of summer. As a consequence this district has developed the grazing of beef



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Map of Middlesex County.

The shaded area represents the district surveyed.

cattle to such a large extent that there are probably more cattle shipped to market in the fall from this area than from any other district of equal size in Canada. Moreover, cattle will take a higher finish on the grass in this area than in any other region in Ontario. One of the outstanding characteristics of this area is the large amount of tillable land in grass on practically all farms, while whole farms are in many cases entirely devoted to grazing, being leased for this purpose by men who make a business of ranching. There is probably less winter finishing of cattle than in some of the other beef districts of the province. Those men who crop more land than the average, market their rough feed by taking in to board the young stockers of those neighbors who graze most of their land or those of the ranchers who often buy their grass cattle a year ahead.

The farm crops grown in this locality are the common ones found in Western Ontario, hay (both clover and timothy), wheat, oats, barley, corn, potatoes. While practically all the rough feeds are fed on the farm, greater or lesser amounts of

the grain crops of all kinds are sold as cash crops, particularly the wheat. On a majority of the farms considerable alsike seed is grown to the extent that this crop is next to wheat in importance as a cash crop. The yields of all farm crops in this district are well above the average, for these crops, for the province, and compare favorably with the yields in the very best districts.

A total of 385 farms were studied, located principally in the townships of East Williams, McGillivray, Biddulph and the north parts of Lobo and London Townships. The accompanying map will show the position of this area in its relation to the rest of Middlesex and to the surrounding counties.

The average Labor Income for the whole area was \$760. Table No. 1 shows the farms grouped according to their tillable acreage. This does not mean acres actually cropped, but acres which could be placed under crop. (See Table No. 1.)

As the size of farm increases, so also does the Labor Income of the farmer increase. This is due to the larger profits which result from a larger sized business. It will be noted that the non-productive capital—capital in buildings and machinery—is 35 per cent. of the total capital on the small farms, but decreases to 21 per cent. of the total capital on the largest farms. This means, necessarily, extra cost of operation on the small farm, in proportion to the amount of business done. Again there can be greater efficiency of man and horse labor on the larger farms. The operators of the small farms averaged only 23 acres of crops per man, and 11 acres per work horse, while the operators of the large farms averaged 35 acres of crops per man and 14 acres per work horse.

INFLUENCE OF SIZE OF FARM ON LABOR INCOME.

TABLE 1.

Size-Tillable Farms	Under 61 ac.	61-75 ac.	76-90 ac.	91-110 ac.	111- 135 ac.	136- 160 ac.	161- 185 ac.	186- 225 ac.	Over 225 ac
No. of Farms.....	15	35	87	46	41	33	27	24	21
Average Actual Acres.....	70	100	102	118	151	197	202	266	351
Average Tillable Area.....	51	69	84	97	124	148	172	204	285
Average Crop Acres.....	31	45	53	56	63	71	75	87	102
Average Total Capital.....	\$8252	\$11824	\$11789	\$13098	\$16543	\$19502	\$21181	\$23981	\$36618
Average Capital in Real Estate..	\$5650	\$7386	\$8243	\$9370	\$11941	\$14153	\$14690	\$17288	\$25952
Average % Cap. in Real Estate..	69	70	70	71	72	73	69	72	71
Average Capital in Buildings....	\$2215	\$3043	\$3282	\$3186	\$3711	\$4085	\$4188	\$5018	\$6052
Average % Capital in Buildings	27	27	28	24	22	21	20	21	17
Average Capital in Machinery....	\$616	\$853	\$851	\$829	\$1024	\$1110	\$1209	\$1205	\$1560
Average % Capital in Machinery	8	8	7	6	6	6	6	5	4
Average Capital in Live Stock...	\$1633	\$2174	\$2194	\$2389	\$3084	\$3548	\$4439	\$4597	\$7618
Average % Capital in Live Stock	20	19	19	18	18	18	21	19	21
Average Capital in Feed.....	\$280	\$260	\$418	\$430	\$532	\$583	\$724	\$617	\$924
Average Crop Acres per Man....	23	31	34	35	34	36	35	34	35
Average Crop Acres per Horse...	11	12	14	15	15	15	14	15	14
Average Live Stock Index.....	137	100	99	100	99	99	102	95	103
Average Crop Index.....	90	100	98	97	99	101	103	94	104
Average Crops Sold.....	\$1	\$584	\$678	\$683	\$987	\$881	\$1110	\$1068	\$1385
Average Feed Bought.....	\$95	\$92	\$79	\$88	\$93	\$107	\$111	\$121	\$414
Average Depreciat'on—Bldgs. and Machinery.....	\$143	\$204	\$209	\$210	\$249	\$269	\$300	\$309	\$393
Average Labor—Hired.....	\$179	\$207	\$260	\$287	\$434	\$505	\$519	\$794	\$843
Gross Receipts.....	\$1325	\$2049	\$2086	\$2257	\$3065	\$3229	\$3921	\$4005	\$6093
Average Total Current Expenses	\$55	\$674	\$718	\$747	\$1012	\$1163	\$1222	\$1574	\$2107
AVERAGE LABOR INCOME...	\$235	\$582	\$545	\$618	\$952	\$778	\$1270	\$897	\$1734
	3 Farms	7 Farms	10 Farms	10 Farms	10 Farms	7 Farms	5 Farms	5 Farms	5 Farms
Average Labor Income on Best Farms.....	\$624	\$1218	\$1778	\$1478	\$1925	\$1695	\$591	\$2056	\$3392

But size of farm is not absolutely essential to the making of a high Labor Income. This statement is borne out by the figures in the bottom line of the table. The ten best farms of 76-90 tillable acres (average 100-acre farm) made an average Labor Income of \$1,778, which is greater than the average of the 21 farms having over 225 tillable acres each. Likewise, the average Labor Income of the "Best Farms" of each group is, in practically every case more than double the average for the entire group. This proves that there are farmers on all sizes of farms who are making *method* count in their farming operations. They are capable of seeing the opportunities which are there, and they are capable of taking advantage of those opportunities. Method is of more importance than is size of farm. A man may have a large farm but conduct his business at a loss by employing poor methods of farming, but the man who employs good methods will always have some profit, even though his acreage is small.

FARM ORGANIZATION.

The remainder of this chapter deals with some outstanding conclusions drawn from a study of the data derived from this investigation of Middlesex farms. In the order taken up on the following pages, these conclusions relate to:

- (1) The Growing of Cash Crops.
- (2) Effect of High Crop Yields.
- (3) Effect of Good Live Stock.
- (4) Effect of Using Better Bulls.
- (5) The Most Profitable Amount of Tillable Land used for Pasture.

SHOULD CROPS BE SOLD OR FED?

TABLE 2.

Group	Percentage of Total Revenue from Sale of Crops	No. of Farms	Crops Sold			Labor Income
			Total Crops Sold	Wheat	Alsike Seed	
1	0-10%	44	189	\$ 96	\$ 8	\$ 406
2	11-20%	59	477	357	48	671
3	21-30%	78	717	487	100	702
4	31-40%	67	913	542	160	920
5	41-50%	44	1396	677	372	991
6	Over 50%	27	1466	582	531	1664

Perhaps the first question a farmer might ask is, "Is it more profitable to sell crops than to feed them?" Table 2 was prepared to answer that question. It is quite evident that in 1918 those farmers who sold the most crops made the largest profits. At first glance, therefore, it would seem that the best thing to do would be to sell off the stock and go into the "Cash Crop" business. But on studying the table more closely, it is seen that the increase in Labor Incomes between group 4 and 6 is not nearly in proportion to the increase in crops sold. Group 6 sold \$533 more crops than group 4, but made only \$164 more Labor Income. Moreover, almost one-third of their crop sales were of alsike clover seed. Nineteen hundred and eighteen was a most favorable year for the alsike grower—high yields and high prices. Had the alsike crop failed, group 6 would have had

a much lower Labor Income than group 4. Hence it would seem that, considering one year with another, the farmer who receives from 30 to 40 per cent. of his gross revenue from cash crops and the remainder from live stock stands the greatest chance of ultimate success, and the maintaining of this live stock insures the keeping up of soil fertility, which is a factor of no small consideration.

It might be said that if a man had especially good live stock, it might pay him to feed all his crops and sell none. The six groups of farms in Table 2 were divided into sub-groups—those having poor stock and those having good stock. See Table 2A.

TABLE 2A.

Group	Percentage of Total Revenue from Sale of Crops	No. of Farms	Farms with Poor Stock		Farms with Good Stock	
			No.	Labor Income	No.	Labor Income
1	0-10%	44	18	Minus \$109	26	\$ 760
2	11-20%	59	25	241	34	980
3	21-30%	78	27	298	50	916
4	31-40%	67	31	515	36	1270
5 and 6	Over 40%	81	57	747	24	1684

This table shows that even the farmers who had "good" live stock—that is, live stock above the average in returns per animal—found it profitable to make at least 30 to 40 per cent. of their revenue from the sale of crops. During 1918, it was profitable to go beyond the 40 per cent., but as pointed out previously, this was because of its being such a favorable year for alsike seed.

EFFECT OF HIGH CROP YIELDS ON FARM PROFITS.

TABLE 3.

Group	Crop Yields	No. of Farms	Labor Hired per Farm	Labor Income
1	Below 81% of average....	44	\$394	\$ 437
2	81-90%	66	342	686
3	91-100%	72	380	827
4	101-110%	71	470	788
5	111-120%	49	339	998
6	Over 120% of average....	27	402	1084

In Table 3, 100 per cent. represents the average of the district in yield per acre of the main crops—wheat, barley, oats, mixed grain, corn, hay, and alsike and red clover seed. Groups 1, 2 and 3 were below average while groups 4, 5 and 6 were above the average. A glance suffices to show the great influence which high crop yield exerts on the farm profit. Group 6 made more than double the Labor Income of Group 1. The fact that group 4 made slightly less than Group 3 is due to too high a labor charge for the amount of work done.

EFFECT OF GOOD LIVE STOCK ON FARM PROFITS.

TABLE 4.

Group	Quality of Live Stock	No. of Farms	Labor Income
1	Below 81% of Average	61	\$ 273
2	81-90%	54	437
3	91-100%	55	741
4	101-110%	58	874
5	111-120%	46	1037
6	Over 120% of average..	55	1388

As in Table 3, 100 per cent. in Table 4, represents the average of the district in live stock returns. Hence groups 1, 2 and 3 had live stock which were poorer than the average, while 4, 5 and 6 had live stock which were better than the average. All groups fed practically the same amounts of feed to each class of stock. It is quite plain, therefore, that the cattle in groups 1, 2 and 3 did not make sufficient gain to pay market price for the feed they consumed. The cattle in groups 4, 5 and 6 were more productive on account of better breeding and handling and made more productive gains.

