

Sarnia Fence Prices Advance Jan. 15th, 1917

DIRECT from FACTORY to FARM PREPAID

MADE IN CANADA

Buy Now and Save 5c to 10c Per Rod on Your Spring Requirements

Buy Sarnia Fence. Why?

Sarnia Fence costs you no more to-day than the Fence Combine forced you to pay before Sarnia Fence came on to the market. At that time raw material cost less than half the market price of to-day.

The Sarnia Fence Company broke up the Fence Combine and brought the price of fence down fifty per cent. We revolutionized the fence business of Canada with our Direct from Factory to Farm Policy.

We are selling Sarnia Fence delivered in Old Ontario for less money per pound than the market price of raw material at the Pittsburgh mills.

We are able to make this close price on only a limited quantity as it will be necessary to advance the price at the expiration of our present contract.

By spring fence prices will be from five to ten cents per rod higher than we are offering you before January 15, 1917. Buy now and save money on your next year's requirements. It may be impossible to get delivery on fence at any price in the spring, owing to the large demand for steel of all kinds in Europe.

Notice—For Prices Delivered in Maritime Provinces Add 3c Per Rod to the Prices Below.

WE SET THE PRICE, OTHERS DEVOTE THEIR ENERGY TO TRY TO MEET OUR PRICES.

Price in Old Ontario before Jan. 15th	Price in Ontario after Jan. 15th
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Sarnia Fence Guarantee

We guarantee our fence to be made from the best galvanized hard steel wire, both stay, line wire and knot, and to be the most perfectly woven fence on the market, and of full government gauge No. 9 wire.

QUALITY

Sarnia Fence is the best known and most popular fence on the market to-day, due largely to the fact that it has lived up to every claim made for it. The wire used in the manufacture of Sarnia Fence is full government gauge No. 9, and galvanized to the highest possible standard. From the first we have used a most rigid system of inspection, thereby assuring our customers of getting the most perfect fence possible.

Notice

These prices are freight prepaid to any station in Old Ontario on shipments in lots of 200 pounds or over.

Remit direct to The Sarnia Fence Co., Limited, Sarnia, Ont., by Post Office Order, Money Order, or Bank Draft.

We want your order whether for one bale or a carload.

Mail Us Your Order Today

CASH WITH THE ORDER SAVES EXPENSE AND YOU GET THE BEST FIT OF THE SAVING IN THE PRICE.

Price in Old Ontario before Jan. 15th	Price in Ontario after Jan. 15th
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5-40-0 HORSE AND CATTLE FENCE. Has 5 line wires, 40 in. high, 9 stays to the rod, all No. 9 Hard steel wire, spacing 10, 10, 10, 10. Weight per rod 5 1/2 lbs. Price per rod	27c	28c
6-40-0 HORSE AND CATTLE FENCE. Has 6 line wires, 40 in. high, 9 stays to the rod, all No. 9 Hard steel wire, spacing 7, 7, 8, 9. Weight per rod 7 1/2 lbs. Price per rod	31c	32c
7-40-0 HORSE, CATTLE AND SHEEP FENCE. Has 7 line wires, 40 in. high, 9 stays to the rod, all No. 9 Hard steel wire, spacing 5, 6, 6, 7, 7 1/2, 8. Weight per rod 8 1/2 lbs. Price per rod	35c	36c
7-48-0 HORSE AND CATTLE FENCE. Has 7 line wires, 48 in. high, 9 stays to the rod, all No. 9 Hard steel wire, spacing 5, 6, 7, 9, 10, 11. Weight per rod, 9 lbs. Price per rod	37c	38c
8-40 GENERAL STOCK FENCE. Has 8 line wires, 40 in. high, 12 stays to the rod, all No. 9 Hard steel wire, spacing 1, 4, 6, 6, 6, 6. Weight per rod 10 1/2 lbs. Price per rod	43c	45c
8-48 GENERAL STOCK FENCE. Has 8 line wires, 48 in. high, 12 stays to the rod, all No. 9 Hard steel wire, spacing 4, 6, 7, 8, 9, 9. Weight per rod 11 lbs. Price per rod	45c	48c
9-18-0 GENERAL STOCK FENCE. Has 9 line wires, 48 in. high, 12 stays to the rod, all No. 9 Hard steel wire, spacing 3, 4, 5, 6, 8, 8, 9. Weight per rod 11 lbs. Price per rod	45c	48c
9-48-05 SPECIAL HORSE AND CATTLE FENCE. Has 9 line wires, 48 in. high, 12 stays to the rod, all No. 9 Hard steel wire, spacing, 6, 6, 6, 6, 6, 6. Weight per rod, 11 lbs.	45c	48c
9-48 GENERAL STOCK FENCE. Has 9 line wires, 48 in. high, 12 stays to the rod, all No. 9 Hard steel wire, spacing 2, 4, 5, 6, 8, 8, 9. Weight per rod, 12 lbs. Price per rod, freight prepaid	50c	53c

