PUBLICATION 726 ISSUED NOVEMBER, 1941
FARMERS' BULLETIN NO. 107 FIRST PRINTING
DOMINION OF CANADA—DEPARTMENT OF AGRICULTURE

THE DIRECT MARKETING OF LIVE STOCK

W. F. CHOWN, S. C. HUDSON
and
J. N. LEWIS

MARKETING SERVICE
ECONOMICS DIVISION

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THE DIRECT MARKETING OF LIVE STOCK

W. F. Chown, S. C. Hudson and J. N. Lewis

Historical Summary

Settlement.—Live stock were first introduced into Canada by the early French settlers. In 1688 the number of live stock on farms in "New France" is given as 7,719 cattle, 1,061 sheep and 3,701 swine.[1] By 1765 the number of animals in Canada was shown to be 12,533 oxen, 14,732 young cattle, 22,748 cows, 28,022 sheep and 28,562 swine.[2] With the coming of the United Empire Loyalists and the establishment of settlements in the Eastern Townships of Quebec and in Ontario, live stock were introduced into those sections of the country. The founding of the Red River settlement, during the early part of the nineteenth century, resulted in the introduction of cattle west of the Great Lakes.

During the early stages of development, live stock were slaughtered mainly for home consumption, the surplus meat finding an outlet in the adjoining towns and lumber camps and to a limited extent in export trade. Cattle were delivered "on the hoof" to retail butchers who operated their own slaughter houses. Hogs and sheep were usually slaughtered on the farm.

As larger urban centres emerged local packing plants came into being. These drew their supplies from farther afield but the method of marketing continued to be the most direct possible, namely, from producer to packer either by direct sale or through the medium of local buyers or drovers.

Stockyards.—The development of an export trade in cattle, beginning about 1870 resulted in an expansion of the live stock industry and caused supplies to be drawn from still more remote areas. The first stockyards were established to provide facilities for the assembling and handling of large numbers of live stock at the head of ocean navigation. Later central yards were established, often by the railway companies, on which a number of dealers operated. The first to be established was the Montreal Stockyards at Point St. Charles which commenced operations in 1885. The Toronto Stockyards were established in 1888.

Location of Packing Plants at Stockyards.—Later, as a result of a decline in the export outlet for live animals together with the growth of the larger cities such as Montreal and Toronto, there was a marked change in the function of these yards. Beginning about 1890 packing plants were built adjacent to the yards These plants, because of their advantageous location and efficient use of by-products soon came to occupy an important place in live stock marketing with resulting reduction of local slaughter. This development accompanied by the opening of new areas of production, is shown in tables 1 and 2. It may be noted that up to 1890 most of the slaughtering and packing was in the hands of relatively small establishments, the average output in the latter year being only $13,500 per plant. In 1900 only those plants employing five or more hands were recorded. While, as a result of this change only 57 plants are reported for Canada as compared with 528 in 1890, the total output was more than trebled. Although some few plants were reported in the Prairie Provinces as early as 1890, production did not reach significant proportions till about 1910.

[1] Dominion Bureau of Statistics, "Live Stock and Animal Products Statistics, 1927."
[2] Ibid.

TABLE 1.—NUMBER OF SLAUGHTERING AND MEAT PACKING ESTABLISHMENTS IN CANADA, 1870-1930 (1)

Area	Number of slaughtering and meat packing establishments						
	1870	1880	1890	1900 (2)	1910 (2)	1920 (2)	1930 (2)
Maritime Provinces	49	32	122	8	10	17	11
Quebec	39	70	87	9	18	16	17
Ontario	105	94	299	35	38	29	24
Manitoba	–	1	8	–(3)	4	8	6
Saskatchewan and Alberta	–	–	3	–(3)	3	10	9
British Columbia	–	6	9	–	–(3)	6	9
Canada	193	203	528	57	80	86	76

(1) Dominion Bureau of Statistics "Live Stock and Animal Products Statistics, 1937."
(2) In 1900 and later years, only plants employing five or more hands included.
(3) Not given.

TABLE 2.—VALUE OF THE PRODUCTS OF THE SLAUGHTERING AND MEAT PACKING INDUSTRY IN CANADA, 1870-1930 (1)

Area	Value of Products (Thousands of Dollars)						
	1870	1880	1890	1900	1910	1920	1930
	$	$	$	$	$	$	$
Maritime Provinces	177	323	903	489	819	2,435	2,632
Quebec	430	950	2,158	3,079	8,354	29,497	25,758
Ontario	3,193	2,764	3,878	17,216	28,115	138,714	83,358
Manitoba	–	3	78	–(3)	6,821	26,823	19,746
Saskatchewan and Alberta	–	–	79	–(3)	4,030	31,043	21,531
British Columbia	–	44	37	–	–(3)	12,033	11,005
Canada	3,800	4,084	7,133	22,218	48,527	240,545	164,030

(1) Dominion Bureau of Statistics "Live Stock and Animal Products Statistics, 1937."
(2) In 1900 and later years, only plants employing five or more hands included.
(3) Provincial figures not given.

Commission Agents.—The establishment of central stockyards as assembling points for live stock soon gave rise to a "middle man" in the live stock trade in the form of the commission agent whose function was to establish contacts with the various buyers and obtain the best possible price for the sellers. An attempt to regulate trading practices on stockyards was made by the organization of live stock exchanges at the principal markets following 1910. These exchanges set the rules for the conduct of business among the commission agents and dealers, the object being to promote honest dealings and punish those who violate business contracts or obligations. In August 1918, all live stock yards and exchanges came under the control of the Dominion Minister of Agriculture through the Live Stock and Live Stock Products Act.

Direct Buying.—While, with the advent of the twentieth century, the public stockyards and commission agents became very important factors in the live stock trade in Canada, at no time did all of the live stock marketed pass through these channels. A substantial part of the trade continued to go directly to local butchers and, latterly to packing plants established at some distance from stockyards. During recent years, the proportion of the live stock "bought direct" has increased very materially. This trend toward "direct buying" has been common to all classes of live stock with the result that the importance of stockyards, as a source of packers' supplies, has been very greatly reduced (table 3).

TABLE 3.—ESTIMATED PERCENTAGES WHICH ANIMALS BOUGHT DIRECT FORMED OF THE TOTAL LIVE STOCK PURCHASED BY CANADIAN PACKING COMPANIES YEARLY 1921–1939 (1)

Years	Hogs	Sheep and Lambs	Cattle and Calves
	%	%	%
1922	59·7	38·9	30·0
1923	61·3	37·6	27·8
1924	60·8	41·2	28·9
1925	60·1	40·1	26·2
1926	63·4	43·0	27·8
1927	67·0	43·0	30·5
1928	67·7	44·9	34·6
1929	68·5	43·4	35·3
1930	69·0	52·6	41·5
1931	64·3	51·4	40·7
1932	66·0	54·6	44·9
1933	71·9	56·5	47·6
1934	71·5	57·1	50·7
1935	75·9	60·5	48·4
1936	76·1	63·3	51·6
1937	77·7	63·3	49·8
1938	82·1	65·8	53·4
1939	83·0	64·8	53·0

(1) Annual Market Review, Dominion Department of Agriculture.

Recent Changes and Present Situation

Truck Transportation.—In recent years there has been increasing recognition of the trend in direct buying just described. Very often this change has been associated with another new factor in live-stock marketing, namely, the motor truck. The expansion of this means of transportation has been very rapid, and in no line more so than in the freighting of live stock.

During recent years the Department of Agriculture has been collecting data which measure the number of live stock carried to stockyards by truck as well as by railroad. Expressed as a percentage of the total arrivals, truck shipments of all classes of live stock show a rapid increase from 1932 to 1939 (table 4).

TABLE 4.—PERCENTAGE OF TOTAL STOCKYARD RECEIPTS DELIVERED BY TRUCK (1)

Year	Cattle	Calves	Hogs	Sheep and Lambs
	%	%	%	%
1932	21·52	37·36	24·07	28·93
1933	24·04	36·67	28·54	30·38
1934	25·53	36·98	38·37	34·61
1935	28·79	42·25	44·33	39·27
1936	31·68	44·45	50·64	40·66
1937	31·47	43·15	55·89	41·43
1938	40·95	48·27	62·40	44·91
1939	45·09	50·74	64·13	41·95

(1) Annual Market Review, Dominion Department of Agriculture.

The number of hogs carried by trucks to packing plants is only available for the two years 1938 and 1939 (table 5), but for this period it is apparent that, with the exception of hogs, packing establishments receive a larger proportion of their direct supply by truck than do stockyards.

TABLE 5.—PERCENTAGES OF THE LIVE STOCK PURCHASED DIRECT BY CANADIAN PACKING PLANTS DELIVERED BY TRUCK, 1938 AND 1939 (1)

Year	Hogs	Cattle	Calves	Sheep and Lambs
	%	%	%	%
1938	54·3	60·9	65·8	54·7
1939	55·9	63·8	68·1	55·1

(1) Annual Market Review, Dominion Department of Agriculture.

However, the large percentage of yard receipts arriving by truck indicates that the increase in direct packer buying is not entirely the result of the use of the truck. Trucking has undoubtedly accelerated direct buying since 1930, but as it is not confined to direct packer buying, the indication is that the transportation of animals by truck is part of the trend toward direct buying that began before highway freighting was of much importance.

Purchases by Local Butchers on Canadian Stockyards.—In cities where stockyards have been established, local butchers continue to provide a fairly important market for animals suitable to the domestic trade. Their purchases as a proportion of total stockyard sales fell off, in general, from 1921 to 1927, but have been growing steadily since (table 6). In 1939 the importance of this outlet for stockyard animals was equal to that of the earliest years for which data are available.

TABLE 6.—PURCHASES OF LIVE STOCK BY LOCAL BUTCHERS AS PER CENT OF TOTAL SALES ON STOCKYARDS (1)

Year	Hogs	Cattle	Calves	Sheep and Lambs
	%	%	%	%
1921	17·8	13·2	38·2	22·7
1922	15·0	8·5	35·6	21·7
1923	9·0	7·3	35·2	20·3
1924	7·0	8·5	33·9	20·2
1925	5·9	7·7	29·6	18·4
1926	6·3	6·8	25·8	17·6
1927	8·7	5·7	25·7	16·8
1928	14·4	7·4	30·5	19·4
1929	14·7	7·5	29·0	17·2
1930	12·4	9·2	36·5	19·6
1931	14·3	9·1	40·4	19·0
1932	13·9	11·9	41·7	16·6
1933	12·6	12·7	40·1	15·7
1934	11·1	16·7	39·4	15·9
1935	12·6	13·1	33·5	17·1
1936	14·2	12·7	31·0	18·7
1937	15·0	11·1	26·7	18·1
1938	22·9	15·5	31·7	18·7
1939	28·1	14·5	28·6	19·4

(1) Annual Market Review, Dominion Department of Agriculture.