Consequently the Labor Incomes of these groups were much higher than those of the former—the Labor Income of group 6 is five times that of group 1.

In a live stock district such as North Middlesex, it is absolutely essential that the live stock be able to make good returns for the feed consumed.

An interesting comparison of the effect of good crops with the effect of good live stock can be made by a study of Tables 3 and 4. Both tables are divided in the same way, that is, starting with yield or quality below 81 per cent. and each successive group having a 10 per cent. increase until 120 per cent. is reached. All other factors that effect farm profits are equal in each table except the one being studied, that is, all groups in Table 3 are about equal in quality of live stock, size of farm, and per cent. of cash crops sold, varying only in yield of crops. In a like manner the different groups in Table 4 are equal in all respects except in quality of live stock. It is seen, therefore, from a study of the two tables that farms with live stock below 80 per cent. of the average in quality have smaller profits than farms with crops below 80 per cent. of the average. Moreover, each successive increase of 10 per cent. in quality of live stock has a greater effect in increasing the Labor Income than has a similar increase in yield of crops. While finally those farms with live stock more than 20 per cent. above the average had larger Labor Incomes to the extent of \$300 more per farm than those with crops 20 per cent. above the average. This leads to the conclusion that improvement in crop yields will not give the increased profits expected unless the market for the greater part of these increased crops, that is the farm live stock is of a quality that gives a high return for feed consumed. We feel safe in stating, therefore, that it pays best to see to it that live stock is good.

THE EFFECT OF USING BETTER BULLS.

The use of a pure-bred bull is generally admitted to have the effect of increasing the ability of the offspring to make profitable use of feed. Table 5 shows the effect of the use of pure-bred bulls on the Middlesex farms.

TABLE 5.

Farms Using Grade Bulls.

On 51 per cent. of these farms steers did not pay for their feed.
On 22 per cent. of these farms steers returned more than \$10 profit each.

Farms Having Used Pure-Bred Bulls More than 10 Years.

On 36 per cent. of these farms steers did not pay for their feed.
On 42 per cent. of these farms steers returned more than \$10 profit each.

The percentage of farms having profitable cattle was almost twice as great on the group which had used pure-bred bulls for over 10 years, as in the group which had always used grade bulls. Likewise, the percentage having cattle which were fed at an absolute loss was smaller. This proves beyond a doubt that the use of a pure-bred bull does pay in actual dollars. It is interesting to note that out of the 204 farms which were used in this calculation 130 had pure-bred bulls, and only 74 were still using grades. This is an indication that the majority of Middlesex farmers realize the value of pure blood in the herd, and that the general breeding of Middlesex cattle is good.

SHOULD MUCH TILLABLE LAND BE LEFT IN PASTURE?

One of the outstanding features of farm practice in North Middlesex is the large amount of tillable land in pasture. To find out whether or not this practice was profitable—on small, medium or large farms—Table 6 was prepared.

TABLE 6.

Percentage of Tillable Land in Pasture	Farms of 100 Acres or less		Farms between 100 and 200 Acres		Farms of 200 Acres and Over	
	No.	Labor Income	No.	Labor Income	No.	Labor Income
Under 20%.....	40	\$731	0	....	0	....
20-30%.....	33	612	18	\$ 847	9	\$1332
30-40%.....	34	513	17	1237	13	1422
40-50%.....	26	411	15	703	18	1402
50-60%.....	21	152	36	863	16	1258
Over 60%.....	0	...	0	...	33	667

Plainly the men on farms of 100 acres or less, who pastured more than 20 per cent. of their cleared land, suffered thereby. A small farm must be nearly all under crop in order that the revenue may be sufficient to pay current expenses and still leave a good profit. On the medium sized farms, the men who pastured about a third (30 to 40 per cent.) made the highest returns. On farms of 200 acres or more, the Labor Income did not begin to drop until the groups were reached which had more than half of their tillable land in pasture. Hence it would appear that there is a good reason for pasturing from a third to a half of the tillable land, if the farm be large enough. But if more than 50 per cent. of the tillable land be grazed, no matter what the size of farm, a very small profit is the result. And it is interesting to note that the forty small farms, which had less than 20 per cent. of their plow land in pasture, made larger profits than did the thirty-three large farms which went to the extreme of pasturing more than 60 per cent. of their tillable land. We are safe in concluding therefore, that full

advantage should be taken of the excellent grazing conditions in this district. It is good business to pasture a certain amount of this good land and given a sufficiently large farm, good live stock and a proper proportion of cash crops, the grazing of cattle while a partly speculative enterprise, has good basis of justification as a sound commercial enterprise in this area.

COST OF PRODUCING BEEF.

(This portion of the investigation was prepared by Mr. C. M. Nixon of the Farm Management Department.)

In the compilation of the data, it was found that quite a large number of the farms studied were devoted almost entirely to the production of beef. It was safe, therefore, to assume that these farms could be used to calculate the cost of the beef produced since a complete record was at hand of the farm expenses and overhead and also of the amount of beef sold and initial cost thereof at the beginning of the year. It is true that on some of these farms there was some revenue besides cattle sold, but the net effect of these other sources of revenue was to reduce the cost of beef to the extent of the profits only on the sidelines.

The method of calculating the cost of production was as follows: To running expenses of the farm was added 7 per cent. interest on the total capital invested in farm, live stock, etc., and \$600 for the labor of the farmer himself. To this total was added the cost price of the cattle at the beginning of the year. From this total was subtracted the revenue from all other sources than beef sold. The remainder was the net cost of the beef cattle sold. An example of the method is given below.

TABLE 7.

Size of farm—150 acres.	
Total capital \$20,743.	
Pounds of beef sold 28,540.	
Farm expenses, labor, repairs, seed, taxes, etc.	\$975 00
Interest on capital at 7 per cent.	1,462 00
Labor of owner	600 00
Cost of cattle, sold as beef	2,480 00
Total cost	\$5,507 00
Less revenue from crops, hogs, etc.	698 00
Net cost of beef sold	\$4,809 00
28,540 pounds (live weight) beef cost	4.809 00
100 pounds (live weight) beef cost	16 85

In the above table under costs will be noticed "farm expenses." This item may be taken to mean the total of labor hired, feed bought, repairs to buildings and machinery, taxes, threshing, and all general expenses of operating the farm. Interest on total capital has been taken at 7 per cent., that being the average rate paid for money invested in the section surveyed. "Cost of Cattle Sold as Beef" means their value at the beginning of the year or the price paid for those purchased during the year, and sold as part of the year's business.

Using the above method of calculation, Table No. 7 was compiled and is here given as an illustration of the cost on each of the thirty-nine farms. In order that the table may be more complete, the average selling price for each farm was added.

TABLE NO. 8.

Farm No.	Pounds Beef Produced	Cost per Cwt.	Selling Price per Cwt.
11	26975	\$ 9.76	\$10.57
14	31650	5.75	12.63
16	18600	15.62	10.86
17	46945	18.64	13.85
19	28540	9.85	12.80
33	50025	6.59	10.47
34	29713	9.98	13.69
35	52400	10.72	9.69
47	18475	9.29	11.83
51	27584	20.08	12.39
74	27928	13.93	14.02
87	17642	12.98	12.05
88	48979	13.69	12.87
112	5940	17.93	9.16
113	13782	23.79	11.32
114	9750	14.61	10.39
125	26350	17.27	13.29
131	22700	18.03	12.20
172	54500	11.72	12.08
185	88350	10.75	12.22
200	19065	14.82	12.46
207	22065	11.42	8.09
212	21040	14.08	11.51
224	30600	11.27	11.24
230	28429	16.84	13.86
231	13280	11.85	11.48
237	71200	15.42	13.14
254	22400	16.42	10.92
274	18000	14.86	9.86
298	12329	15.18	11.19
312	34026	15.42	13.84
324	55980	13.00	10.67
331	80412	12.18	12.87
333	31837	12.95	10.12
336	10600	6.65	10.55
339	24030	15.87	12.52
346	23350	6.76	12.24
359	16729	17.66	12.25
368	14750	8.81	10.00

NOTE.—All tables and calculations of pounds are based on live weight of cattle.

By comparing the average selling price per farm with the cost as shown in Table No. 8, it is found that only thirteen out of the thirty-nine farms sold their season's beef cattle at a gain. On the other twenty-six farms the loss ranges from three cents per cwt. on Farm No. 224 to \$12.47 per cwt. on Farm No. 113. The total amount of beef sold from the thirty-nine farms was 1,206,950 pounds; the average cost per hundred pounds \$13.40; while the average selling price was only \$11.72 per hundred pounds or an average loss per farm of \$519.92. Table No. 7 shows that in the method of calculating the cost of beef, the operator was allowed \$600 for his year's labor, therefore taking \$600 per year as the average land owner's wage, and from this subtract a loss of \$519.92, the average year's wages per operator on each of the thirty-nine farms is \$80.08.

INFLUENCE OF SIZE OF FARM ON COST OF PRODUCTION OF BEEF.

TABLE 9.

Size of Farm	No. of Farms	Average Size of Farm	Cost per 100 pounds	Labor Income	Live Stock Index
200 Acres or less.....	20	149	\$13.15	\$ 633	103
200 Acres or over....	19	332	13.65	1099	93

This table shows that size of farm has very little influence on the cost of production. The small difference between cost on the two groups of farms is no doubt due entirely to the quality of live stock kept.

INFLUENCE OF SALE OF CROPS ON COST OF PRODUCTION.

TABLE 10.

% Receipts from Crops	No. of Farms	Cost of producing 100 lbs. of Beef	Live Stock Index	Labor Income
Under 11%	11	\$ 15.32	100	\$ 351.00
11-25 %	16	13.15	106	995.00
Over 25 %	12	11.95	106	1164.00

Table No. 10 is based on the per cent. gross receipts received from the sale of cash crops. A study of the table will show that this has a marked influence upon the cost of beef. The first group of farms—eleven in number—received less than 11 per cent., hence show high cost of production, low crop index, just average live stock index and a low Labor Income. Looking at the other two groups of farms it is evident that as the per cent. receipts from crops increases, the cost of beef decreases and the Labor Income is greater. In groups 2 and 3 this may be due partly to the better quality live stock.

INFLUENCE OF POUNDS OF BEEF PER ACRE OF PASTURE ON COST OF PRODUCTION.

TABLE 11.

Pounds per Acre of Pasture	No. of Farms	Cost per 100 Pounds
Under 200 Pounds.....	15	\$14.88
Over 200 Pounds.....	24	12.19

The influence of pounds of beef per acre pastured on cost of production is clearly shown in Table No. 11. In the first group of farms where an acre of pasture yielded an average of less than 200 pounds, the cost per hundred pounds was \$2.69 greater than the second group, where an average of over 200 pounds per

acre was received. From the results evidenced in this table it would seem that on the first group of farms, the pasture land was not stocked heavily enough or the pasture too poor, therefore, the cost of production was raised accordingly.