10-50 HORSE, CATTLE, SHEEP AND HOG FENCE. Has 10 line wires, 50 in. high, 12 stays to the rod, all No. 9 Hard steel wire, spacing 2, 2 1/2, 2 1/2, 3 1/2, 4, 4, 4, 4, 4. Weight per rod 12 1/2 lbs., per rod	55c	58c
POULTRY FENCES.		
18-50-5 STOCK AND POULTRY FENCE. Has 18 line wires, 50 in. high, 24 stays to the rod, top and bottom wire, No. 9 filling No. 12 hard steel wire, spacing 4, 4. Weight 12 lbs.	56c	60c
FENCE ACCESSORIES		
WALK GATE, 31 1/2 x 48	\$2 25	\$2 50
FARM GATE, 12 x 45	4 50	5 00
FARM GATE, 13 x 48	4 75	5 25
FARM GATE, 14 x 48	5 03	5 50
FARM GATE, 16 x 48	5 50	6 10
STAPLES GALVANIZED, 1 1/2 in. per box of 25 lbs.	1 00	1 10
BRACE WIRE, No. 9. Soft, per coil 25 lbs.	1 00	1 10
STRETCHER, All iron top and bottom, draw very heavy leaved chain, extra single wire stretcher and splicer, the best stretcher made at any price	9 00	9 00

THE SARNIA FENCE COMPANY, LIMITED
SARNIA, ONTARIO

The 1916 Acre-Profit and Hog-Feeding Competitions

Eighty-Two Young Men Win Short Course at Guelph ---Yields Much Below Those of 1915

The unfavorable climatic conditions Gilbert Marshall, of Bruce County, had that prevailed during the crop growing season of 1916 in Ontario, as compared with that of 1915, is strongly reflected in the reports of the Acre Profit Competitions, conducted by the Ontario Department of Agriculture through its district representatives. In every department the yield per acre was much below that of the previous year, and the profits were likewise affected. Altogether 53 of these competitions were held, and in counties in which more than eight contestants finished in the competition, two men are being sent to Guelph. The competitions are open to young men who have taken the four weeks' course in agriculture conducted by the district representatives. The prize is a short course in livestock and seed judging at the Ontario Agricultural College, lasting from Jan. 9 to Jan. 20, transportation to Guelph and return and board and lodging while there, being also defrayed. Fifty-seven winners in these competitions have won this prize, as compared with 67 for the previous year.

As in 1915, the cost of operations was figured at \$5 an acre for the rented land, \$2 for plowing, 15 cents an hour for man, and 10 cents an hour for horse labor.

Oats.
The most notable feature is the great reduction in yield, as compared with that of 1915. In that year 37 contestants produced over 90 bushels an acre, and one of over 100 bushels. This year only two secured yields of 60 bushels an acre or over. It is significant that two of the young men who secured the highest yields were within the first third of the list. Russell Warner, of Haldimand County, secured 60 bushels an acre of O. A. C. No. 72 oats, at a cost of production of \$11.57, yielding, at 50 cents a bushel, a profit of \$16.43. The land that produced them had been farmed for 100 years. Geo. R. Hill, of Hastings County, came second with a profit of \$15.93 on 58 bushels of Banner oats, produced at a cost of \$19.07, while Wilson Bell, of Simcoe County, secured a profit of \$14.93 on 64 bushels and 24 lbs. of O. A. C. No. 72 oats, the cost of production being \$17.42. O. A. C. No. 72 oats therefore stood highest both in yield per acre and in profit derived.

Potatoes.
Only two contestants secured yields of over 300 bushels an acre in 1916, as compared with four who secured over 400 bushels an acre in 1915. The young man standing highest both for yield and profit was Wm. S. Courin, of Middlesex County, whose profits, at \$1.00 a bushel, figured out to \$275.33 an acre on a yield of 230 bushels of Dooley potatoes, costing \$44.47 to produce. Napoleon Chemier, of Sudbury district, had profits amounting to \$246.46 on 295 bushels of Early Rose potatoes, costing \$38.55. Arthur Greese, of Lennox County, showed \$246.45 profit on 288 bushels, costing \$41.25. Fourth in order of profits made was Herbert C. Nixon, of Rainy River district. Though situated in New Ontario, the land growing these potatoes has been farmed for 25 years.