In this connection it should be pointed out that local butchers are not so important a factor on stockyards in some cities as they are in others. For example, butchers in Montreal take a much greater proportion of the sales off stockyards than do those in Toronto or Winnipeg (table 7). The causes of this situation are not clear but they may be related to differences in the demand characteristic of the populations served.[1] The important fact is that local butchers continue to provide an element of competition on Canadian stockyards.

TABLE 7.—PURCHASES OF HOGS BY LOCAL BUTCHERS AS PERCENTAGES OF TOTAL STOCKYARD SALES AT MONTREAL, TORONTO AND WINNIPEG, 1920-1939 (1)

Year	At Montreal	At Toronto	At Winnipeg
	%	%	%
1922	37·4	18·4	3·7
1923	31·5	7·3	1·1
1924	33·2	4·5	1·2
1925	30·0	2·9	1·1
1926	29·2	4·0	1·5
1927	36·5	5·2	1·9
1928	49·8	5·1	4·6
1929	55·6	4·7	10·6
1930	53·2	4·5	7·7
1931	52·4	9·9	4·3
1932	42·2	8·9	8·1
1933	42·9	6·6	3·2
1934	43·3	3·5	4·7
1935	44·8	4·4	5·3
1936	47·4	2·8	3·6
1937	48·6	1·7	2·8
1938	52·2	5·1	11·0
1939	46·5	15·8	11·5

(1) Annual Market Review, Dominion Department of Agriculture.

Live Stock Grading.—The National Swine Conferenec held in 1921 to consider means of improving the quality of Canadian bacon recommended the establishment of standards for the live grading of hogs. Official grades were established and a start made in 1922. The grading system was designed to provide greater returns to the farmers producing superior hogs by means of a system of premiums and discounts from the basic grade. A system of carcass grading was later introduced. The grading of all hogs marketed through the usual trade channels is now compulsory and each farmer receives a statement of his grading. The publication of the price of bacon hogs at several points within selling radius of most producers together with a knowledge of grade requirements and marketing costs enables farmers to compare the returns obtainable for their hogs on different markets before they leave the farm. Such a situation makes it unnecessary for every farmer to place his hogs on the central stockyards in order to gain the benefits of competitive bidding. This has been one factor in the growth of the direct marketing of hogs.

A start has been made in the carcass grading of lambs. Official grades have been established by regulation but to date the sale on this basis is purely voluntary. There are no official grades for cattle or calves.

Production.—The development of the live stock industry in Canada has been marked by the increased supply originating in the Prairie Provinces. In the case of cattle and sheep this trend has been associated largely with avail-

(1) Extreme variations from one year to the next are likely to be associated with marked changes in receipts on the particular market concerned. The more important consideration is the general increase or decrease over a period of years.

able range land. In the case of hogs the increase may be accounted for by the increased supplies of coarse feed grains and partly by the uncertainty of the returns from wheat.

TABLE 8.—NUMBER OF HOGS GRADED ORIGINATING IN MANITOBA, SASKATCHEWAN AND ALBERTA, AND PERCENTAGE DISTRIBUTION BETWEEN PROVINCES, 1921-39 (1)
('000 omitted)

Year	Hogs graded originating in				Percentage distribution			
	Manitoba	Saskatchewan	Alberta	Total	Manitoba	Saskatchewan	Alberta	Total
1921	94	56	158	308	30·5	18·2	51·3	100·0
1922	104	123	395	622	16·7	19·8	63·5	100·0
1923	156	199	406	761	20·5	26·1	53·4	100·0
1924	216	361	632	1,209	17·9	29·8	52·3	100·0
1925	260	343	646	1,249	20·8	27·5	51·7	100·0
1926	224	278	604	1,106	20·3	25·1	54·6	100·0
1927	272	283	544	1,099	24·7	25·8	49·5	100·0
1928	243	286	586	1,115	21·8	25·6	52·6	100·0
1929	222	338	682	1,242	17·9	27·2	54·9	100·0
1930	200	315	629	1,144	17·5	27·5	55·0	100·0
1931	269	399	723	1,391	19·3	28·7	52·0	100·0
1932	281	491	1,008	1,780	15·8	27·6	56·6	100·0
1933	244	490	1,032	1,766	13·8	27·8	58·4	100·0
1934	231	491	1,013	1,735	13·3	28·3	58·4	100·0
1935	212	441	954	1,607	13·2	27·4	59·4	100·0
1936	268	570	1,039	1,877	14·3	30·4	55·3	100·0
1937	256	570	986	1,812	14·1	31·5	54·4	100·0
1938	250	217	783	1,250	20·0	17·4	62·6	100·0
1939	327	312	980	1,619	20·2	19·3	60·5	100·0
1940	511	649	1,485	2,645	19·3	24·5	56·2	100·0

(1) Annual Market Review, Dominion Department of Agriculture.

In 1921 the three Prairie Provinces marketed 22 per cent of the total Canadian supply of hogs, while in 1940, 48 per cent originated in that area. This increase in the production of hogs in the Prairie Provinces relative to that in the rest of Canada is more marked than for other classes of live stock.

The supply of coarse grains has also been responsible in large measure for the distribution of hog production in the Prairie Provinces (table 8). From 1921 to 1940 hog production increased more rapidly in Alberta than in the other two provinces. During this period 56 per cent of the hogs graded in these provinces originated in Alberta, 26 per cent in Saskatchewan and 18 per cent in Manitoba.

Distribution and Type of Packing Plants.—Reference has already been made to the early development of the packing industry in Canada (tables 1 and 2). During the early stages of development the larger packing plants were concentrated at Montreal, Toronto and later Winnipeg. Due to a number of factors the industry is now spread out from Charlottetown and Moncton in the east to Vancouver in the west. The population increase in the west has caused a larger market for packing-house products. The increased population in the Prairie Provinces, particularly Alberta, has made it economically advantageous to process the raw products near both the source of supply and the market. A low freight rate to seaboard has also contributed to the shift westward.

Two types of organization exist in the industry. The single unit type of varying size and the large-scale multiple unit type with plants from coast to coast or at any rate spread over a large area. In Canada the trend toward expansion of the packing industry has resulted in a widespread distribution of plants rather than the growth of plants in a concentrated area. Competition for supplies would seem to be the chief explanation for this form of development.

This trend has not operated to the same extent in each class of live stock. For example, the packing industry has expanded in each of the Prairie Provinces and the proportion of the total hog slaughterings killed in Winnipeg plants has decreased slightly in favour of Saskatchewan and Alberta plants but the proportion of the total slaughterings of cattle, sheep and lambs handled in Winnipeg plants has increased considerably during the period 1916-1940 (table 9).

TABLE 9.—PERCENTAGE DISTRIBUTION OF LIVE STOCK SLAUGHTERINGS IN THE PRAIRIE PROVINCES, 1916–40 (1)

Year ended March 31	Hogs			Cattle and Calves			Sheep and Lambs		
	Manitoba	Saskatchewan	Alberta	Manitoba	Saskatchewan	Alberta	Manitoba	Saskatchewan	Alberta
1916	42	9	49	47	5	48	38	11	51
1917	39	7	54	50	6	44	39	6	55
1918	38	7	55	52	9	39	32	10	58
1919	46	11	43	48	13	39	42	7	51
1920	46	14	40	45	16	39	42	5	53
1921	48	12	40	60	10	30	46	8	46
1922	45	5	50	60	3	37	51	1	48
1923	44	6	50	64	2	34	51	2	47
1924	48	6	46	65	3	32	50	1	49
1925	49	5	46	67	2	31	53	1	46
1926	45	6	49	66	2	32	44	2	54
1927	39	15	46	61	8	31	49	5	46
1928	49	10	41	64	8	28	50	6	44
1929	41	12	47	59	10	31	48	7	45
1930	39	15	46	57	11	32	63	7	30
1931	40	11	49	59	9	32	51	7	42
1932	48	11	42	63	10	27	56	7	37
1933	42	13	45	60	12	27	52	10	38
1934	41	17	42	62	13	25	56	12	32
1935	40	17	43	62	14	24	58	12	30
1936	38	18	44	62	13	25	56	11	33
1937	38	19	43	59	15	26	54	13	33
1938	36	17	47	62	16	22	55	15	30
1939	33	14	53	63	11	26	59	12	29
1940	38	11	51	71	9	20	59	13	28

(1) Health of Animals Division, Department of Agriculture, Ottawa.

Freight Rates.—One of the factors responsible for this situation has been the favourable export freight rates on dressed pork products which has encouraged the slaughtering of hogs in the province of origin. On the other hand cattle and sheep are for the most part consumed within Canada and it would seem that there is less advantage in decentralization of slaughter.

The freight rate on live stock from Calgary to Winnipeg has been 51 cents per 100 lb. since 1921. The export rate on bacon, hams and sweet pickled meats from Calgary to Montreal was $1.40, and from Winnipeg to Montreal 91 cents during the years 1921 to 1928. In 1928 the rates were lowered to $1.23 and 79 cents but were raised on January 17, 1938, to $1.27 from Calgary and 83 cents from Winnipeg. From 1921 to 1928 it cost $2.29 to ship a 200-lb. hog alive from Calgary to Winnipeg and ship 140 lb. of export product from Winnipeg to Montreal, while 140 lb. of export product could be shipped from Calgary to Montreal for $1.96. If processing costs were the same in Calgary and Winnipeg the packer gained about 33 cents per hog by slaughtering in Calgary from 1921 to 1938. Since January 17, 1938, the margin in favour of Calgary has been approximately 40 cents per hog.