On many farms the pasture was such that it did not properly nourish and fatten the animals. Since pastures are the mainstay of the beef industry of Middlesex County, much might be done to renovate these pasture lands. The use of basic slag has given good results in Nova Scotia. Professor Trueman of the Nova Scotia Agricultural College has proven that an application of 400 pounds of basic slag per acre every three years produces a rich velvety growth when applied to old pastures, producing feed sufficient to sustain and fatten many more cattle than similar land not fertilized.

It must be concluded, therefore, that better cattle, better pasture and more cattle pastured per acre, along with a fair amount of revenue from cash crops will do much to lower cost of production and replace to some extent the element of speculation and occasional loss by an element of stability and more continuous profits in the grazing business.

SUMMARIZED CONCLUSIONS FROM THE MIDDLESEX SURVEY.

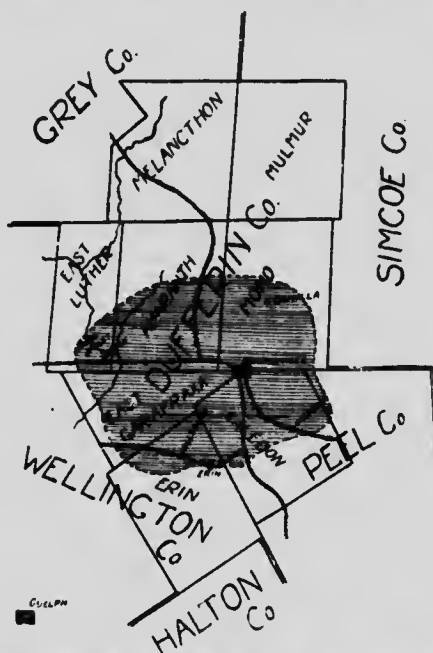
1. That while the Labor Income from the average large farm is higher than that from the average small farm, it is possible by employing better farming methods to raise the Labor Income from the small farms to a profitable point. (See Table 1.)
2. That for beef raising purposes a farm of 150 to 200 acres offers all the opportunity needed for the largest profits. (See Table 1.)
3. That in this district the average farmer should aim to derive at least 30 to 40 per cent. of his revenue from the sale of the cash crops suited to his locality. (See Table 2.)
4. That the above conclusion holds good even on those farms on which the live stock is extra good. (See Table 2A.)
5. That the Labor Income advances steadily with increased crop yields if all other factors remain constant. (See Table 3.)
6. That the quality of the live stock is the greatest single factor influencing farm profits. (See Table 4.)
7. That improvement in quality of live stock depends largely on use of good bulls. (See Table 5.)
8. That advantage should be taken of the good grazing conditions in the district by pasturing part of the tillable land on the farm. (See Table 6.)
9. That the proportion of tillable land used for pasture depends on the size of farm. (See Table 6.)
10. That on farms devoted largely to beef production the selling price was not sufficiently high to give the average farmer \$600 per year for his labor and 7 per cent. on his investment in addition to the running expenses of his farm. (See Table 8.)
11. That the raising of a certain amount of cash crops for sale and providing of good pastures will cut down the cost of production of beef produced under grazing conditions. (See Tables 10 and 11.)

CHAPTER III.

THE MIXED FARMING BUSINESS IN WESTERN ONTARIO.

FOR THE YEAR ENDING APRIL 30TH, 1919.

This investigation or survey was conducted on 329 farms engaged in mixed or general farming business, located in the Townships of Mono, Amaranth, and East Garafraxa, in Dufferin County and the neighboring Townships of Erin, in Wellington County and Caledon in Peel County. The location of this area in its relation to the surrounding district is shown on the accompanying map. (Map No. 2.) This survey is an extension of the original survey of this department



Map of Dufferin County with Caledon Tp., Peel County, and Erin Tp., Wellington County.

The shaded area represents the district surveyed.

conducted in 1918 in the Township of Caledon on 113 farms. The district under survey is very typical as regards soil, climate, crops and live stock of the mixed farming districts of Western Ontario and represents farming conditions in the following counties: Simcoe, Dufferin, North Peel, North Huron, Wellington, Grey, Bruce and North Huron. This is the true mixed farming region of Ontario. Practically all farms have sheep, swine and poultry, many have bees, and all farms sell some milk or cream and fatten some cattle, the breeds of cattle being of beef origin. The crops grown comprise practically all those found in Ontario, wheat, oats, barley, rye, buckwheat, silage corn, clover, timothy and sweet clover, hay, alsike and sweet clover for seed, mangels for feed and turnips both for feed and market, while one of the important cash crops is potatoes. This area is rapidly coming to the front as one of the most important potato growing districts in Ontario.

The land of the whole district is very rolling and in some districts is extremely hilly, especially in Caledon Township. There is considerable waste land on the steepest hills in this township, and there are some swamps in different parts of the area. The soil is very uneven, practically all over the district, ranging from a light sandy loam to a fairly heavy clay loam, and many farms have all the types

of soil found in the area. The whole district is not naturally as fertile as the land in that part of Ontario to the south and west, and the crop yields on the average, except potatoes, roots, and clover seed, are considerably below those in the dairying and beef-raising districts such as Oxford, Middlesex, Brant, Waterloo and Perth Counties. The comparative yields per acre of some of the principal crops in three of the districts surveyed, for the crop year of 1918 were as follows:

TABLE 12.

	Dufferin, Peel and Wellington	Oxford	Middlesex
Hay .....	.9 Tons	1.9 Tons	1.6 Tons
Oats.....	36 Bus.	52 Bus.	48 Bus.
Barley.....	33 "	43 "	37 "
Mixed Grain	36 "	50 "	44 "
Spring Wheat.....	25 "	.....	28 "

The above table gives a fair idea of the comparative crop growing capacity of this mixed farming area as contrasted with some of the most fertile sections of the province.

INFLUENCE OF SIZE OF FARM ON LABOR INCOME.

Table 13 sets out in some detail the financial condition and the returns from farms of the different sizes in this mixed farming district, which for sake of brevity will hereafter be called the Dufferin County Survey.

TABLE 13.

Size—Tillable Acres	Under 76 ac.	76-90 ac.	91-110 ac.	111-135 ac.	136-160 ac.	161-185 ac.	186-225 ac.	Over 225 ac.
No. of Farms.....	29	60	46	37	38	32	16	10
Average Actual Acres	98	102	110	163	178	205	229	366
Average Tillable Area.....	65	85	96	126	146	173	197	290
Average Crop Acres.....	52	66	75	94	104	118	140	177
Average Total Capital.....	\$8061	\$10096	\$10819	\$14910	\$15450	\$18152	\$20593	\$27141
Average Capital in Real Estate..	\$5320	\$6625	\$7422	\$9999	\$10600	\$11906	\$14394	\$19600
Average % Cap. in Real Estate..	66	66	69	67	69	66	70	72
Average Capital in Buildings...	\$2687	\$3147	\$3102	\$3728	\$4054	\$5013	\$5584	\$6415
Average % Cap. in Buildings....	33	31	29	25	26	28	27	23
Average Capital in Machinery...	\$700	\$806	\$815	\$1024	\$964	\$1214	\$1237	\$1451
Average % Cap. in Machinery....	8.7	7.6	7.5	6.5	6.2	6.6	6.1	5.3
Average Capital in Live Stock...	\$1694	\$2183	\$2100	\$3263	\$3250	\$4287	\$4125	\$5259
Average % Cap. in Live Stock	21	22	19	22	21	23	20	19
Average Capital in Feed.....	\$306	\$415	\$426	\$570	\$588	\$687	\$762	\$781
Average Crop Acres per Man....	38.9	43.2	46.6	48.1	49.2	54.1	60.4	57.2
Average Crop Acres per Horse...	18.1	17.9	20.7	19.4	20.0	22.8	23.8	21.6
Average Live Stock Index	101	98	106	98	91	98	102	102
Average Crop Index.....	94	103	97	107	97	98	96	102
Average Crops Sold.....	\$319	\$597	\$522	\$658	\$805	\$811	\$842	\$1668
Average Feed Bought.....	\$148	\$124	\$79	\$138	\$114	\$181	\$145	\$102
Average Depreciation—Buildings and Machinery.....	\$168	\$201	\$196	\$237	\$261	\$293	\$280	\$376
Average Labor Hired.....	\$159	\$235	\$263	\$452	\$494	\$559	\$546	\$883
Gross Receipts.....	\$1679	\$2262	\$2284	\$3096	\$3101	\$3774	\$3971	\$5256
Average Total Current Expenses	\$590	\$702	\$687	\$1066	\$1089	\$1307	\$1310	\$1754
Average Labor Income.....	\$498	\$818	\$802	\$1018	\$948	\$1213	\$1359	\$1678
	5	10	6	6	6	5	4	3
	Farms	Farms	Farms	Farms	Farms	Farms	Farms	Farms
Average Labor Income on Best Farms	\$1534	\$1758	\$1770	\$1965	\$1926	\$2475	\$2585	2670

In order to bring out more clearly the main comparative points in Table 13, some of the chief factors relating to size of business are set out in the following tables. In these tables the group numbers refer always to the same sizes of farms, for instance Group 1 refers to the farms below 76 acres in tillable area and so forth.

LABOR INCOMES ON DIFFERENT SIZED FARMS.

TABLE 14.

	Tillable Acres	No. of Farms	Average Actual Size	Average Acres of Crops	Average Labor Income
Group 1.....	Under 76 Acres	29	98 Acres	52	\$ 498
" 2.....	76-90 Acres	60	102 "	66	818
" 3.....	91-110 "	46	110 "	73	802
" 4.....	111-135 "	37	163 "	94	1018
" 5.....	136-160 "	38	178 "	104	948
" 6.....	161-185 "	32	205 "	118	1213
" 7.....	186-225 "	16	229 "	140	1339
" 8.....	Over 225 Acres	10	366 "	290	1673
All Farms.....	124 Acres	268	152 "	90	937

As the size of farm increases, so also does the Labor Income of the farmer increase. This is due to the larger profits which result from the larger sized business. It will be noted from the following table that the non-productive capital—money invested in buildings and machinery—is 42 per cent. of the total capital on the small farms but decreases to 29 per cent. of the total capital on the largest farms. This means that the larger farms have a greater proportion of their capital devoted to land and live stock, which are the revenue producing part of the farm business, also that the larger farms have a smaller cost of operation in proportion to the business done.

TABLE 15.