Mangels.
Of mangels, the highest yield and profits were secured by Jas. Moffatt, of Grey County, with 1,112 bushels, yielding a profit of \$139.03, and costing \$22.65. Harold Letts, Hamilton, had 999 bushels and 40 lbs., costing \$20.05, and yielding a profit of \$117.74.

The Hog Feeding Competition.
Thirty-two young men won the short course as a prize in the Feeding Hogs For Profit Competition. Twenty-six of the contestants were held during the season, and as in the case of the acre profit competition, the contestant must be one who has taken the short course in agriculture conducted by one of the district representatives. Where eight or more contestants finished

(Continued on page 11.)

Why You Will Prefer THE "SIMPLEX"



In preference to all other Cream Separators is because the "Simplex" is:

- So Simple
- So Easy to Turn
- So Easy to Clean
- So Perfect in Skimming
- So Quick in Separating
- So Pleasing in Appearance
- Self Balancing
- Seldom out of Repair
- Soon Pays for Itself

LASTS A LIFETIME

There are other advantages in favor of the "Simplex." These are explained in our literature, which will be mailed to you free on request.

The ease of running, ease of cleaning, simplicity, self-balancing bowl, interchangeable spindle point, low-down supply can, the general pleasing appearance, and the perfect skimming of the "Simplex" make it the favorite everywhere it goes.

Then, too, our large capacity machines, so constructed that they turn more easily than most other separators, regardless of capacity, will enable you to separate your milk in half the time. This is a great advantage it will pay you to enjoy.

Bear in mind we allow you to prove all these claims—since "Proof of the Pudding is in the Eating."

Write to us for full particulars about the "Simplex" and our special terms to you to use the "Simplex" and represent us locally in your district.

D. Derbyshire & Co.

Head Office and Works - BROCKVILLE, ONT.

Branches: PETERBOROUGH, Ont., MONTREAL and QUEBEC, P.Q.
WE WANT AGENTS IN A FEW UNREPRESENTED DISTRICTS

THE PANAMA, JR.

Improved grader and leveller is made entirely of steel and iron, is adjustable and reversible, has curved mold-board 19 inches wide by 4 ft. long; blade is 6 inches wide. Roller bearings on rear wheels give wearing qualities that no other light machine has. Fits in shed with a set of double trees and tongue. Weight, 600 lbs.



Reeves and Conditors

Say it is not the piling of gravel on the road that solves the G.O.D. ROAD question. But keeping it there is necessary to maintain a good road surface. That is just why many townships only place one of our Panama Jr. Graders at a very low cost. Think it over, then write us.

THE EXETER MFG. CO., Ltd.

Exeter, Ont.

Branches: Winnipeg, Q. B. C., Newcastle, Halifax.

The Surest Way To sell your surplus stock through the live stock columns of Farm and Dairy. The cost is little and the results certain. Send in your ad.



FARM AND DAIRY & RURAL HOME



We Welcome Practical Progressive Ideas

Trade increases the wealth and glory of a country; but its real strength and stamina are to be looked for among the cultivators of the land.—Lord Chatham

VOL. XXXVI

TORONTO, ONT., JANUARY 4, 1916

No. 1

Where We Are At On The Good Roads Question

THE most systematic construction of roads in the Province has for some years been carried out by County Councils, this work being subsidized by the Province. Between 250 and 300 miles of stone and gravel road are constructed annually under this organization.

County roads are aided to the extent of 40 per cent. for construction and 20 per cent. for maintenance. All County Councils are authorized under the Highway Improvement Act to assume and control a system of leading roads within the county. Out of thirty-seven counties in the Province twenty-three have adopted such systems; and fourteen have not yet taken the step. A number have the matter under active consideration. County road systems have been established in the following counties: Wentworth, Lanark, Simcoe, Wellington, Lincoln, Oxford, Hastings, Peel, Middlesex, Lennox and Addington, Prince Edward, Halton, Perth, Frontenac, Waterloo, Carleton, Leeds and Grenville, York, Haldimand, Welland, Essex, Prescott and Russell, and Dundas, Stormont and Glengarry. Councils of counties not in this list should be encouraged by all interested ratepayers to carefully consider the merits of the system, which are exceedingly favorable to municipalities. Since the passing of the Act, and to the end of the year 1915, a total of \$6,745,879.32 has been spent on county road construction, of which the Province has paid \$2,248,659.65.