Buying Policy.—One of the primary considerations of all packers is to obtain such a supply of animals for slaughter that the plant may be operated at an efficient capacity. On the other hand an effort is made to keep the cost of

purchases down to a figure that will return a profit on the transaction. Animals are bought on the hoof but the product sold is dressed meat. Consequently buyers are specialists whose training and experience fit them to estimate with a high degree of accuracy the yield and quality of finished product that will be obtained from each purchase. In connection with a plant of any size there are hog buyers, cattle buyers and lamb buyers each an expert in his own field. There are salaried buyers at the plant, at the nearest stockyard, in some cases at country buying stations and in addition connections are maintained with country drovers and with commission agents on more distant stockyards to act as buying agents.

It is common practice in the trade for individual firms to determine their buying policy for the week at a Monday morning conference of senior officials and to leave the actual carrying out of the program to departmental heads. At these conferences all factors that may have a bearing on the situation are reviewed and studied. The export and domestic demand, stocks in cold storage, marketings and probable marketings are all considered before any course of action is decided on. A budget or program for the week is drawn up showing the number to be slaughtered and the price to be paid. This information is passed on to buyers and buying agents. The program is carried out as nearly as possible but may be varied because of competition from other packers and differences in the supply of live stock or demand for products that may become apparent as the week progresses.

The live stock killed each day are costed at once, and pressure is put on the buyers to keep this cost down to the budget figure. This may have to be revised upward in order to get the number of hogs required or may be revised downward if more hogs are offered than are required. Where several buyers are engaged in buying the same class of live stock their purchases are costed separately and compared one with the other. When one buyer is out of line with the others he is required to furnish an explanation. Thus an attempt is made to keep costs uniform throughout each organization regardless of the source of supply.

At all plants the final measure of the ability of the buyers is the dressed cost of the day's buy. It should be noted that this is an average cost and that there may be small differences in individual purchases. In addition to being an expert judge of live stock, the buyer must have some ability as a bargainer. Due to competition, errors in judgment or skilful bargaining on the part of the seller, he may overpay for some purchases and will constantly try to protect himself and keep his average down by looking for and taking advantage of any bargains he may find.

The attempt to keep live stock prices and costs uniform is carried a step farther by the hog packers in Ontario. About ten of these send in anonymously their average cost of hogs for the week to the Secretary of the Toronto Board of Trade who averages them and makes available the average cost and the high and low cost of the group. By this means the participating firms may keep themselves fairly well in line with their competitors.

Costing Live Stock Purchases.—Something has been said of the importance of the dressed cost of meat as it affects buying policy. Methods of costing are not uniform for the different classes of live stock. Hog costing is the simplest because there are official grades and because no charges for killing or credits for offal are introduced. The price of dressed hogs used in this report is obtained by dividing the amount of money paid for a group of animals by the number of pounds of cooled dressed meat, and expressing the result in dollars per 100 lb. of dressed meat and is two to three per cent higher than the rail grade price which is calculated on the hot weight before the carcass has cooled.

In the example which follows, the details are shown for the costing of several lots of hogs bought at plant and at stockyards by different methods. The effect of varying yields on the dressed cost to the packer, and the relationship between live cost, yield and dressed cost, can be seen in the illustration (table 10). All purchases were made the same day.

TABLE 10.—ILLUSTRATION OF HOG COSTING BY VARIOUS METHODS OF PURCHASE

Type of buy	No. of head	Live weight at plant	Amount paid	Price at plant	Cold dressed weight	Yield	Dressed price
	No.	lb	$	$	lb	%	$
Direct—							
W.O.C.	108	21,540	2,163.43	10.05	16,199	75·2	13.35
Off truck	83	16,560	1,636.98	9.89	12,234	73·8	13.38
F.O.B.(1)	46	9,080	930.31	10.25	6,870	70·6	13.54
Stockyard—							
W.O.C.	437	83,780	8,710.09	10.40	64,664	77·2	13.47
Off truck	203	40,460	4,029.09	9.96	29,821	73·7	13.51

(1) F.O.B. hogs were bought at $9.38 in the country. Country weight was 9,730 lb. Packer paid $17.64 freight and weight of hogs had shrunk to 9,080 lb. at plant.

It should be pointed out that the example ignores the question of the quality of the hogs in each lot. The 46 bought f.o.b. may contain a greater percentage of selects (grade A carcasses) and bacons (B1 carcasses) than any of the others. If this were true, they might not cost the packer more than the others in the sense that high quality hogs will return a higher price for dressed meat than will hogs of poorer quality.

Since the grading on each lot of hogs is known it is possible to calculate what the dressed price would have been if all the hogs had graded "bacon" type. This is accomplished by multiplying the number of selects by the premium of one dollar a head, giving the total premium; and all the discount grades by the discount value, giving the total discount per lot. Total discounts are now subtracted from total premiums, and the number of dollars' difference is divided by total live weight. This result is then expressed as cents per 100 lb. If it is a discount the cents are added to the dressed cost above, if a premium it is deducted. The purchases analysed in table 10 are adjusted in this manner and presented in table 11.

TABLE 11.—ADJUSTMENT OF DRESSED COSTS ON SEVERAL LOTS ON HOGS TO BASIC GRADE DRESSED COST

Type of buy	Number of head	Dressed cost	Premium or discount per 100 lb	Dressed cost of basic grade bacon type
	No.	$		$
Direct—				
W.O.C.	108	13.35	+ .04	13.31
Off truck	83	13.38	+ .21	13.17
F.O.B.	46	13.54	+ .13	13.41
Stockyard—				
Off truck	203	13.51	+ .22	13.29
W.O.C.	437	13.47	+ .15	13.32

Cut Out Reports.—Reference has already been made to the determination of buying policy. An important instrument in the determination of prices is the Cut Out Report. In this report or exhibit the main wholesale cuts are

listed, the per cent yield is entered and this is extended at current wholesale prices and added. From this total is deducted, estimated costs of processing and selling and the net amount that can be paid for raw product is determined. Yields may be entered as a percentage of live weight or of dressed weight so as to show either the net value of the live animal or the dressed carcass. A brief description of the manufacturing process would serve to illustrate this. Hogs will be described as they are the most important.

All hogs are killed, scalded and dehaired. Immediately after dehairing, hogs that will make good Wiltshire sides are selected and singed by passing them through a special type of furnace in order to break down the toughness of the rind so that it will cut easily. Singed hogs are not popular in the domestic market which prefers scalded hogs. After singeing, these hogs are returned to the rail and are dressed along with other hogs.

The hogs are opened and offal removed. Each hog is weighed and if bought on rail grade the carcass is inspected by a government grader. The liver, heart, casings and some fat are recovered on the killing floor after weighing. From the killing floor all hogs are delivered to the coolers for chilling and must be fully chilled and in a firm condition before cutting. On the average the yield of carcass is about 75 per cent of the live weight at the plant before killing and averages about 150 lb. hot weight from a 200-lb. hog.

Wiltshire sides are cut from hogs already singed and earmarked for that purpose. These include the whole side of the hog but with the head and feet off, the tenderloin, leaf lard, kidney, the back bone, neck bone, tail bone, aitch bone, and shoulder blade removed. These by-products average over 22 lb. per 100 lb. of hot dressed carcass or nearly 34 lb. per hog and the yield of the Wiltshire side is about 77·5 per cent of the hot carcass or about 116 lb. per hog. Individual sides range in weight from 45 to 75 lb. with over 65 per cent of those exported falling in the " sizeable " range, 55-65 lb.

Hogs that have not been singed may be disposed of in several ways. There is a limited demand for " shop hogs ", i.e., hogs weighing from 80 to 100 lb. dressed heads on. About a third of Canada's exports are in the form of cuts. The remainder of the hogs are cut for the domestic market. In the Wiltshire trade the whole side of the carcass is used. For the export and domestic cut trade, the same side is divided into four main parts, the shoulder, the back, the belly and the ham, the belly not being exported. These main cuts may be again divided or trimmed differently and may be sold fresh, cooked, cured and smoked. Edible and inedible by-products are recovered during the killing, cutting and trimming processes.

The demand for these different cuts or products varies. The packers' problem is to cut up the hogs in such a way that the whole supply will be cleaned up evenly and the highest amount realized for the whole carcass after considering the added cost of processing. For example, bellies of good quality might be made into number 1 bacon by severe trimming or with more moderate trimming may be sold as number 2. The price spread between number 1 and 2 bacon may be insufficient to warrant such extra trimming.

A method of estimating the return that can be expected, the price that can be paid for live hogs, the current market price and the expected profit or loss per 100 lb. is illustrated in summary form in table 12. The yield is determined from test runs and varies slightly from time to time. The wholesale price varies because of a long-term trend and also must be changed to conform to the demand for particular cuts. Any of the main cuts may be further divided or trimmed and the price shown is the average return expected for the various subsidiary cuts.

TABLE 12.—ESTIMATED VALUE OF HOGS CUT FOR THE DOMESTIC TRADE ON TWO DAYS

Domestic Cuts	June, 1936			October, 1938		
	Yield per 100 lb. live weight	Wholesale price per lb.	Amount	Yield per 100 lb. live weight	Wholesale price per lb.	Amount
	lb.	cents	$	lb.	cents	$
Shoulders	12·85	12½	1.57	13·00	11½	1.49
Backs	11·50	17½	2.01	12·25	19½	2.39
Bellies	8·65	17	1.47	9·00	17	1.53
Hams	14·35	18½	2.65	14·25	17½	2.50
Spare ribs	1·65	6¾	.11	1·45	11	.16
Lard	8·45	9	.76	7·75	7½	.58
Trimmings	2·00	11	.22	2·20	12	.26
Miscellaneous	6·75	4½	.30	7·25	4½	.32
Total	66·20	–	9.09	67·15	–	9.23
Expense less credit			.40			.50
Cut out value of 100 lb. live weight			8.69			8.75
Live price			8.82			8.52
Profits or loss per cwt			−.13			+.21

A type of beef cut out is illustrated in table 13. The yields of cuts are expressed as percentages of the dressed weight and the net cut out value determined represents the amount that it is estimated will be realized from the sale of 100 lb. of beef, bone in, and after allowance for offal credits and killing and cutting expenses. The cost of carcass at date is inserted and the difference represents the packers expected profit or loss.

The packer will try to buy cheaply enough to provide a working margin. Shortage of supply and competition from other packers will tend to keep the margin narrow. An oversupply will tend to widen the margin. As mentioned previously, other factors will influence prices.