Group	Total Capital	Capital in Real Estate	Capital in Buildings	Capital in Machinery	% of Total Capital in Bldgs. and Machinery
1	\$ 8061	\$ 5320	\$2687	\$ 700	42
2	10096	6625	3147	806	39
3	10819	7422	3102	815	36
4	14910	9999	3728	1024	32
5	15450	10600	4354	964	32
6	18152	11906	5013	1214	34
7	20593	14394	5584	1237	33
8	27141	19600	6415	1451	29

Again there can be greater efficiency of man and horse labor on the larger farms. The operators of the small farms averaged only 39 acres of crops per man, and 18 acres per work horse, while the operators of the large farms averaged 57 acres of crops per man and 22 acres per work horse. This saving on the part of the larger farms was accomplished with practically no decrease in the yield of crops as the Crop Index in the following table shows practically average yield of crops in all groups:

TABLE 16.

Group	Acres of Crops per Man	Acres of Crops per Horse	Crop Index
1	39	18	94
2	43	18	103
3	47	20	97
4	48	20	107
5	49	22	97
6	54	24	98
7	60	22	96
8	57	..	102

The term "Crop Index" used in the above table is the measure of the crop yields, 100 being the average of the district.

But size of farm is not absolutely essential to the making of a high Labor Income. This statement is borne out by the figures on the right hand column of the following table. The six best farms of group 4, 111-135 acres of tillable land (average 150 acre farm) made an average Labor Income of \$1,965, which is greater than the average of the ten largest farms. Likewise, the average Labor Income of the "Best Farms" of each group is, in practically every case more than double the average for the entire group. This proves that there are farmers on all sizes of farms who are making *method* count in their farming operations. They are capable of seeing the opportunities which are there and they are capable of taking advantage of those opportunities. Method is of more importance than is size of farm. A man may have a large farm but conduct his business at a loss by employing poor methods of farming, but the man who employs good methods will always have some profit even though his acreage is small.

TABLE 17.

Group	Average Size	Average Labor Income	Average Labor Incomes on Best Farms	
			Number	Labor Income
1	98	\$ 498	5	\$1554
2	102	818	10	1758
3	110	802	6	1770
4	163	1018	6	1965
5	178	948	6	1926
6	205	1213	5	2475
7	229	1339	4	2585
8	366	1678	3	2670

It is quite plain from the above table that a farm of 150 to 200 acres gives the farmer all the opportunity there is in the mixed farming business. With a farm of this size, he can make the maximum profits.

MIXED FARM ORGANIZATION.

A study of the figures of the individual farms in the survey shows wide differences in profits even on equal sized farms. It is, therefore, the purpose of the rest of this chapter, from an analysis of the cause of high or low profits to point out the influences that operate in making farms financially successful or

otherwise. Very many features of the farm organization have been studied. Some are published herein, others are left for further study or until the conclusions are verified by following surveys which are now under way. The features of farm organization to be presented in this bulletin are as follows:

- (1) Effect of High Crop Yields on Profits.
- (2) Effect of Good Live Stock.
- (3) Effect of Using Better Bulls.
- (4) Comparative effect of Good Crops and Good Live Stock.
- (5) Profits from Potatoes.

Among the factors left for further verification in this survey, were the most profitable division of the farm capital amongst land, buildings, machinery and live stock, the intensity of the farm operations and the effect of cash crops on profits. As this area did not have any one branch of live stock strongly developed like the dairy and beef surveys, and as a large share of the farm revenue came from the selling of a great variety of farm crops it was considered wise to publish anything regarding this feature of the business until further investigation is made.

EFFECT OF HIGH CROP YIELDS ON FARM PROFITS.

The average yields of the different crops grown on the farms surveyed during the year 1918 were: Wheat 25 bushels, oats 36 bushels, barley 33 bushels, mixed grain 36 bushels, potatoes 100 bags and hay 9 tons. The effect of the yield of crops on the farm profits are found in the following table:

TABLE 18.

Group	Crop Yields	No. of Farms	Crop Ac. per Man	Labor Hired per Farm	Labor Income
1	Below 81% of average	38	47	\$344	\$ 506
2	81-90%	59	47	306	583
3	91-100%	51	52	384	937
4	101-110%	47	46	441	956
5	111-120%	38	47	427	1293
6	Over 120% of average	35	45	404	1331

In Table 18, 100 per cent. represents the average of the district in yield per acre of the main crops—wheat, oats, barley, mixed grain, hay and potatoes. Groups 1, 2 and 3 were below the average, while groups 4, 5 and 6 were above the average. A glance suffices to show the great influence which high crop yield exerts on the farm profit. Group 6 made more than double the Labor Income of group 1. Groups 4, 5 and 6 hired more labor and worked slightly less acres per man, but the extra time and expense put on and was amply repaid in the larger farm profits.

EFFECT OF GOOD LIVE STOCK ON FARM PROFITS.

TABLE 19.

Group	Quality of Live Stock	No. of Farms	Cost of Feed per Animal Unit	Receipts per Animal Unit	% of Farms using Pure-Bred Bulls	Labor Income
1	Below 81 % of average.....	49	\$64	\$ 59	31 %	\$ 422
2	81-90 %	45	68	66	46 %	750
3	91-100 %	52	75	74	55 %	862
4	101-110 %	48	83	84	60 %	974
5	111-120 %	37	82	90	58 %	1181
6	Over 120 % of average.....	37	86	101	65 %	1658

As in Table 18, 100 per cent. represents the average live stock returns. The increases in farm profits, from keeping better live stock are very evident from a study of Table 6. Groups 4, 5 and 6, all of which were above the average in quality of live stock made much greater profits than groups 1, 2 and 3, so much so that the Labor Income of group 6 is four times that of group 1. Some of the practical methods of increasing returns from live stock are indicated by the columns dealing with "Feed Per Animal Unit" and "Per Cent. of Farms using Pure-Bred Bulls." (Animal unit is a cow or horse or a proportionable number of smaller animals.) Undoubtedly the small returns from groups 1, 2 and 3 are in part due to poor feeding, keeping down the receipts per animal, but it must be noticed that in these three groups none of the average receipts are equal to the average feed fed. We are forced to conclude therefore, that feed is not the only solution of better live stock. The column dealing with the number of pure-bred bulls seems to indicate that the more general use of good bulls offers the soundest solution of better returns for feed. The following table demonstrates the effect of pure-bred bulls on the live stock of the farms surveyed.

THE EFFECT OF USING BETTER BULLS.

The use of a pure-bred bull is generally admitted to have the effect of increasing the ability of the offspring to make profitable use of feed. Table 20 shows the effect of the use of pure-bred bulls on the farms surveyed.

TABLE 20.

Farms Using Grade Bulls.....	On 64 per cent. of these farms Live Stock did not pay market price for their feed.
	On 24 per cent. of these farms Live Stock returned more than \$10 profit per animal unit over cost of feed.
Farms Using Pure-Bred Bulls for more than 10 years	On 33 per cent. of these farms Live Stock did not pay market price for their feed.
	On 55 per cent. of these farms Live Stock returned more than \$10 profit per animal unit over cost of feed.

The percentage of farms having profitable cattle was more than twice as great on the group which had used pure-bred bulls for over ten years as in the group

which had always used grade bulls. Likewise, the percentage having cattle which were fed at an absolute loss was only half as great. This proves beyond a doubt that the use of a pure-bred bull does pay in actual dollars. It is interesting to note that out of the 223 farms which were used in this calculation 138 had pure-bred bulls and only 85 were still using grades. This is an indication that the majority of Dufferin farmers realize the value of pure blood in the herd.

COMPARATIVE EFFECTS OF GOOD LIVE STOCK AND GOOD CROPS.

TABLE 21.

Farms with	Poor Live Stock	Average Live Stock	Good Live Stock
Poor Crops.....	Group 1—45 farms Labor Income, \$393	Group 4—34 farms Labor Income, \$731	Group 7—18 farms Labor Income, \$1124
Average Crops...	Group 2—36 farms Labor Income, \$712	Group 5—35 farms Labor Income, \$928	Group 8—27 farms Labor Income, \$1274
Good Crops.....	Group 3—13 farms Labor Income, \$843	Group 6—31 farms Labor Income, \$1106	Group 9—29 farms Labor Income, \$1733

The above table demonstrates the effect of increasing the quality of either or both of the two main factors in Farm Profits, Crops and Live Stock. Where the Live Stock remains the same in each case, the effect of increased crop yields is as follows:

With poor live stock, from Group 1 to Group 3, increase	\$450 00
With average live stock, from Group 4 to Group 6, increase	375 00
With good live stock, from Group 7 to Group 9, increase	609 00

Where Crop Yields remain the same in each case the effect of better Live Stock is as follows:

With poor crops, from Group 1 to Group 7, increase	\$731 00
With average crops, from Group 2 to Group 8, increase	562 00
With good crops, from Group 3 to Group 9, increase	390 00

The increased profits from improving Live Stock are larger than those derived from better Crop Yields.

To illustrate further, Good Live Stock and Poor Crops give larger profits than Good Crops and Poor Live Stock—compare groups 3 and 7. Even average Live Stock and average Crops, yields a much higher return than Good Crops and Poor Live Stock—compare groups 3 and 5. We are safe in assuming therefore that as the Live Stock is the market for most of the Farm Crops it is rather poor economy to go to great expense growing high yields of crops if the price received by marketing them through the live stock is low on account of unprofitable live stock. Improvement in crop yield and Live Stock must go hand-in-hand or better still with Live Stock improvement leading.

PROFITS FROM POTATOES.

In the district surveyed, potato growing is an important part of the farm business. To study the effect on farm profits of growing different amounts of potatoes the following table is made up of all the farms of about 100 acres in size.

TABLE 22.

Acres in Potatoes	No. of Farms	Average Acres in Potatoes	Labor Hired	Crop Acres per Man	Potatoes Sold per Acre	Average Labor Income
Less than 2.....	31	1.0	\$190	44	\$75	\$670
2 to 2½.....	25	2.2	177	48	98	755
3 to 3½.....	30	3.1	231	42	91	791
4 to 4½.....	13	4.1	274	42	97	870
5 acres and over ..	21	6.0	248	42	99	929

The above table shows that the growing of an increased acreage of potatoes yields quite large yearly farm profits. The above farms which raised three acres or more per farm had somewhat larger labor costs and were not able to raise as many acres of crops for each man engaged, but the net result was to add from \$40 to \$60 per acre clear profit, to the business for each additional acre grown.