TABLE 13.—ESTIMATED VALUE OF "BONE-IN" BEEF CUT OUT ON TWO DAYS

Cut	1st Day			2nd Day		
	Yield per cent of dressed weight	Wholesale price per lb.	Amount	Yield per cent of dressed weight	Wholesale price per lb.	Amount
	%	cents	$	%	cents	$
Short hips	25·4	11	2.80	24·5	10	2.45
Long Loin	20·4	17½	3.57	20·1	21	4.22
Flanks	3·8	7	.28	4·5	6½	.29
Back steak	·3	7	.02	·2	6½	.13
Hindquarter	49·9	–	6.67	49·3	–	7.09
Chucks	23·7	8	1.90	23·6	8	1.89
Ribs	9·9	15	1.49	10·0	16	1.60
Plates	11·9	7½	.89	12·6	7½	.95
Shanks	4·4	4½	.20	4·4	4	.17
Front quarter	49·9	–	4.48	50·6	–	4.61
Carcass	99·8	–	11.15	99·9	–	11.70
Expense (net)	–	–	.65	–	–	.65
Net Cut Out	–	–	10.50	–	–	11.05
Cost of Carcass	–	–	10.52	–	–	10.48
Margin	–	–	−.02	–	–	.57

Comparison of the Cost to Packers of Live Stock Purchased Direct and Through Stock Yards

The direct marketing of live stock is a subject which has aroused much discussion. While many statements have been made with regard to the difference in the prices paid for live stock marketed direct as compared with that sold through stockyards very few statistical data have been available on this point, except in the United States.[1] Such data might be obtained either from hog producers by means of an extensive farm survey or from the records of the packing companies. Since the former method would have been much more expensive, and possibly less accurate, it was decided to obtain the necessary information from the accounts of packing companies. To that end a number of packing establishments in Toronto and Winnipeg were visited in the fall of 1938 and information obtained regarding prices paid for live stock purchased by different methods. Farm prices would be less than these by the cost of transportation, and in the case of that portion marketed through public stockyards, by the stockyard charges.

Hogs at this time were marketed on both a live weight basis and on a dressed basis. Hogs marketed alive were handled on several different plans, i.e., f.o.b. country points,[2] w.o.c.,[3] off trucks, fed and watered, subject to varying rates of shrink and marketing costs. Somewhat similar difficulties were encountered with cattle and sheep. Therefore the cost to the packer on a dressed basis was used as affording the only proper means of comparison. The data obtained were taken directly from the cost records of each packer, after random checks of the costing had been made. Considerable variation existed in the period for which the data were available at the different plants with the result that the period for which a comparison could be made varied accordingly.

HOGS

Four-Month Period.—Hog costing records were available at all plants included in the study for the four months June, July, August and September, 1938 (table 14). A total of 141,529 hogs were included in this sample, of which 44,123 were purchased at stockyards and 97,406 direct at plants. The average price per hundredweight, alive, was $10.78 for all hogs purchased at stockyards compared with $10.88 for all those bought direct at plants. While on a dressed basis the cost of hogs purchased at stockyards averaged $14.62 or 9 cents per hundredweight more than those bought direct at plants, when adjustment is made for the difference in grade the basic dressed price was found to be approximately five cents lower for hogs purchased through the stockyards.

There are several other points of interest in the table, one of which is the position of live and dressed prices at Toronto and Winnipeg. Both of these indicate that Toronto prices were higher than Winnipeg, during this period, but when they are reduced to a basic grade the Winnipeg hogs purchased on stockyards cost the packers more than the Toronto hogs which were bought at the same source. An examination of the grading percentages contained in the table will reveal the reasons for the change in price comparisons (see appendix).

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[1] Local Live Stock Markets in Relation to Corn Belt Hog Marketing by R. C. Ashby: Illinois Agricultural Experiment Station, Bulletin No. 408.
The Direct Marketing of Hogs—United States Department of Agriculture, Miscellaneous publication No. 222 (*see* appendix).

[2] F.O.B. Country points, free on board country points, buyer pays freight and is responsible for losses en route.

[3] W.O.C. weighed off cars (at plant), seller pays freight and is responsible for losses en route.

TABLE 14.—ANALYSIS OF THE DIRECT AND INDIRECT PURCHASES OF HOGS BY PACKING PLANTS AT TORONTO AND WINNIPEG, JUNE, JULY, AUGUST AND SEPTEMBER, 1938

—		Toronto	Winnipeg	Both Cities
Purchased through Yards—				
Number of hogs	no.	41,172	2,951	44,123
Price alive	$	10.80	10.46	10.78
Average live weight	lb.	202·9	204·4	203·0
Yield	%	73·78	73·33	73·75
Price Dressed	$	14.64	14.26	14.62
Grading—				
Select	%	40·3	23·8	39·2
Bacon	%	51·4	36·9	50·4
Butcher	%	5·3	17·7	6·1
Light	%	0·8	16·9	1·9
Heavy	%	1·5	4·7	1·7
Extra Heavy	%	0·7	0·0	0·7
		100·0	100·0	100·0
BASIC DRESSED PRICE	$	14.44	14.49	14.45
Purchased at Plants—				
Number of hogs	no.	73,408	23,998	97,406
Price alive	$	11.00	10.53	10.88
Average live weight	lb.	196·2	199·4	197·0
Yield	%	75·15	74·15	74·90
Price Dressed	$	14.64	14.20	14.53
Grading—				
Select	%	34·7	23·1	31·8
Bacon	%	48·5	45·6	47·9
Butcher	%	5·5	9·9	5·0
B2, B3 and C	%	6·7	0·0	6·6
Lights	%	1·7	14·9	4·9
Heavies	%	2·3	6·5	3·3
Extra Heavies	%	0·6	0·0	0·5
		100·0	100·0	100·0
BASIC DRESSED PRICE	$	14.54	14.38	14.50

The difference in hog prices between Toronto and Winnipeg shown in table 14 is unusually narrow. Due to the difference in freight rates to seaboard one might expect Toronto prices to be about 40 cents over Winnipeg. A comparison of prices reveals that the differential fluctuates considerably. During the months of June, July, August and September, 1938, there was a light hog run in Western Canada and the demand for hogs in that area caused hog prices to be nearly in line with Toronto.

Direct and Indirect Purchases Over Longer Periods.—Variations in the prices paid for hogs purchased direct by packers and at stockyards, as well as the differentials existing between these prices, occurred from week to week. These variations are shown for longer periods, for the Winnipeg and Toronto markets in tables 15, 16 and 18.

In comparing the average monthly dressed prices paid by Winnipeg packers for hogs purchased by different methods during the period January, 1934, to April, 1938, the differential between the price paid in each method of direct purchase and the price paid on the Union stockyards at St. Boniface was calculated (table 15).

Included in this sample were 1,428,547 hogs of which 288,135 were bought on the St. Boniface yards. For the 52 months the average price of hogs bought on the St. Boniface yards was $11.22 dressed weight. Some 77,039 were bought on public stockyards in Saskatchewan and Alberta at an average price that was 49 cents higher than the St. Boniface price for the corresponding weeks. A total of 337,473 Manitoba hogs were bought off trucks at the plants at an average cost of $11.35 or 13 cents above St. Boniface, while 62,744 Manitoba hogs bought w.o.c. at plants at an average price of $11.57 were 35 cents above the St. Boniface price. There were 663,156 Saskatchewan and Alberta hogs bought direct at plants at an average cost of $11.77 or 54 cents above St. Boniface. These prices include transportation and represent the cost to the packers at the plant. Selling commissions and stockyards charges would have to be deducted from the stockyard prices before determining the amount received by the farmer.

Hogs purchased on Saskatchewan and Alberta stockyards were higher in price for 45 of the 48 months in which purchases were made on other yards. Manitoba hogs bought off trucks at plants cost more than those bought on St. Boniface stockyards in 40 months, were lower in 10 months, and were the same in 2 months during this period. Manitoba hogs weighed off cars at plants were higher in price than those bought at St. Boniface during 48 months and lower during 3 of the 51 months in which such transactions were recorded. Saskatchewan and Alberta hogs bought direct were higher priced than those bought on St. Boniface yards in all of the 52 months for which the data are presented.

TABLE 15.—DIFFERENCES BETWEEN MONTHLY DRESSED PRICES (1) PAID FOR HOGS BOUGHT ON ST. BONIFACE YARDS AND BY OTHER METHODS OF PURCHASE JANUARY, 1934, TO APRIL, 1938.

Period	Prices at St. Boniface yards	Differences measured from St. Boniface yard prices			
		Manitoba Hogs Direct at Plants		Saskatchewan and Alberta Hogs	
		Off Truck	W.O.C.	Western yards	Direct at Winnipeg Plants
	$	$	$	$	$
1934					
January	10·27	+ .28	− .30	−	+ .23
February	12.08	+ .12	+ .15	−	+ .39
March	11.18	+ .23	+ .71	+ .95	+1.22
April	10.59	− .16	− .07	− .22	+ .19
May	10.61	+ .22	+ .34	+ .02	+ .42
June	11.50	− .04	+ .25	+ .16	+ .33
July	11.32	+ .29	−	+ .65	+ .59
August	10.23	+ .14	+ .66	+ .46	+ .76
September	10.46	+ .39	+ .74	+ .64	+1.09
October	10.15	− .04	+ .26	+ .10	+ .51
November	9.61	−	+ .31	+ .40	+ .48
December	9.71	+ .01	+ .45	− .06	+ .43
Average	10.64	+ .12	+ .32	+ .31	+ .56
1935					
January	10.30	+ .03	− .15	−	+ .37
February	10.46	+ .03	+ .29	+ .06	+ .57
March	10.43	+ .01	+ .32	+ .36	+ .38
April	10.72	+ .13	+ .23	+ .04	+ .49
May	11.21	+ .17	+ .14	+ .23	+ .33
June	12.36	+ .37	+ .69	+ .33	+ .48
July	11.56	+ .41	+ .83	+ .91	+ .90
August	12.37	+ .37	+ .76	+ .42	+ .70
September	11.68	+ .27	+ .41	+ .63	+ .75
October	11.32	+ .08	+ .33	+ .57	+ .99
November	10.15	+ .04	+ .65	+ .66	+ .71
December	10.26	+ .03	+ .48	+ .90	+ .32
Average	11.07	+ .16	+ .42	+ .46	+ .58

(1) Average prices paid by Winnipeg packers for hogs delivered to Winnipeg plants. A plus sign before a difference indicates a price higher than the St. Boniface yard price, and a minus sign, one lower.

TABLE 15.—DIFFERENCES BETWEEN MONTHLY DRESSED PRICES PAID FOR HOGS BOUGHT ON ST. BONIFACE YARDS AND BY OTHER METHODS OF PURCHASE JANUARY, 1934, TO APRIL, 1938.—*Conc.*

Period	Prices at St. Boniface yards	Differences measured from St. Boniface yard prices			
		Manitoba Hogs Direct at Plants		Saskatchewan and Alberta Hogs	
		Off Truck	W.O.C.	Western yards	Direct at Winnipeg Plants
	$	$	$	$	$
1936					
January	11.07	− .01	+ .33	+ .54	+ .36
February	11.50	+ .16	+ .55	+ .34	+ .30
March	11.39	− .23	+ .07	+ .61	+ .13
April	11.61	+ .05	+ .34	− .03	+ .22
May	11.39	+ .11	+ .21	+ .23	+ .07
June	11.69	+ .29	+ .66	+ .51	+ .03
July	12.14	+ .15	+ .31	+ .66	+ .34
August	12.24	+ .16	+ .63	+ .88	+ .46
September	11.07	+ .10	+ .83	+1.36	+ .67
October	10.41	− .13	+ .44	+ .74	+ .52
November	9.85	− .03	+ .35	+ .60	+ .44
December	10.37	+ .04	+ .65	−	+ .43
Average	11.23	+ .09	+ .45	+ .59	+ .33
1937					
January	10.68	+ .06	+ .19	+ .51	+ .63
February	10.44	+ .20	+ .22	+ .47	+ .76
March	10.87	+ .22	+ .09	+ .38	+ .33
April	11.30	− .06	+ .25	+ .45	+ .66
May	11.14	− .05	+ .05	+ .27	+ .44
June	11.82	−	+ .13	+ .14	+ .47
July	13.14	+ .07	+ .43	+ .01	+ .35
August	13.60	+ .36	− .10	+ .84	+ .99
September	12.83	+ .38	+ .49	+1.17	+ .86
October	11.15	+ .10	+ .55	+1.18	+1.20
November	10.95	− .13	+ .36	+ .70	+ .56
December	11.18	− .04	+ .21	+ .50	+ .46
Average	11.59	+ .09	+ .24	+ .55	+ .64
1938					
January	11.40	+ .09	+ .19	+ .51	+ .56
Feburary	11.66	+ .26	+ .31	+ .64	+ .63
March	13.07	+ .35	+ .41	+ .57	+ .74
April	13.18	+ .02	+ .34	+ .63	+ .99
Average	12.33	+ .18	+ .31	+ .59	+ .73
Simple Average, 1934–38	11.22	+ .13	+ .35	+ .49	+ .54

Prices for Live Hogs Purchased Direct and Indirect at Winnipeg.—The price differences displayed in table 15 could not be adjusted for variations in the grade of hogs bought by the different methods because of lack of available data. It is possible, however, to give for a limited period, a comparison of prices paid for the basic grade at St. Boniface yards, at plants for Manitoba hogs off truck and f.o.b. prices for Saskatchewan and Alberta hogs shipped direct to Winnipeg plants (table 16). Prices for Manitoba hogs "off trucks"; varied slightly above or below stockyard prices for the same period: the average for 1934 was 2 cents higher, for 1935, 5 cents higher, for four months in 1936, 17 cents higher and for the 30 months 5 cents higher. Average f.o.b. prices for Alberta and Saskatchewan hogs were consistently lower than prices at St. Boniface yards: the average for 1934 was 46 cents lower, for 1935, 39 cents lower, for four months in 1936, 58 cents lower and for the 30 months 45 cents lower.

The freight rate from Calgary to Winnipeg is 51 cents per cwt., and from Saskatoon 39 cents per cwt., and therefore probably averages about 45 cents from Alberta and Saskatchewan shipping points. This is the amount of the

difference in prices. It would seem that, except for other influences such as competition among buyers, prices at Alberta and Saskatchewan points are lower by about the equivalent of the freight rate on live hogs. The packer evidently absorbs the shrink and costs, other than freight, and these hogs cost more at the plant than hogs bought locally.

TABLE 16.—DIFFERENCES(1) BETWEEN LIVE PRICES PAID BY A WINNIPEG PACKER FOR BACON HOGS AT POINT OF PURCHASE, MEASURED FROM THE PRICES AT ST. BONIFACE YARDS, MONTHLY, JAN., 1934 TO APRIL 1936

Month	Prices at St. Boniface Yards	Differences measured from St. Boniface yard prices	
		Manitoba Hogs "Off Trucks" —At Plant	Saskatchewan and Alberta Direct.— F.O.B. country points
	$	$	$
1934			
January	7.78	+ .04	− .83
February	8.71	+ .03	− .47
March	8.21	-	− .22
April	7.38	-	− .52
May	7.47	+ .06	− .49
June	8.36	− .01	− .63
July	8.39	-	− .46
August	7.55	+ .05	− .33
September	7.77	− .04	− .25
October	7.10	+ .04	− .36
November	6.82	− .01	− .47
December	6.85	+ .03	− .47
Simple Average	7.70	+ .02	− .46
1935			
January	7.43	+ .03	− .57
February	7.40	− .02	− .32
March	7.47	− .02	− .50
April	7.63	+ .01	− .46
May	8.18	+ .06	− .65
June	8.85	+ .06	− .55
July	8.53	+ .10	− .43
August	9.00	+ .02	− .24
September	8.37	+ .06	− .17
October	8.08	− .03	− .15
November	7.18	+ .03	− .24
December	7.16	+ .22	− .37
Simple Average	7.94	+ .05	− .39
1936			
January	7.97	+ .13	− .57
February	8.32	+ .21	− .58
March	8.23	+ .16	− .63
April	8.39	+ .18	− .53
Simple Average	8.23	+ .17	− .58
Average—28 months	7.88	+ .05	− .45

(1) Plus sign indicates a price higher than St. Boniface yards, minus sign, one lower.

Effect of Winnipeg Buying on Stockyard Prices in Saskatchewan.— In the previous section and in table 16 it was shown that prices of Saskatchewan and Alberta hogs purchased f.o.b. country points, varied from month to month and over a period of 28 months averaged 45 cents below the prices paid for hogs purchased at the St. Boniface yards. Theoretically it might be expected that since Winnipeg buyers are always a competitive factor in the purchase of hogs in the Western Provinces the prices paid would differ from those paid at Winnipeg by about the amount of the difference between the freight on the exportable product from western points to seaboard and the freight on the live hog to Winnipeg plus the cost of moving the exportable product from there to seaboard. However, this competition is not a constant factor. That it varies from time to time is suggested by the price differences in table 16.

An explanation for these differences is provided in table 17 where the amount by which Winnipeg prices exceed Saskatchewan yard prices over a stated period is related to the volume of purchases made by a Winnipeg packer.

TABLE 17.—RELATIONSHIP BETWEEN THE QUANTITY OF THE HOGS PURCHASED BY A WINNIPEG PACKER AT SASKATCHEWAN STOCKYARDS AND THE PRICE DIFFERENTIAL ON THE STOCKYARDS IN SASKATCHEWAN AND WINNIPEG, 1937–38.

Percentage of Saskatchewan hogs bought by a Winnipeg packer	Amount by which Winnipeg prices exceed Saskatchewan yard prices
%	cents
0— 5·5	24
5·6—11·0	19
11·1—	13

It was found that for the weeks when the weekly purchases made on Saskatchewan stockyards by a large Winnipeg packer were less than 5·5 per cent of the hogs graded and offered for sale in Saskatchewan the market price in Saskatchewan averaged 24 cents below the market price at Winnipeg. When the weekly purchases of this packer were from 5·6-11·0 per cent of the hogs offered for sale in Saskatchewan the Saskatchewan price averaged 19 cents below Winnipeg. When these purchases represented more than 11 per cent of the supply available in Saskatchewan the Saskatchewan stockyard prices averaged only 13 cents below Winnipeg.

Direct and Indirect Purchases at Toronto for 83-Week Period.—A comparison of the prices paid for hogs delivered by truck, bought at stockyards and at plants in Toronto, for the 83-week period, January, 1937, to July, 1939, is presented in table 18. Almost 5,000,000 hogs were included in the sample. Of this number somewhat less than 50 per cent passed through the Union stockyards and cost an average of $13.06 per hundredweight, dressed basis. Over 50 per cent were delivered and sold direct to packing plants at an average of $12.99 per hundredweight dressed. No adjustment for grade was possible but assuming that the hogs sold by both methods were of a similar quality, it would seem that, during the period studied, hogs sold through the Union stockyards realized slightly more than those sold direct at plants before deducting commissions and stockyard charges.

TABLE 18.—COMPARISON BETWEEN WEEKLY DRESSED PRICE OF TRUCK HOGS BOUGHT AT STOCKYARDS AND DIRECT AT PLANT, SHOWING ALSO NUMBER OF HEAD AND DIFFERENCE BETWEEN PLANT AND MARKET PRICES AT TORONTO.