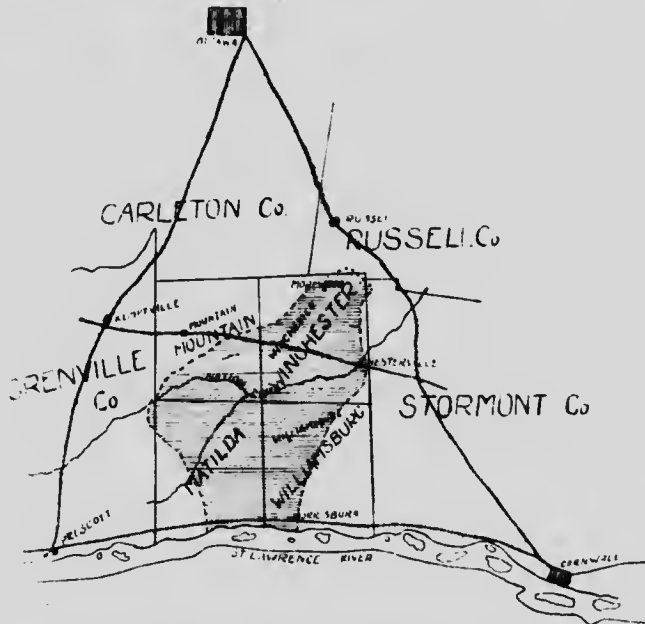
CHAPTER IV.

THE DAIRY FARMING BUSINESS IN EASTERN ONTARIO.

SECOND SURVEY.

This survey consisted of a study of 310 Dundas County farm businesses for the year ending April 30th, 1919. The results of the first year's survey were published in pamphlet form by the Farm Management Department in April, 1919. Dundas County is entirely a dairy district. The cattle are almost entirely of Holstein and Ayrshire breeding. The markets for milk are the cheese factory, which absorbs over half the milk of the county, the condenser at Chesterville, which does a large volume of business in the Township of Winchester, the most highly developed dairy section in the county, if not in Eastern Ontario, and from the farms adjoining the main lines of the Grand Trunk and Canadian Pacific Railways much milk is shipped to Montreal for the city milk trade. Another well developed live stock industry in the area is the production of poultry products, and in the cheese factory sections large numbers of swine are raised. The principal farm crops raised are the ordinary farm feeds, hay, silage, corn, oats, barley and mixed grain. For cash crops some beans and a little tobacco are grown and in the southern townships are found a number of good apple orchards. Very little wheat is raised in this county, and most of the crops grown are fed on the farms to dairy cattle, swine and poultry.

The land in the county is very level, and there are still large areas of swamp in all sections. Although the two front townships—Williamsburg and Matilda rank as one of the earliest settlements of British subjects in Ontario, the two north Townships of Mountain and Winchester settled fifty years later, have a naturally better soil and have possibly made greater strides along the line of development of the dairy business. The soil in these latter townships is a rich clay loam, reasonably free from stones and light spots. In the two southern townships the soil is not as deep, is less uniform, ranging from sand and gravel on the west to heavy clay on the east, and in all parts are found very rough stony tracts and swampy areas of all sizes.



Map of Dundas County.

The shaded area represents the district surveyed.

The crop season of 1918, covered by this second survey, was a very unfavorable one. While the hay was a good crop, incessant rains through August, September and October prevented on most farms the harvesting of grain crops, silage corn, potatoes and roots. To partially offset this, pasture conditions remained good later in the fall than usual, somewhat shortening the winter feeding season.

LABOR INCOME.

The average Labor Income for the year on the 290 farms used for final study was \$882. This was \$20 lower than the average for the previous year on the same farms. Although the price received for dairy products was much higher in 1919, the loss of the grain and corn crops on many of the farms caused smaller profits for the year's operations.

Table 23 gives in detail the financial condition on the different sized farms in this survey.

INFLUENCE OF SIZE OF FARM ON LABOR INCOME.

TABLE 23.

Size—Tillable Acres	27-45 ac.	46-60 ac.	61-75 ac.	76-90 ac.	91-110 ac.	111- 135 ac.	136- 160 ac.	Over 160 ac.
No. of Farms.....	22	50	39	61	68	31	9	10
Average Actual Size.....	46	61	85	98	117	153	178	233
Average Tillable Area.....	39	51	68	80	99	121	143	197
Average Crop Acres.....	27	36	50	59	65.5	86	100	134
Average Total Capital.....	\$7270	\$9241	\$11362	\$13592	\$16895	\$19183	\$20302	\$27274
Average Capital in Real Estate.	\$4855	\$6019	\$7628	\$9070	\$10906	\$13068	\$13111	\$19400
Average % Capital in Real Estate	67	65	67	67	64	68	64	71
Average Capital in Buildings....	\$2662	\$2770	\$3075	\$3732	\$4399	\$4627	\$51	81
Average % Capital in Buildings	36	29	27	41	41	35	3	8
Average Capital in Machinery...	\$653	\$806	\$918	\$1101	\$1727	\$1840	\$1792	\$1779
Average % Capital in Machinery...	8.9	8.7	8.1	8.1	10.2	9.5	8.8	6.5
Average Capital in Live Stock..	\$1594	\$2151	\$2433	\$3030	\$4017	\$4290	\$4768	\$5414
Average % Capital in Live Stock	21.9	23	21	22	24	22	23	19
Average Capital in Feed.....	\$169	\$264	\$382	\$410	\$523	\$462	\$631	\$681
Average Crop Acres per Man...	20	26	32	34	35	39	38	50
Average Crop Acres per Horse..	11	13	14	15	15	17	19	20
Average Live Stock Index.....	92	102	102	100	99	102	89	109
Average Crops Sold.....	\$49	\$58	\$99	\$188	\$173	\$143	\$338	\$937
Average Feed Bought.....	\$149	\$331	\$321	\$264	\$443	\$545	\$345	\$575
Average Depreciation—Buildings and Machinery.....	\$179	\$205	\$246	\$262	\$323	\$355	\$385	\$49
Average Labor—Hired.....	\$147	\$183	\$247	\$383	\$418	\$611	\$766	\$8
Gross Receipts.....	\$1466	\$2177	\$2583	\$2866	\$3542	\$4247	\$4439	\$5825
Average Total Current Expenses	\$511	\$821	\$916	\$1072	\$1368	\$1748	\$1760	\$2559
Average Labor Income.....	\$396	\$662	\$812	\$879	\$968	\$1110	\$1260	\$1691
	5	10	6	10	10	6	3	3
	Farms	Farms	Farms	Farms	Farms	Farms	Farms	Farms
Average Labor Income on Best Farms.....	\$877	\$1334	\$1685	\$1953	\$2432	\$1993	\$2135	\$3576

In order to study with more ease some of the factors that cause differences in farm profits on different sizes of farms, the following tables extracted from Table 23, set forth plainly the features of greatest influence.

TABLE 24.

	Tillable Acres	No. of Farms	Average Actual Size	Average Acres of Crops	Average Labor Income
Group 1.....	Under 45 acres	22	46 acres	27	\$396
" 2.....	46-60 acres	50	61 "	36	662
" 3.....	61-75 "	39	85 "	50	812
" 4.....	76-90 "	61	98 "	59	879
" 5.....	91-110 "	68	117 "	66	968
" 6.....	111-135 "	31	152 "	86	1110
" 7.....	136-160 "	9	178 "	100	1260
" 8.....	Over 160 acres	10	233 "	134	1691
All Farms.....	85 acres	..	103 "	60	882

As the size of farm increases, so also does the Labor Income increase. This is due to the larger profits which result from the larger sized business. It will be noted from the following table that non-productive capital—money invested in buildings and machinery—which is 46 per cent. of the total capital on the small

farms, decreases to 29 per cent. of the total capital on the largest farms. This means that the larger farms have a greater proportion of their capital devoted to land and live stock, which are the revenue-producing part of the farm business, also that the larger farms have a smaller cost of operation in proportion to the business done.

AVERAGE CAPITALIZATION ON DIFFERENT SIZED FARMS.

TABLE 25.

Group	Total Capital	Capital in Real Estate	Capital in Buildings	Capital in Machinery	% of Total Capital in Buildings and Machinery
1	\$7270	\$4855	\$2662	\$653	46%
2	9241	6019	2770	806	39
3	11362	7628	3075	918	35
4	13592	9070	3732	1101	35
5	16895	10906	4399	1727	36
6	19183	13068	4627	1840	34
7	20802	13111	5181	1792	35
8	27274	19400	5181	1779	29

Again there can be greater efficiency of man and horse labor on the larger farms. The operators of the small farms averaged only 20 acres of crops per man, and 10 acres per work horse, while the operators of the large farms averaged 50 acres of crops per man and 20 acres per work horse. This saving on the part of the larger farms was accomplished with practically no decrease in the yield of crops.

TABLE 26.

Group	Acres of Crops per Man	Acres of Crops per Horse
1	20	11
2	26	13
3	32	14
4	34	15
5	35	15
6	39	17
7	38	19
8	50	20

But large size of farm is not absolutely essential to the making of a large Labor Income. The following table shows the Labor Income of the best farms in each sized group:

TABLE 27.

Group	Average Size ac.	Average Labor Income	Average Labor Incomes on Best Farms	
			Number	Labor Income
1	46	\$396	5	\$877
2	61	662	10	1334
3	85	812	6	1685
4	98	889	10	1953
5	117	968	10	2432
6	152	1110	5	2141
7	178	1250	3	2135
8	233	1691	3	2576

A glance at the figures in the right-hand column in the above table shows that in groups 4 and 5 the best farms made much larger Labor Income than the average farmer on the largest size farm. These two groups represent the 100 acre farm and those slightly larger. It must be concluded, therefore, that a farm of slightly over 100 acres offers all the opportunity for profits in the dairy farming business, and given a farm of that size, farm methods count for more than the size of farm in the making of satisfactory profits.

EFFECT OF GOOD LIVE STOCK ON FARM PROFITS.

TABLE 28.

Group	Quality of Live Stock	No. of Farms	Milk Yield per Cow	Percentage of Farms using Pure-Bred Bulls	Labor Income
1	Under 71 % of average.....	28	Lbs. 2900	18	\$ 119
2	71-80 %	38	3500	22	566
3	81-90 %	57	3800	21	644
4	91-100 %	45	4200	31	889
5	101-110 %	44	4600	37	970
6	111-120 %	31	4800	36	1073
7	121-130 %	17	5200	53	1249
8	Over 130 % of average.....	30	6600	53	1841

In Table 28, 100 per cent. represents the average live stock returns. The increase in farm profits from keeping better live stock are very evident from a study of the above table. Groups 1 to 4 had poorer than average live stock while groups 5 to 8 had better than average. There is a large increase shown for each 10 per cent. of increase in quality of live stock, so much so that the farms in group 8 had Labor Incomes nearly fifteen times as great as those in group 1. A study of the figures on "Milk Yield Per Cow" in the above table shows that this is the deciding factor in quality of live stock, and is the principal cause of variations in Labor Incomes, while the per cent. of farmers using pure-bred bulls for over ten years shows how the larger yields are accomplished.