Week ending		Stockyard		Plant		Difference in price between plant and stockyard
		No. of head	Average dressed price	No. of head	Average dressed price	
	1937	No.	$	No.	$	$
January	2	1,786	12.46	2,518	12.20	— .26
	9	2,192	12.01	2,775	11.97	— .04
	16	2,360	12.04	3,308	12.00	— .04
	23	2,325	11.80	2,850	11.61	— .19
	30	2,747	12.05	3,196	11.96	— .09
February	6	2,220	11.84	2,190	11.57	— .27
	13	2,332	11.66	2,894	11.50	— .16
	20	1,952	11.38	2,770	11.38	–
	27	2,665	11.83	2,956	11.70	— .13
March	6	2,065	11.55	2,053	11.44	— .11
	13	1,808	11.44	2,235	11.37	— .07
	20	2,519	12.00	2,717	11.83	— .17
	27	2,532	12.30	3,053	12.13	— .17
April	3	2,066	12.44	2,797	12.56	+ .12
	10	2,327	12.51	2,256	12.31	— .20
	17	2,717	12.35	2,522	12.08	— .27
	24	2,632	12 33	2,933	12.21	— .12

TABLE 18.—COMPARISON BETWEEN WEEKLY DRESSED PRICE OF TRUCK HOGS BOUGHT AT STOCKYARDS AND DIRECT AT PLANT, SHOWING ALSO NUMBER OF HEAD AND DIFFERENCE BETWEEN PLANT AND MARKET PRICES AT TORONTO—*Concluded*

Week ending	Stockyard		Plant		Difference in price between plant and stockyard
	No. of head	Average dressed price	No. of head	Average dressed price	
	No.	$	No.	$	$
1937—*Concluded*					
May 1	2,243	12.37	3,193	12.24	− .13
8	2,237	12.49	2,953	12.37	− .12
15	2,551	12.18	2,014	12.06	− .12
22	1,895	12.25	2,854	12.15	− .10
29	2,776	12.79	3,186	12.65	− .14
June 6	2,800	12.80	2,150	12.29	− .51
13	1,591	12.54	2,289	12.38	− .16
20	2,017	13.11	2,676	12.81	− .30
26	2,107	13.19	2,367	13.02	− .17
July 3	1,723	13.57	1,887	13.53	− .04
10	1,626	14.29	2,269	14.09	− .20
17	1,224	14.27	2,305	14.22	− .05
23	1,401	14.05	1,786	14.09	+ .04
31	1,087	14.63	1,971	14.64	+ .01
August 6	1,385	14.96	1,911	15.11	+ .15
13	1,505	15.94	2,212	15.41	− .53
21	1,038	15.19	1,712	14.89	− .30
28	1,257	14.46	1,662	14.18	− .28
September 4	1,093	13.98	1,588	13.92	− .06
11	530	14.63	1,435	14.27	− .36
18	1,067	15.03	1,960	14.91	− .12
September 25	1,185	15.12	2,159	15.02	− .10
October 1	1,829	14.66	2,136	14.47	− .19
8	2,200	14.07	2,365	13.82	− .25
15	2,152	13.18	2,355	13.11	− .07
22	3,227	12.29	2,913	12.05	− .24
29	2,634	11.58	2,217	11.32	− .26
November 6	1,836	11.65	2,122	11.44	− .21
13	1,975	11.80	2,616	11.82	+ .02
20	2,799	11.83	2,930	11.77	− .06
27	2,643	11.66	3,005	11.56	− .10
December 2	2,893	11.58	3,125	11.31	− .27
9	2,909	11.72	3,132	11.58	− .14
16	2,843	11.77	2,870	11.61	− .16
25	1,580	11.76	2,065	11.54	− .22
1938					
January 1	1,716	12.07	2,346	11.97	− .10
8	1,975	12.00	2,553	11.78	− .22
15	2,243	11.76	2,571	11.65	− .11
21	2,133	12.07	2,874	11.87	− .20
28	2,236	12.17	2,880	11.96	− .21
February 4	2,019	12.29	2,586	12.19	− .10
12	1,770	12.31	2,296	12.19	− .12
19	1,598	12.86	2,980	12.75	− .11
25	1,757	13.02	3,510	12.80	− .22
March 4	1,847	13.37	2,592	13.14	− .23
11	1,788	13.24	2,485	13.37	+ .13
19	2,298	13.82	2,768	13.69	− .13
26	2,432	14.18	2,217	13.90	− .28
April 2	2,504	14.21	2,832	14.27	+ .06
9	2,033	14.36	2,414	14.15	− .21
16	1,959	13.85	2,382	13.60	− .25
23	2,448	13.77	2,942	13.77	−
30	2,271	13.89	2,676	13.79	− .10
May 6	2,172	13.93	2,778	13.85	− .08
13	1,815	14.02	2,446	13.92	− .10
20	2,108	14.19	2,725	14.18	− .01
27	1,824	14.54	2,161	14.45	− .09
June 3	1,882	14.96	2,486	14.77	− .19
10	1,377	14.33	1,488	14.37	+ .04
17	1,575	15.01	2,765	15.00	− .01
24	2,025	15.51	1,866	15.50	− .01
July 1	1,619	16.00	1,737	16.01	+ .01
8	1,538	16.24	1,751	16.23	− .01
15	1,426	16.79	1,911	16.71	− .08
22	1,521	17.13	1,986	17.03	− .10
29	2,066	16.47	2,168	16.15	− .32
Grand total	2,182,548	13.06	2,657,518	12.99	− .07

Considerable variation in the week to week differentials in the prices paid for hogs bought by different methods also occurred on the Toronto market. During the 83-week period covered, stockyard prices were higher for 72 weeks and averaged more than 20 cents per cwt. higher for 23 weeks. Equal prices were obtained in both methods of sale during two weeks while prices paid for hogs delivered direct to plants were somewhat higher than those paid on the stockyards during 9 weeks.

CATTLE

In a preceding comparison of prices paid at Toronto and Winnipeg for hogs bought at plants and at stockyards (table 14) it was possible to adjust these prices for differences in quality. An attempt was made to do this in the case of cattle but the systems of grading used at Winnipeg and Toronto were somewhat different so it was impossible to arrive at a combined figure for Toronto and Winnipeg. For each market, price data were obtained for purchases made during the three months August, September and October, 1938. As in the case of hogs the differential between the price paid for cattle purchased direct and for those purchased at yards varied from week to week.

When the available data concerning Winnipeg cattle purchases were analysed, it was found that for each firm the average cost of cattle bought at the stockyards was somewhat higher than the average cost of cattle bought direct at plant. There were three firms represented in the sample. A simple average of the cost to these firms of cattle purchased on the stockyards amounts to $8.14 compared with a similar average of $7.89 for cattle bought direct at plant (table 19). During this period cattle bought at the stockyards were dearer by 25 cents per hundred pounds dressed weight than those bought direct. When the discounts for grade (Appendix table B) are added to these average prices the basic prices are found to be for purchases at the stockyard $11.61, and for purchases at the plant $11.39. This reduces the difference to 22 cents per hundred pounds.

TABLE 19.—ANALYSIS OF DIRECT AND INDIRECT PURCHASES OF CATTLE AT WINNIPEG, AUGUST, SEPTEMBER AND OCTOBER, 1938

		Bought at stockyards	Bought at plant
Number of head	no.	5,187	1,555
Average live weight	lbs.	860	838
Average dressed weight	lbs.	440	427
Yield	%	51·16	50·91
Average live price	$	4.22	4.05
Average dressed price	$	8.14	7.89
BASIC DRESSED PRICE	$	11.61	11.39
*Grading**—		%	%
Steers and heifers;—			
Good		0.13	0.45
Good medium		0.55	0.32
Medium		9.00	9.04
Fair		49.70	42.29
Plain		27.76	32.28
Cutters		5.26	9.49
Boners		0.68	1.03
Heifery cows;—			
Good		–	0.19
Medium		0.92	0.84
Cows;—			
Choice		2.97	1.48
Good		–	–
Medium		0.08	0.71
Fair		1.39	1.23
Plain		1.51	0.65
Cutters		0.06	0.00

* The quality of the purchases at the two sources is nearly equal. Calculations based on the price differentials between grades show that had the quality been exactly comparable, the dressed price at either source would have been changed by only 3c per 100 pounds of dressed meat. (See Appendix II table B).

At Toronto during this period, there was also a difference in this price relationship, for cattle at sources other than the stockyard were bought 7 cents cheaper per hundred pounds dressed weight than those bought at the yards (table 20). At Toronto there were more than 50 grades used for cattle.

TABLE 20.—DIFFERENCES IN PRICES PER 100 LB. DRESSED WEIGHT PAID BY PACKERS IN TORONTO FOR CATTLE, ACCORDING TO METHOD OF PURCHASE, MEASURED FROM THE PRICE PAID AT THE UNION STOCKYARDS, AUGUST, SEPTEMBER AND OCTOBER, 1938

Month	Country points		Off trucks		Western points		Total	
	Number of head	Price differences	Number of head	Price differences	Number of head	Price differences	Number of head	Price differences
		cents		cents		cents		cents
August	3,243	+ 3	1,774	− 13	2,978	− 59	7,995	− 23
September	3,426	+ 12	1,788	− 3	2,270	− 1	7,484	+ 5
October	4,109	− 3	2,161	− 19	2,897	+ 17	9,167	− 1
Three months	10,778	+ 3	5,723	− 12	8,145	− 16	24,646	− 7

Plus sign indicates a price higher than stockyard price; minus sign indicates one lower.

Toronto prices were compared by the use of a method employed by the packing establishments, which indicates whether cattle bought locally, at country points, or at western points were cheaper or dearer than those bought at the stockyards on a basis of equal quality.[1] An inspection of the monthly differences shown in table 20 indicates that the relationship between direct and indirect prices varies from time to time. Direct purchase prices do not show any tendency to be consistently above or below stockyard prices.

Data were also obtained from packers at Toronto, covering twelve months in 1937-38, with respect to prices which they paid for cattle under the different methods of purchase. These data are summarized in table 21. Cattle bought on the stockyard were higher in price, on the average, during this period than cattle bought at country points, at plants, or at western points.

TABLE 21.—DIFFERENCES IN PRICES PER 100 LB. DRESSED, PAID BY PACKERS IN TORONTO, FOR CATTLE, ACCORDING TO METHOD OF PURCHASE, MEASURED FROM THE PRICES PAID AT THE UNION STOCKYARDS, TWELVE MONTHS, 1937–38

At country points		Off trucks		At western points	
Number of head	Difference	Number of head	Difference	Number of head	Difference
	cents		cents		cents
41,200	− 5	25,339	−12	14,407	−12

The accumulated average difference in price between cattle of a similar quality bought at country points and at stockyards was 5 cents per 100 lb. of dressed meat. Both the cattle bought at the plant and at western points were purchased by packers at an average difference of 12 cents below the stockyard price. In all cases, the cattle purchased at sources other than the stockyards cost packers less, on the average, than those purchased at the stockyards.

SHEEP AND LAMBS

Data with regard to prices paid for sheep and lambs by packing companies in Toronto and Winnipeg were obtained for varying periods. Although lamb costing methods and grading systems differ between companies they permit the comparison of the dressed cost of basic grade lamb as between stockyard and direct purchases for the periods shown in table 22.

(1) The method used in calculating this differential is explained in Appendix.

The sample consisted of 85,150 lambs at Toronto, of which 58 per cent were purchased on stockyards, and 42,335 at Winnipeg, 26 per cent of which were stockyard purchases. The price paid by the Toronto packers, on a dressed basis, for stockyard purchases averaged $1.25 per hundredweight more than for local lambs purchased direct at plants. In Winnipeg, however, those purchased on stockyards averaged 7 cents less per hundredweight than the local plant purchases. It should be pointed out that the data for Winnipeg and Toronto do not cover the same period of time, which accounts for some of the difference between the average prices in the two cities.

TABLE 22.—ANALYSIS OF DIRECT AND INDIRECT PURCHASES OF LAMBS AT TORONTO FROM OCTOBER, 1937, TO MAY, 1938, INCLUSIVE, AND AT WINNIPEG FOR SEPTEMBER AND OCTOBER, 1938

Method of purchase	Toronto		Winnipeg	
	Number of head	Dressed price basic grade (1)	Number of head	Dressed price basic grade (1)
	No.	$	No.	$
Stockyards	49,443	14.75	11,127	13.97
Direct—local	35,707	13.50	28,956	14.04
—outside	–	–	2,252	13.71

(1) The average price which would have been paid had all the lambs bought been of the "basic" grade, *i.e*, good or choice depending on the grading systems.

An examination of daily lamb costs as set out in individual company records indicates a much wider differential between the various methods of purchase than was the case with other classes of live stock. Also greater changes in prices took place from day to day than were recorded for either hogs or cattle. The animals bought direct were not always cheaper than those bought at the yards for the period covered by the table, and data from individual companies which could not be used because of lack of comparability indicated that for other periods the relationship shown in table 22 was reversed.

Comparison of Returns to Farmers for Live Stock Marketed Direct and Through Stockyards

In comparing returns to farmers for live stock marketed direct at plants and through stockyards, it is necessary to deduct the costs incurred between farm and plant from the cost to the packer. Transportation would be substantially the same in either case but where live stock are sold through stockyards there are additional costs. These include yardage, commissions and other charges for services, such as unloading, pro-rating returns, feeding and watering. Certain of these rates, which vary between stockyards, are set out in the appendix. Yardage and commission per head vary from 26 cents to 28 cents for hogs, $1.00 to $1.32 for cattle and 21 cents to 27 cents for sheep. This would amount to about 18 cents per 100 lb. dressed for hogs, about 22 cents per 100 lb. dressed for cattle dressing 500 lb., and to about 51 cents per 100 lb. dressed for lambs dressing 45 lb. Feeding and watering where necessary are charged at rates set by the stockyard company. Where a car of live stock is sold for the account of more than two owners a small charge is made for the extra cost of pro-rating the settlement.

Summary

Until about 1870, live stock marketed in Canada were slaughtered on farms or at local slaughtering plants. With the expansion of trade resulting from the growth of urban centres and the development of export outlets for live cattle,

packing plants and stockyards appeared. The latter, as concentration points, also became important marketing centres and for a time an increasing volume of live stock was sold through such channels. Later with the establishment of packing plants in producing areas, the provision of special export rates and the coming of good roads and trucking the movement was reversed—an increasing volume going direct to packing plants.

With the reduction of volume on stockyards, farmers began to fear that competition was insufficient to ensure fair prices; also that direct purchases gave packers an advantage in bargaining. Some farmers expressed the belief that stockyards will eventually disappear—that all marketing will be by the direct method and that packers will then be in a still better position to take advantage of the situation.

While it would be difficult, if not impossible, to determine the effect that complete elimination of stockyards would have, it was felt that a comparison of prices paid for live stock marketed through stockyards and direct to packing plants over a period of months or years might serve a useful purpose. That was the purpose of this study.

Although different methods could have been followed in the conduct of such a study the one decided upon in this instance was based upon an analysis of the actual purchases by representative packers. By this method records of a very large number of transactions could be obtained with the least expense. The result represents the cost to the packer of live stock purchased on the different bases. By the deduction of known costs farmers can readily convert these results to net returns at the farm.

On 73,408 hogs purchased direct by Toronto packers during the four months June to September, 1938, the average price paid, dressed weight after adjustments were made for differences in grade, was 10 cents per hundred pounds more than for 41,172 hogs purchased through stockyards. At Winnipeg, for a somewhat smaller sample, the reverse results were obtained—stockyard hogs costing 11 cents per hundredweight more than hogs purchased direct. When the purchases in the two cities were combined hogs bought direct averaged 5 cents per hundredweight more than those purchased through yards (table 14).

On a sample of 1,428,547 hogs purchased by packers during the period January, 1934, to April, 1938, at Winnipeg, the average cost of hogs purchased direct from different areas and on different bases, was higher than the cost of hogs purchased on the St. Boniface stockyards (table 15). The relationship varied from month to month and at times the comparison favoured stockyard purchases. No adjustments for differences in grade could be made in this comparison.

A comparison of the prices paid by a packer for the same grade of hogs (bacon grade) purchased on the St. Boniface yards with Manitoba "off truck" hogs purchased at the plant, and Saskatchewan and Alberta hogs purchased f.o.b. country points, for the period January, 1934, to April, 1936, indicates that "off truck" hogs purchased direct cost 5 cents per hundredweight more than St. Boniface yard hogs while Saskatchewan and Alberta hogs were purchased f.o.b. country points at 45 cents per hundredweight under St. Boniface prices (table 16). The difference in this latter instance represents approximately the average cost of transporting such hogs to Winnipeg. From this it may be deduced that competition for hogs during the period under consideration compelled Winnipeg packers to absorb the shrink and other costs in excess of transportation. This may account for the fact that Saskatchewan and Alberta hogs cost more at the plant (table 15) than hogs purchased on other bases and from other areas.

On the purchase of nearly 5,000,000 hogs delivered by truck at Toronto for the period January, 1937, to July, 1938, packers paid $13.06 per hundredweight dressed basis, for those purchased through stockyards and $12.99 per hundred-

weight for the remainder delivered direct to the plants. Stockyard prices were higher than plant prices for 72 out of the 83 weeks considered in this comparison, and averaged more than 20 cents per hundredweight higher for 23 weeks. Adjustments for differences in grade were not possible in this comparison (table 18).

For cattle bought at plants in Winnipeg, packers paid $7.89 per hundredweight dressed basis, compared with $8.14 for those bought at stockyards during the three months of August, September and October, 1938 (table 19). The difference, 25 cents, was decreased to 22 cents when adjustments were made for differences in grades purchased. At Toronto for the same period the same relationship prevailed—cattle bought at the plant direct averaged 7 cents per hundredweight less than those purchased through the stockyards (table 20). A similar comparison during 12 months in 1937-38 indicated that cattle purchased direct at Toronto cost less than similar cattle purchased through the stockyards (table 21).

Toronto packers paid $1.25 more per hundredweight, dressed basis, for lambs purchased on the Toronto stockyards than for local lambs delivered direct to their plants. In Winnipeg, however, packers paid 7 cents per hundredweight less, dressed basis, for lambs bought at the yards than for local lambs delivered direct to the plants. The Toronto averages are for the eight months October, 1937, to May, 1938. Winnipeg averages are for the two months September, October, 1938.

Finally, it is apparent that during the period covered by this survey the prices paid for live stock purchased under the alternative methods for which comparisons were made, varied considerably both within and between markets. It cannot be said that packers consistently paid more for live stock purchased on one basis than on the other. It would appear, however, that if marketing costs are deducted from sales made through stockyards in an effort to determine the net returns to farmers, the result in the case of hogs favoured direct selling. In the case of cattle the advantages were less conclusive but on the side of direct selling. In the case of sheep and lambs the brevity of the period for which information was available and the extreme differences found to exist prevent any general conclusion being drawn.

APPENDIX I

The Use of Grading Differentials to Adjust the Average Price of Dressed Hogs

The comparison of dressed prices presented in table 14 was impaired as a result of the differences in the quality of hogs bought at plants and at stockyards. As an example, it is clear that an average dressed price for a sample of hogs which all grade "Select" cannot be compared with a dressed price for a sample of hogs which grade 50 per cent "Selects" and 50 per cent "Light".

The basic dressed price, as shown in the table, is the result of adjustments made for the purpose of equalizing differences in the quality of the hogs bought at plants and at yards.

All prices have been reduced to basic. i.e., B1 or Bacon grade by deducting the premium in the case of Grade A or selects and adding the discounts in the case of the lower grades. Actual premiums and approximate discounts were used. The discounts were the average obtaining at that time at the different plants.

In table A, the differentials have been weighted by the percentage distribution of the various grades in each sample. When these discount or premium products are summed, the result in Toronto is a larger premium per hog on the hogs purchased through the yards than those bought at the plant; at Winnipeg, a discount results, which is greater for the purchases at yards. For both cities combined, the relation is the same as at Toronto.

Before converting the average dressed price to basic it is necessary to convert the premium per hog to the premium per 100 lb. dressed weight. There are about 150 lb. dressed meat per hog, therefore the premium per 100 lb. equal $^{100}/_{150} \times$ premium per hog. In order to convert the average dressed price to basic it is necessary to deduct the premium or add the discount to the average dressed price. The resultant figure is the basic price for B1 or Bacon grade hogs.

TABLE A.—METHOD OF ADJUSTING DRESSED HOG PRICES BY GRADING DIFFERENTIALS

Grade	Per hog Premium or Discount	Toronto		Winnipeg		Both cities	
		Per Cent grades	Premium or Discount	Per Cent grades	Premium or Discount	Per Cent grades	Premium or Discount
	$	%	$	%	$	%	$
Purchased through yards—							
Select	+ 1.00	40·3	+40.30	23·8	+23.80	39·2	+39.20
Bacon	Basic	51·4	-	36·9	-	50·4	-
B2, B3 & C's	— .90	-	-	-	-	-	-
Butchers	— 1.00	5·3	— 5.30	17·7	—17.70	6·1	— 6.10
Lights	— 2.00	0·8	— 1.60	16·9	—33.80	1·9	— 3.80
Heavies	— 1.50	1·5	— 2.25	4·7	— 7.05	1·7	— 2.55
Extras	— 2.50	0·7	— 1.75	-	-	0·7	— 1.75
Premium or discount per 100 hogs	-	100·0	+29.40	100·0	—34.75	100·0	+25.00
Premium or discount per 100 lb	-	-	+ .20	-	— .23	-	+ .17
Purchased at plants—							
Select	+ 1.00	34·7	+34.70	23·1	+23.10	31·8	+31.80
Bacon	Basic	48·5	-	45·6	-	47·9	-
B2, B3 & C's	— .90	6·7	— 6.03	-	-	5·0	— 4.50
Butchers	— 1.00	5·5	— 5.50	9·9	— 9.90	6·6	— 6.60
Lights	— 2.00	1·7	— 3.40	14·9	—29.80	4·9	— 9.80
Heavies	— 1.50	2·3	— 3.45	6·5	— 9.75	3·3	— 4.95
Extras	— 2.50	0·6	— 1.50	-	-	0·5	— 1.25
Premium or discount per 100 hogs	-	100·0	+14.82	100·0	—26.35	100·0	+ 4.70
Premium or discount per 100 lb	-	-	+ .10	-	— .18	-	+ .03

APPENDIX II

The Use of Grading Differentials to Adjust the Price of Dressed Cattle at Winnipeg

Cattle are costed at a discount from the top grade, viz. Baby Beef. In comparing Winnipeg prices a method was followed very similar to adjusting hog prices. The average discounts were multiplied by the percentage in each grade. These products were summed to obtain the discount in cents per 100 lb. dressed beef.[1] Discount amounted to $3.47 per 100 lb. on stockyard purchases and $3.50 on purchases at plant, a difference of 3 cents per 100 lb.