The following table shows the exact effect of high yielding cows on actual profits.

TABLE 29.

Milk Yield per Cow	No. of Farms	Feed per Cow	Value of Milk per Cow	Feed Bought per Farm	Labor Income per Farm
Under 3000 Lbs.....	39	\$66	\$53	\$259	\$430
3001-4000 ".....	89	63	77	319	660
4001-5000 ".....	97	70	97	352	959
5001-6000 ".....	38	75	123	409	1071
Over 6000 ".....	27	85	174	644	1627

The above table amply bears out the conclusions arrived at from Table 28 and shows in addition that, while the higher producing cows require more feed than do the poorer ones, the difference in feed consumed is very small, about \$20 per

cow between the poorest and best. Also the farmer with the best cows makes more use of "purchased feeds," largely concentrates, bran, oil, meal, etc., which has the effect of keeping down the cost of rations and producing more milk from a dollar's worth of feed. It is evident from the above table that feeding methods alone cannot account for the difference in milk yields, because there is no evidence of under-feeding even in the group with the poorest cows, as these cows did not pay for the feed they did receive. The following table on the effect of the use of pure-bred dairy bulls in the district seems to suggest the best method of increasing milk yield per cow and consequently higher profits per farm.

EFFECT OF USING PURE-BRED BULLS.

TABLE 30.

Farms Using	No. of Farms	Milk Sold per Cow	Feed per Cow	Profit Over Feed per Cow
Grade Sires.....	129	\$83	\$65	\$18
Pure-Bred Bulls less than Ten Years.....	77	97	70	27
Pure-Bred Bulls over Ten Years.....	68	117	75	42

The above table speaks for itself on the great influence of the good sire on increasing the ability of the cow to make more efficient use of feed. An addition of \$10 more feed per cow in the case of farms using pure-bred bulls for 10 years yields an increased return over those cows from grade bulls only of \$34 per cow.

EFFECT OF SPECIALIZATION IN DAIRYING.

Dairymen are much interested in knowing the extent to which they should specialize in Milk Production for greatest profits. In Dundas County there are farmers who sell practically nothing but milk, while others receive as low as one-third of their revenue from milk, and the remainder from other side-lines such as hogs, poultry, sheep, cash crops, etc. The following table shows the effect of the use of side-lines in different degrees. Table 31 deals with those farms selling milk to the Cheese Factory.

SIDE-LINES ON CHEESE FACTORY FARMS.

TABLE 31.

Percentage of Revenue from Side Lines	No. of Farms	Crops Sold per Farm	Milk Sold per Cow	Labor Income
Less than 20 %.....	12	\$38	\$79	\$363
20-30 %.....	30	65	90	781
30-40 %.....	41	122	81	744
40-50 %.....	46	128	72	938
Over 50 %.....	31	260	65	848

The above table indicates that cheese factory patrons should not confine their farm business to Milk Production to too great a degree. The 46 farms that received 40 to 50 per cent. of their income from side-lines made the largest profits, although their cows were not nearly as productive as the cows on the farms that paid less attention to side-lines. It is to be concluded, therefore, that cheese factory patrons should not shut themselves off from the profits to be derived from one or two good side-lines to the dairy business, such as hogs, poultry, and sale of some cash crops suited to the locality.

Table 32 deals in the same way with farms selling milk to condensers or to the city milk trade. This table points out quite clearly that these farms can carry on a more specialized business and side-lines do not need to be so much used to make the best profits.

SIDE-LINES ON CONDENSER AND MARKET MILK FARMS.

TABLE 32.

Percentage of Revenue from Side lines	No. of Farms	Milk Sold per Cow	Labor Incomes
Less than 10 %	19	\$129	\$ 684
10-20 %	53	130	1075
20-30 %	34	114	1040
More than 30 %	24	96	888

On the above farms the largest profits are made by those getting 10 to 30 per cent. of their revenue from side-lines. It is quite evident that the 19 farms selling practically nothing but milk lost many opportunities for profit and for the making the best use of land, live stock, labor and equipment by paying too little attention to side-lines. It is interesting to note that these farms could afford to carry less side-lines than the cheese factory farms, because the price received for the milk was about fifty cents per hundred more than was paid by the cheese factories, therefore, side-lines were not quite so profitable proportionately as milk.

THE COST OF PRODUCTION OF MILK.

Out of the 290 farms used in most of the general tabulations, only 157 could be used for the purpose of calculating the cost of production of milk. Each of these 157 farms received more than 50 per cent. of its gross revenue from the sale of milk. The other 133 farms did not receive half of their income from milk sales alone, hence could not be considered as "milk-producing" farms. The method employed in calculating the cost of production of milk required that each farm used be an essentially milk producing plant. This method differed in certain particulars from the method used in all other tabulations. For this purpose the farmer was allowed \$600 wages for the year, which amount was added to the current expenses for the year. An extra 2 per cent. interest on investment was allowed, making 7 per cent. altogether. As many lines of secure investment during the year 1918 offered as high or higher than 7 per cent. this rate was considered fair in calculating cost of production. All sources of revenue, other than milk, were taken as "side-lines," which would have the effect of lowering or raising the cost of the

main product—milk—according to whether they, in themselves, were profitable or otherwise. This explains the necessity of rejecting all farms which had less than 50 per cent. income from milk alone.

A concrete example will explain better than description the details of the method:

FARM No. 266.

Size, 93 acres.
Number of cows, 21.

Milk sold, 116,992 lbs.
Total capital, \$18,214.

Expenses.

Labor Hired	\$800 00
Feed bought	365 00
Seed bought	106 00
Repairs	95 00
Taxes	115 00
Other farm expenses	271 00
Depreciation on buildings and machinery	352 00
Interest on capital	1,275 00
Labor of operator	600 00

Total expenses \$3,979 00
Revenue from side lines 754 00

Cost of producing milk..... \$3,225 00

Revenue From Other Sources Than Milk.

Crops sold	\$350 00
Increase and sales of cattle, hogs and poultry	271 00
Eggs	75 00
Fence posts sold	5 00
Increase in feed and supplies..	53 00

Total receipts from side-lines.. \$754 00

116,992 lbs. milk cost \$3,225 00
100 lbs. milk cost 2 75

Quite naturally there was, on 157 farms a considerable amount of variation in the cost of production, depending upon the quality of live stock and upon the organization and management of the different farm businesses. Before going into a study of the direct causes of these variations, a table was prepared to show the amount of variation, and the relative number of cows per farm, where cost of production was low and where it was high.

VARIATIONS IN COST OF PRODUCTION COMPARED WITH SIZE OF HERD.

TABLE 33.

Cost per Cwt.	No. of Farms	No. of Cows per Farm	Average Cost per Cwt.	Average Selling Price	Milk Sold per Cow	Labor Income
Below \$2.00.....	25	20	\$1.70	\$2.36	lbs. 5,300	\$1,619
\$2.00 to \$2.50.....	57	21	2.21	2.31	5,100	995
\$2.50 to \$3.00.....	32	18	2.75	2.38	4,700	639
\$3.00 to \$3.50.....	18	17	3.20	2.29	4,100	315
Over \$3.50.....	25	16	4.28	2.32	4,000	115

Average cost of production on 157 farms \$2 68
Average selling price on 157 farms..... 2 33

Table 33 shows that twenty-five farmers out of 157 produced milk during the year 1918 at less than \$2 per cwt., the average of the group being \$1.70. These

men were the really efficient dairymen of the district, men with considerably more than average ability in breeding, feeding and general care of dairy cattle. On account of this natural ability they were able to make substantial profits for their year's work. On the former basis of calculation—5 per cent. interest on investment and no charge for operator's labor—their average Labor Income was \$1,619.

On the other hand it cost twenty-five farmers, of the same 157, more than \$3.50 per cwt. to produce milk. Some of them were very much over the \$3.50 mark, for the average of the group was \$4.28. On the old basis of calculation these men made an average Labor Income of \$115—considerably less than \$600 wages and an extra 2 per cent. on investment. At an average selling price of \$2.32 per cwt., they produced milk at a loss of \$1.96 per cwt., if they were to be allowed \$600 wages and 7 per cent. interest on investment.

Of the remaining 107 farms of the 157, fifty-seven produced at \$2 to \$2.50 per cwt., and thirty-two at \$2.50 to \$3 per cwt. These were the men of average ability in handling of dairy cattle.

It will be noted that the numbers of cows per farm in all groups in the table were nearly the same. In the lower groups the herds were slightly smaller but were still fair-sized milking herds.

On noting the amount of variation in the above table, the question naturally arises, "Just what figure can be taken to represent the cost of production of milk on Dundas County farms?" It cannot be said logically that the average cost of production was more than \$3 per cwt., although forty-three farms out of a representative group of 157, or 27 per cent., did not produce at less than that rate. Neither can it be said that the cost of production was less than \$2 per cwt., although twenty-five farmers produced milk more cheaply than that. The figure to represent the cost of production on the *average* farm must be the average of the figures for all farms.

The significance of the above figures on cost of production is that milk did not sell at a sufficiently high figure to give the average farmer \$600 for his year's labor and 7 per cent. interest on his capital investment in addition to the running expenses of the farm and depreciation on his buildings and equipment.

FACTORS INFLUENCING COST OF PRODUCTION.

Following up the classification according to cost of production, and the establishing of figures to represent average cost and average selling price, a study was made of some of the main factors in the farm business which tended toward the lowering of cost of production, and, hence, the increasing of farm profits.

HIGH MILK YIELD PER COW REDUCES COST OF PRODUCTION.

TABLE 34.

Yield per Cow Herd Average	No. of Farms	Cost per Cwt.
Under 4001 lbs.....	40	\$3.40
4001-5000 lbs.....	62	2.59
5001-6000 lbs.....	29	2.37
Over 6000 lbs.....	26	2.16

As Table 34 shows, high milk yield per cow is, undoubtedly the most potent factor in lowering the cost of production. As the yield per cow increases, the cost

per hundredweight of milk steadily drops. With milk selling at an average price of \$2.36 per cwt. (see Table 11), the cow which produced less than 5,000 pounds within the year could be classed as a "boarder." It cost the owner \$2.59 or more to get 100 pounds of milk, which he had to sell for \$2.33.

Having found the great factor in reducing cost of production to be milk yield per cow, the next logical question is, "How best can milk yield per cow be increased, by feeding or breeding?" The following table was prepared to discover the relative effects, on the cost of production, of increased herd production by feeding and by breeding.

BREEDING VS. FEEDING TO INCREASE MILK YIELD PER COW.

TABLE 35.

Farms With	All-Grade Breeding or Pure-Bred Sire Less than Five Years	Pure-Bred Sire more than Five Years
Feeding, Low (below \$71 per Cow)	No. of Farms.....46	No. of Farms.....39
	Herd Average.....4000 Lbs.	Herd Average.....4700 lbs.
	Cost per Cwt.....\$2.85	Cost per Cwt.....\$2.56
Feeding, High (above \$71 per Cow)	No. of Farms.....28	No. of Farms.....44
	Herd Average.....4600 Lbs.	Herd Average.....5700 Lbs.
	Cost per Cwt.....\$2.96	Cost per Cwt.....\$2.45

Table 35 shows that both methods of increasing herd production are employed by the Dundas County dairymen. The upper left hand group were both poor feeders and poor breeders; consequently, their herd average was only 4,000 pounds per cow, and their average cost of production was \$2.85. The lower left-hand group were poor breeders but liberal feeders. By feeding alone, they raised their herd average to 4,600 pounds per cow, at an average cost of \$2.85 per cwt. The upper right-hand group used the other method to increase milk yield. They were sparing feeders, but each man had used a pure-bred sire to head his herd for over five years. In consequence, their herd average was 4,700 pounds per cow, but their cost of production was only \$2.56 per cwt. The breeding method is slower in bringing results, but it can be carried on in conjunction with the feeding method, and a comparison of the last two mentioned groups shows its distinct advantage.

On going still farther and looking at the lower right hand group, which is composed of farmers who are good breeders and liberal feeders, it is seen that the herd average has been raised to 5,700 pounds, and the cost per cwt. still further lowered to \$2.45.

The above facts clearly indicate that liberal feeding alone will not reduce the cost of milk production but must be accompanied by better breeding methods if profitable results are to be attained.

CHAPTER V.

FARM BUSINESS STATISTICS.

A study of three hundred to four hundred farms in each of four different areas, in each of which is found a different type of farming, naturally provides some interesting statistical information as is found in the following tables:

TABLE 36.

	Oxford	Dundas	Middlesex	Dufferin
Number of Farms.....	359	310	385	329
Area in Farms Surveyed.....	39,500 ac.	32,000 ac.	59,000 ac.	50,000 ac.
Average Size of Farm.....	113 ac.	103 ac.	153 ac.	152 ac.
Average Tillable Area of Farm.....	93 ac.	85 ac.	123 ac.	124 ac.
Average Crops per Farm.....	66 ac.	60 ac.	62 ac.	\$90
Average Total Capital.....	\$15,305	\$15,150	\$16,370	\$13,650
Average Capital per Acre.....	\$135	\$147	\$107	90 ac.
Average Farm Value.....	\$9,882	\$9,370	\$11,620	\$9,226
Average Value of Land per Acre.....	\$87.50	\$91.00	\$75.90	\$60.70

Table 36, shown above, presents statistics relating to size of farm, acres of crops, total capital investment and values per acre of farms in different districts. Attention might be drawn to the number of acres of crops per farm in Middlesex, the beef grazing area. The crop acreage here is 41 per cent. of the total farm area, while the other districts have all just about 60 per cent. of their total area in crop. The percentage of tillable area in all districts is about 80 per cent. of the total area of the farms,

Table No. 37 shows some of the differences in Live Stock organization and quality in the four areas.

TABLE 37.

	Oxford	Dundas	Middlesex	Dufferin
Values of Live Stock per Farm.....	\$3,340	\$3,191	\$3,148	\$2,896
Values of Live Stock per Acre.....	29.60	31.00	20.40	19.10
Average Returns per Unit of Live Stock...	118	103	95	79
Average Cost of Feed per Unit of Live Stock	80	70	74	73
Average Profit Over Feed.....	38	33	21	6

The two dairy districts show a considerably larger profit over cost of feed, due to the ability of the dairy cow to make better use of feed consumed than other farm live stock. It must not be forgotten that there is a much greater labor cost in handling dairy cattle than other cattle require so that the net profits of the four areas in this respect, after deducting labor costs would not show such large differences as appear in the above table. The small profit over feed shown in the Dufferin survey must not be taken too seriously. True it is much less than shown in the other districts, but it must be remembered that the feed was nearly all grown on the farms and charged at very nearly market prices. So that the live stock

though not as good in quality as the other districts, paid a little more than market prices for a lot of feed for which market could not be found and helped maintain the fertility of the farm.

Table 38 presents some data on farmers' effort and farm revenues and expenses.

TABLE 38.

	Oxford	Dundas	Middlesex	Dufferin
Crop Ac. per Man.....	33	33	34	47
Gross Revenue per Farm.....	\$3,558	\$3,060	\$2,854	\$2,831
Gross Revenue per Ac.....	31.50	29.70	18.60	18.60
Running Expenses per Farm.....	1,218	1,180	990	940
Running Expenses per Acre.....	10.80	11.50	6.50	6.20
Depreciation per Farm.....	270	279	252	240
Average Farm net Income.....	2,070	1,601	1,612	1,651
Average Farm net Income per Acre.....	18.30	15.60	10.50	10.80
Average Interest on Capital.....	6.75	7.35	5.35	4.50
Average Labor Income per Farm.....	1,248	884	780	987

Table 38 gives an explanation of the comparatively high labor incomes of the Dufferin mixed farmers, in spite of the low returns for live stock and smaller crop yields than have the other districts. The great increase in crop acres per man kept down their cost of growing crops and their low capitalization per acre kept down their interest and other overhead charges, leaving them larger labor incomes per farm than those received by any other group except the Oxford dairy men.

Table 39 represents the comparative Labor Incomes of the different districts for equal amounts of capital invested.

TABLE 39.

Total Capital	Oxford		Dundas		Middlesex		Dufferin	
	Size of Farm Acres	Labor Income	Size of Farm Acres	Labor Income	Size of Farm Acres	Labor Income	Size of Farm Acres	Labor Income
\$7300-\$8,200.....	48	\$ 559	46	\$ 396	70	\$ 235	98	\$ 498
\$9500-\$11,500.....	78	900	76	745	100	560	110	812
\$13000-\$15,000.....	96	1,150	94	890	118	618	163	1,018
\$15000-\$17,000.....	114	1,327	113	970	151	900	178	1,000
\$19000-\$21,000.....	160	1,650	158	1,175	200	1,000	229	1,339

The above table appears to point out that for capital invested the mixed farming business compares very favorably with the dairy business in Oxford County. It is hardly fair to compare the Dundas County area with the other three districts on account of the great wastage of crops through excessive rain in the harvesting season. The Middlesex area appears to give the lowest returns, whether compared on the basis of size of farm or of capital invested. As has been pointed out, this is due to too large an area of tillable land in grass on many of the smaller farms. This has the effect of cutting down the crop area, thus increasing the cost of growing crops, particularly, in terms of man power and efficiency.

CHAPTER VI.

REPORTS TO SURVEYED FARMS.

It might be interesting to those not acquainted with the detail of the work of the Farm Management Department to point out one of the features of the survey work that is of particular assistance to the farmer from whom the data in this and other similar publications is obtained. To each farmer, whose farm is studied, there is sent an itemized statement of his own business showing his own profits or losses for the year and presenting sufficient detail to demonstrate to each man the strong and weak spots in his farm organization. A study of these individual reports by the farmer himself has proven of great interest in the surveyed areas, and many farmers have made use of these individual statements, which, studied in connection with the published report on the whole district gives him a new insight and fresh viewpoint on his business.

Examples of these individual reports with names and locations of farms omitted, here follows:

INDIVIDUAL FARM REPORT—MIDDLESEX COUNTY SURVEY.

For the Year Ending February 28th, 1919.

Farm No.....	Name.....	Address.....	
<i>Summary of Your Farm Business.</i>			
Total Capital			\$12,610 00
<i>Receipts:</i> Crop Sales		\$11 00	
Stock—milk sales, stock sales and natural increase.....		1,158 00	
Miscellaneous		184 00	
Increase in feed and supplies			1,353 00
<i>Expenses:</i> Current expenses, including labor, feed and seed, repairs, taxes, etc.		\$477 00	
Depreciation (buildings and machinery).....		187 00	
Decrease in feed and supplies		10 00	
			\$674 00
Farm, "Net Revenue"			\$679 00
Interest on Capital at 5 per cent.			630 00
Labor Income			49 00

COMPARISON OF YOUR FARM WITH AVERAGE OF ALL OTHER FARMS THAT ARE OF SAME SIZE AS YOURS—IN TILLABLE AREA.

	Average of 35 Farms, 61-75 acres Tillable	Your Farm		Average of 35 Farms	Your Farm
Actual Acres.....	100	98	Labor Hired.....	\$207	\$126
Tillable Land—Acres....	69	64	Depreciation (Bldgs. and Machinery)	\$204	\$187
Crops—Acres.....	45	34	Current Expenses.....	\$674	\$477
Total Capital.....	\$11,324	\$12,610	Gross Receipts.....	\$2049	\$1353
Capital in Real Estate..	\$7,886	\$10,000	Labor Income.....	\$582	\$49
Capital in Buildings....	\$3,034	\$3,600	Labor Income on Seven Best Farms.....	\$1218	....
Capital in Machinery....	\$853	\$572	Tillable Land Pastured..	....	47%
Capital in Live Stock....	\$2,174	\$1,859	Crop Index.....	100	95
Crop Acres per Man.....	31	25	Live Stock Index.....	100	120
Crop Acres per Horse....	12	13			
Crops Sold.....	\$584	\$11			
Feed Bought.....	\$92	\$27			

Causes of Low Labor Income:

- (1) Too much tillable land in pasture.
- (2) Not enough cash crops.
- (3) Low crop acres per man.

INDIVIDUAL FARM REPORT—MIDDLESEX COUNTY SURVEY.

For the Year Ending February 28th, 1919.

Farm No. Name. Address.....

Summary of Your Farm Business.

Total Capital	\$19,964 00
<i>Receipts:</i> Crop sales	\$850 00
Stock—Milk sales, stock sales and natural increase.....	2,157 00
Miscellaneous	
Increase in feed and supplies	150 00
	\$3,157 00
<i>Expenses:</i> Current expenses including labor, feed, seed, repairs, taxes, etc.	\$1,323 00
Depreciation (buildings and machinery)	210 00
Decrease in feed and supplies	
	1,533 00
Farm, "Net Revenue"	\$1,624 00
Interest on Capital at 5 per cent.	998 00
	\$626 00
Labor Income	\$626 00

COMPARISON OF YOUR FARM WITH AVERAGE OF ALL OTHER FARMS THAT ARE OF SAME SIZE AS YOURS—IN TILLABLE AREA.