TABLE B.—COMPARISON OF THE QUALITY OF THE CATTLE PURCHASED AT YARDS AND AT PLANTS BY WINNIPEG PACKERS, AUGUST, SEPTEMBER, OCTOBER, 1938

Grading [2]	Discount per lb.	Stockyard		Local	
		Grades	Product	Grades	Product
	cents	%	cents	%	cents
Steers and heifers—					
Choice	2½	–	–	–	–
Good	2½	0·13	0.32	0·45	1.12
Good medium	2½	0·55	1.37	0·32	0.80
Medium	2¾	9·00	24.75	9·04	24.86
Fair	3¼	49·70	161.53	42·29	137.44
Plain	3½	27·76	97.16	32·28	112.98
Cutters	4¼	5·26	22.36	9·49	40.33
Boners	7¼	0·68	4.93	1·03	7.47
Heifery cows—					
Good	4¼	–	–	0·19	0.81
Medium	4¼	0·92	3.91	0·84	3.57
Fair	4¾	–	–	–	–
Cows—					
Choice	4¾	2·97	14.11	1·48	7.03
Good	4¾	–	–	–	–
Medium	5¼	0·08	0.42	0·71	3.73
Fair	5¼	1·39	7.30	1·23	6.46
Plain	5¾	1·51	8.68	0·65	3.74
Cutters	6¾	0·06	0.41	–	–
Total	–	100·00	347.25	100·00	350.34 347.25
Difference in cents per 100 lb					3.09

(1) The method, to be statistically correct, should recognize the weight of carcasses but as the latter were not known and as the percentages of heavy discount grades were very small this refinement was disregarded.

(2) Basic Grade, with a differential of 0, is "Baby Beef."

NOTE.—"Product" equals "Discount" multiplied by "% Grades".

APPENDIX III

Method of Calculating Differences in Prices of Dressed Cattle at Toronto

In order to explain the method of showing whether cattle bought at plants, country points or from the West are cheaper or more expensive than stockyard cattle, an assumed example is presented in table C.

TABLE C.—METHOD OF CALCULATING DIFFERENCES IN PRICE OF DRESSED CATTLE BOUGHT AT STOCKYARDS AND AT PLANTS

Grade	Number of head	Dressed weight in hundredweights	Price per hundredweight	Amount paid
			$	$
Bought at stockyards—				
Choice	2	10	7.00	70.00
"	3	15	8.00	120.00
"	4	20	9.00	180.00
Total	–	45	–	370.00
Average per/cwt	–	–	–	8.22
Bought at plant—				
Choice	3	15	6.00	90.00
"	4	20	9.00	180.00
"	1	5	8.00	40.00
Total	–	40	–	310.00
Average per/cwt	–		–	7.75
Weekly difference in averages	–		–	– 0.47

In this example, it is assumed that three lots of cattle were bought at each source, at the prices shown. It is further assumed that the average dressed weight of the cattle is 500 pounds. The total dressed weight of each lot is calculated, multiplied by the average price and extended to the " amount paid " column. The totals are then divided to arrive at the average prices for plants and yards. In the example, the result shows the eight cattle bought at plants were less expensive than those bought at the yards by 47 cents per 100 pounds. This difference is marked with a minus sign to signify that the price paid for the plant cattle was lower than the yard cattle. When the reverse is the case, the average difference is marked with a plus. This calculation is then completed for each grade.

Thus in actual practice, the prices paid for each grade bought at country, local or western sources are compared with the same grade of yard cattle. The comparison is, then, not simply the difference between the average for country and western points and the average for stockyards but rather recognizes grades and the number of head in each grade.

To complete the average for the buy of one week, the number of head in each grade is multiplied by the average difference (in the example, 8 x 47). These products are then summed, with regard to signs, and an average for all grades is determined. This weekly average will be plus or minus depending on the relative number of cattle in the grades and the range of the price differences.

A cumulative total is kept from week to week by multiplying the weekly average differences by the number of head and proceeding exactly as in the calculation from the individual grades (table D).

TABLE D.—METHOD OF CALCULATING CUMULATIVE DIFFERENCES FROM WEEKLY DIFFERENCES

Week ending	Bought at plants					Bought at country points				
	Number of head	Dressed weight in hundredweights	Weekly difference	Product +	Product −	Number of head	Dressed weight in hundredweights	Weekly difference	Product +	Product −
			$	$	$			$	$	$
Sept. 2	9	45	+ .10	4.50		8	40	− .05	−	2.00
9	10	50	− .05	−	2.50	7	35	− .04	−	1.40
16	7	35	+ .01	.35	−	6	30	+ .02	.60	−
23	8	40	+ .02	.80	−	5	25	− .06	−	1.50
30	4	20	+ .15	3.00	−	3	15	+ .03	.45	−
Total	−	190	−	+8.65	−2.50	−	145	−	+1.05	−4.90
Difference	−	−	−	+6.15	−	−	−	−	−	−3.85
Five weeks average per/cwt	−	−	−	+ .03	−	−	−	−	−	− .03

APPENDIX IV

A Comparison of Direct and Indirect Buying in the United States

An analysis of 675,301 hogs purchased by packers in United States indicates that prices paid for hogs bought direct were higher than those paid for hogs bought at public markets (table E).

TABLE E.—DIFFERENCES IN COST OF HOGS TO PACKERS AT PACKING PLANTS WHEN BOUGHT DIRECT AND AT PUBLIC MARKETS WHERE THEIR PLANTS WERE LOCATED, 1933–1934 IN THE UNITED STATES [1]

—	Hogs in Group	Difference in cost[1] per 100 pounds			
		Basis, Dress Weight		Basis, Live Weight [2]	
		Daily average	Range	Daily average	Range
	Number	Cents	Cents	Cents	Cents
Light light (below 160 pounds) Good and Choice	7,381	− 4	−144 to +139	+ 3	−105 to +101
Lightweight (160–199 pounds) Good and Choice	62,104	+ 2	−194 to + 79	+ 2	−146 to + 59
Medium weight (200–249 pounds) Good and Choice	378,641	+ 6	− 96 to + 86	+ 5	− 74 to + 66
Heavy weight (250–349 pounds) Good and Choice	113,004	+ 6	− 59 to +114	+ 5	− 46 to + 89
Extra heavy (350 pounds or over) Good and Choice	6,929	+ 4	−105 to +154	+ 3	− 82 to +121
All weights, Medium	71,068	+13	− 56 to +176	+10	− 45 to +136
Light packing sows (under 360 pounds)	13,533	−	−156 to + 79	−	−122 to + 62
Heavy packing sows (over 360 pounds)	22,641	−10	− 55 to + 28	− 8	− 42 to + 22

(1) United States Department of Agriculture, Miscellaneous publication 222, The Direct Marketing of Hogs, table 43.

(2) These differences include cost of buying. Plus (+) differences signify that hogs bought direct cost more than those bought at public markets. Minus (−) differences signify that hogs bought direct cost less.

(3) Cost of hogs per 100 pounds live weight was determined from the cost of dressed carcasses by applying conversion factors representing average dressing yields for each group.

APPENDIX V

TABLE F.—YARDAGE CHARGES ON LIVE STOCK AT PRINCIPAL MARKETS, 1940 (1)

Class of Live Stock	Montreal		Toronto		Winnipeg		Calgary
	Rail shipments per head	Hauled or driven per head	Rail shipments per head	Hauled or driven per head	Rail shipments per head	Hauled or driven per head	Per head
	$	$	$	$	$	$	$
Cattle	.25	.32	.25	.32	.25	.32	.35
Calves (300 lb. and under)	.10	.15	.10	.12	.10	.12	.20
Calves (300–400 lb.)	.15	.15	.15	.15			
Hogs	.06	.08	.06	.08	.07	.08	.08
Sheep	.05	.07	.05	.07	.06	.07	.07
Horses	.25	.32	.25	.32	.25	.32	.25

(1) In addition to these charges, a charge of $1.00 per deck is made for unloading at all markets.

TABLE G.—COMMISSION CHARGES ON LIVE STOCK AT PRINCIPAL MARKETS, 1940

Class of Live Stock	Montreal			Toronto			Winnipeg			Calgary		
	Rail shipments		Hauled or driven	Rail shipments		Hauled or driven	Rail shipments		Hauled or driven	Rail shipments		Hauled or driven
	Per head	Max. per car	Per head	Per head	Max. per car	Per head	Per head	Max. per car	Per head	Per head	Max. per car	Per head
	$	$	$	$	$	$	$	$	$	$	$	$
Cattle	.75	17.00	.75	.80	17.00	1.00	.80	17.00	.80	.75	17.00	.75
Calves	.20	12.00[1]	.20	.25	13.00	.25	.25	13.00	.25	.25	12.00	.25
Hogs	.20	10.00[2]	.20	.20	10.00	.20	.20	10.00[3]	.20	.20	10.00[2]	.20
Sheep and Lambs	.20	10.00[2]	.20	.20	10.00	.20	.15	13.00[3]	.20	.15	10.00[2]	.15

(1) Single deck cars—double deck cars $18.00.
(2) Single deck cars—double deck cars $15.00.
(3) Per Carload.