	Average of 27 Farms, 161-185 Ac. Tillable	Your Farm		Average of 27 Farms	Your Farm
Actual Acres.....	202	197	Labor Hired.....	\$519	\$810
Tillable Land—Acres....	172	163	Depreciation (Bldgs. and Machinery).....	\$300	\$210
Crops—Acres.....	75	62	Current Expenses.....	\$1222	\$1533
Total Capital.....	\$21,181	\$19964	Gross Receipts.....	\$3921	\$3157
Capital in Real Estate...	\$14,690	\$14300	Labor Income.....	\$1270	\$626
Capital in Buildings....	\$4,188	\$4800	Crop Index.....	100	\$108
Capital in Machinery....	\$1,209	\$647	Live Stock Index.....	100	\$77
Capital in Live Stock....	\$4,439	\$4163	Tillable Land—Pastured		58%
Crop Acres per Man,....	35	24	Labor Income on Five Best Farms.....	....	\$25.91
Crop Acres per Horse....	14	13			
Crops Sold.....	\$1,110	\$850			
Feed Bought.....	\$111	\$28			

Causes of Low Labor Income.

- (1) Quality of Live Stock is 23 per cent. below average.
- (2) Too few crop acres per man.
- (3) Too much tillable land in pasture.
- (4) High current expenses.
- (5) Not enough cash crops.

INDIVIDUAL FARM REPORT—DUFFERIN COUNTY SURVEY.

FOR THE YEAR ENDING APRIL 30TH, 1919.

Farm No. Name. Address.....

SUMMARY OF YOUR FARM BUSINESS.

Total Capital		\$18,059 00
Receipts: Crop Sales	\$1,770 00	
Stock—Milk Sales, Stock Sales, and Natural Increase	1,466 00	
Miscellaneous		
Increase in Feed and Supplies	10 00	
		3,246 00
Expenses: Current Expenses, including labor, feed, seed, repairs, taxes, etc.	\$1,806 00	
Depreciation (Buildings and Machinery)	459 00	
Decrease in Feed and Supplies		
		2,265 00
Farm "Net Revenue"		981 00
Interest on Capital at 5 per cent.		903 00
		<u>78 00</u>
Labor Income		\$78 00

COMPARISON OF YOUR FARM WITH AVERAGE OF ALL OTHER FARMS THAT ARE OF SAME SIZE AS YOURS—IN TILLABLE AREA.

	Average of 38 Farms, 136-160 ac. Tillable	Your Farm		Average of 38 Farms	Your Farm
Actual Acres.....	178	199	Labor Hired	\$494	\$1010
Tillable Land—Acres....	146	156	Depreciation (Bldgs. and Machinery).....	\$261	\$459
Crops—Acres	104	112	Current Expenses.....	\$1089	\$1806
Total Capital.....	\$15450	\$18059	Gross Receipts.....	\$3101	\$3246
Capital in Real Estate....	\$10600	\$12000	Labor Income.....	\$948	\$78
Capital in Buildings.....	\$4054	\$6000	Crop Index.....	100	\$102
Capital in Machinery.....	\$964	\$1526	Live Stock Index.....	100	\$62
Capital in Live Stock....	\$3250	\$3559	Labor Income on Six Best Farms.....	\$1926	....
Crop Acres per Man.....	49	37			
Crop Acres per Horse....	20	19			
Crops Sold.....	\$805	\$1770			
Feed Bought.....	\$114	\$120			

Causes of low Labor Income.

- (1) High labor and current expenses.
- (2) Expensive buildings, machinery and high depreciation.
- (3) Low crop acres per man.
- (4) Live stock 38% below average.

INDIVIDUAL FARM REPORT—DUFFERIN COUNTY SURVEY.

FOR THE YEAR ENDING APRIL 30TH, 1919.

Farm No. Name..... Address.....

SUMMARY OF YOUR FARM BUSINESS.

Total Capital		\$21,880 00
Receipts: Crop Sales	\$742 00	
Stock,—Milk Sales, Stock Sales, and Natural Increase	4,631 00	
Miscellaneous	16 00	
Increase in Feed and Supplies	7 00	
		5,396 00
Expenses: Current Expenses, including labor, feed, seed, repairs, taxes, etc.	\$1,011 00	
Depreciation (Buildings and Machinery).....	231 00	
Decrease in Feed and Supplies		
		<u>1,242 00</u>

Farm "Net Revenue"	4,154 00	
Interest on Capital at 5%		1,094 00
Labor income		\$3,060 00

COMPARISON OF YOUR FARM WITH AVERAGE OF ALL OTHER FARMS THAT ARE OF
SAME SIZE AS YOURS—IN TILLABLE AREA.

	Average of 16 Farms 186-225 Ac. Tillable	Your Farm		Average of 16 Farms	Your Farm
Actual Acres.....	229	200	Labor Hired.....	\$546	\$301
Tillable Land—Acres....	197	191	Depreciation (Buildings and Machinery)		\$231
Crops—Acres	140	155	Current Expenses	\$280	\$1011
Total Capital.....	\$20593	\$21880	Gross Receipts	\$1310	\$5396
Capital in Real Estate...	\$14394	\$15000	Labor Income	\$1339	\$3060
Capital in Buildings.....	\$5584	\$5400	Crop Index	100	90
Capital in Machinery.....	\$1237	\$1726	Live Stock Index	100	163
Capital in Live Stock	\$4125	\$3886	Labor Income of Four Best Farms.....	\$2585	
Crop Acres per Man.....	60	69			
Crop Acres per Horse....	24	23			
Crops Sold	\$842	\$742			
Feed Bought	\$145	\$191			

Reasons for High Labor Income.

- (1) Live stock 63% above average.
- (2) Large crop acreage per man (hard work).
- (3) Low current expenses (economy).
- (4) Low depreciation.
- (5) Fair revenue from crops sold.

INDIVIDUAL FARM REPORT—DUNDAS COUNTY SURVEY.

FOR THE YEAR ENDING APRIL 30TH, 1919.

Farm No.Name.....Address.....

SUMMARY OF YOUR FARM BUSINESS.

Total Capital		\$11,631 00
<i>Receipts:</i> Crop Sales	\$277 00	
Stock,—Milk Sales, Stock Sales, and Natural Increase	1,409 00	
Miscellaneous		
Increase in Feed and Supplies	374 00	
		\$2,060 00
<i>Expenses:</i> Current Expenses, including labor, feed and seed, repairs taxes, etc.	\$1,491 00	
Depreciation (Buildings and Machinery)	206 00	
Decrease in Feed and Supplies		
		\$1,697 00
Farm "Net Revenue"		\$363 00
Interest on Capital at 5 per cent.		582 00
Labor Income		— 219 00

COMPARISON OF YOUR FARM WITH AVERAGE OF ALL OTHER FARMS THAT ARE OF
SAME SIZE AS YOURS—IN TILLABLE AREA.

	Average of 50 Farms 46-60 ac. Tillable	Your Farm		Average of 50 Farms	Your Farm
Actual Acres.....	61	88	Labor Hired.....	\$183	\$750
Tillable Land—Acres....	51	47	Total Current Expenses	\$821	\$1491
Crops—Acres.....	35	36½	Gross Receipts.....	\$2,000	\$2060
Total Capital.....	\$9241	\$11631	Labor Income.....	\$632	—\$219
Capital in Real Estate....	\$6019	\$8000	Labor Income on Ten Best Farms.....	\$1334	
Capital in Buildings.....	\$2770	\$6000	Live Stock Index.....	100	73
Capital in Machinery....	\$806	\$1078	Milk Sold per Cow.....	\$96	\$72
Capital in Live Stock....	\$2151	\$2225	Feed per Cow.....	\$70	\$40
Crop Acres per Man.....	26	13	Cost of Milk Production	\$2.68	\$4.27
Crop Acres per Horse....	13	9	Herd Average.....	lbs. 4350	lbs. 3300
Crops Sold.....	\$58	\$277			
Feed Bought.....	\$331	\$335			
Depreciation (Buildings and Machinery.....)	\$205	\$206			

Reasons for Low Labor Income.

- (1) Too high capitalization of real estate for farm with so much waste land.
- (2) Buildings too expensive.
- (3) Low crop acres per man and per horse.
- (4) Labor hired too high.
- (5) Poor live stock and low feeding.

INDIVIDUAL FARM REPORT—DUNDAS COUNTY SURVEY.

FOR THE YEAR ENDING APRIL 30TH, 1919.

Farm No. Name..... Address.....

SUMMARY OF YOUR FARM BUSINESS.

Total Capital	\$16,333 00
<i>Receipts:</i> Crop Sales	
Stock, Milk Sales, Stock Sales, and Natural Increase	\$5,349 00
Miscellaneous	
Increase in Feed and Supplies	79 00
	<hr/>
	5,428 00
<i>Expenses:</i> Current expenses, including labor, feed and seed, repairs, taxes, etc.	\$2,090 00
Depreciation (Buildings and Machinery)	259 00
Decrease in feed and supplies	
	<hr/>
	2,349 00
Farm "Net Revenue"	\$3,079 00
Interest on Capital at 5%	817 00
Labor Income	2,262 00

COMPARISON OF YOUR FARM WITH AVERAGE OF ALL OTHER FARMS THAT ARE OF
SAME SIZE AS YOURS—IN TILLABLE AREA.

	Average of 31 Farms 111-135 ac. Tillable	Your Farm		Average of 31 Farms	Your Farm
Actual Acres.....	153	132	Labor Hired.....	\$611	\$499
Tillable Land—Acres....	121	126	Total Current Expenses	\$1748	\$2090
Crops—Acres.....	86	92	Gross Receipts.....	\$4247	\$5428
Total Capital.....	\$19183	\$16333	Labor Income.....	\$1110	\$2262
Capital in Real Estate....	\$13068	\$10000	Labor Income on Six best		
Capital in Buildings.....	\$4627	\$3550	Farms.....	\$1993	....
Capital in Machinery.....	\$1840	\$1177	Live Stock Index.....	100	121
Capital in Live Stock.....	\$1290	\$5015	Milk Sold per Cow.....	\$96	\$147
Crop Acres per Man.....	39	44	Feed per Cow.....	\$70	\$63
Crop Acres per Horse....	17	18	Cost of Milk Production	\$2.68	\$1.83
Crops Sold.....	\$143	....	Herd Average.....	lbs. 4350	lbs. 5300
Feed Bought.....	\$545	\$731			
Depreciation (Buildings and Machinery).....	\$385	\$259			

Reasons for High Labor Income.

- (1) Good live stock.
- (2) Moderate cost of feed per cow (good feeding methods).
- (3) High crop acres per man.
- (4) Moderate capitalization in buildings and machinery.
- (5) Low depreciation.
- (6) High capitalization in good live stock.