It should be made clear that the provincial subsidy is 40 per cent. of the total expenditure; not a percentage of the county contribution; thus:

The county raises \$60.00
The Province contributes \$40.00

The county spends \$100.00

The Province also contributes 20 per cent. of the total cost of maintenance, estimated on a similar basis.

Advantages of County Road Organization.

County control of main market roads is sound in principle, was recommended by the report of the Highway Commission, and is retained under the revised Highway Improvement Act of Ontario. Wherever systems of good roads have been created—in England, France, or in the United States—it is found necessary to classify the roads and place the several classes under separate authorities for construction and maintenance. It is not practicable for township organization alone to build and control all roads. With little exception, the only substantial progress in road construction to-day is being made under county road systems. Where roads are wholly under township control, the experience is general that the more heavily travelled of them are growing worse rather than better.

County road management, it is true, is not always above criticism; but no governmental organization can be perfect and without defects. As a rule, some experience is needed to show that organization is required, why it is needed and what

W. A. McLEAN, Deputy Minister of Public Highways for Ontario.

It should accomplish. Changing conditions develop new requirements. The county road system, however, offers opportunity for a good and effective organization, and should be moulded and developed with a progressive spirit.

There are various reasons why it is advisable to establish systems of county roads, some of the advantages being summarized as follows:

(1) It sets aside a limited mileage of roads for

immediate improvement. There must be a starting point; all the roads of the Province cannot be built at once. A limited plan of roads is determined for special effort, and such as can be completed in a definite period, say, ten years.

(2) Expenditure can be concentrated on substantial construction. If roads are all under one body, such as a township council, the mileage is too great to cover in a definite period, so the expenditure is scattered over all roads in small amounts, and little or nothing of a permanent kind is accomplished.

(3) When the township council controls all the roads and has built one main road in the township, residents in other parts of the township say to their council: "Don't spend another dollar on the good road until the road past my farm is equally good." The result is, that under township control, influences are such that roads when built cannot be properly maintained, and the original investment, through neglect, is lost. County road systems being limited, and provision being made for the construction of all, there is much more tendency to provide proper maintenance.

(4) Roads can be built to suit the traffic over them. Roads forming a county system should be so selected as to location that they will serve all parts of the county. They thus become the trunk roads of the locality in reaching local markets and shipping points, and can be adequately built to serve effectively the greater traffic on a uniform plan.

(5) Continuous routes are provided for the heaviest traffic of the locality. Under township usually with a view to improving the worst places first—but neglecting the needs of traffic. To provide adequately for traffic means the greatest benefit to the greatest number.

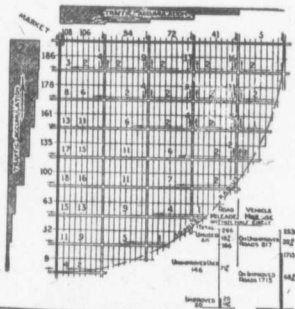
(6) Township councils are relieved from the cost of maintaining roads of heavy traffic, and can consequently spread their expenditure more effectively over the greater mileage of roads carrying light traffic.

(7) Adequate outfits of road machinery can be provided such as townships, working separately, could not supply.

(8) A better class of supervision and workmanship can be had, growing out of continuous employment and experience.

(9) Just as superior construction can be had under county control, so can better maintenance be provided, and largely for the same reasons.

(10) In a general sense, the construction of substantial roads is too big a task for many township councils to organize and finance. Township councils are too close to the ratepayers; are too subject to personal influence and the consideration of votes. County councils are not wholly immune (nor is it desirable that they should be), but they are a step further from influences such



How Traffic Accumulates

This chart was prepared by the Ontario Department of Highways to illustrate the accumulation of traffic on roads approaching a market centre. The arrows show the direction of traffic on each road. The traffic actually shown in the shaded section, of one-quarter only of the traffic carried. While traffic shown in the circle is shown, the improved roads from the territory served—the half-circle. Two roads only are shown—the centre—the connection lines east and west and the side road north and south.

The figures on the chart show the number of vehicles passing over the adjacent section of road daily. In outlying sections there is an average of only one vehicle a day. The maximum line is 18 vehicles; while the improved roads immediately at the market centre serve roads as great as 186 vehicles a day. Since becomes apparent that those radiating from the market centre are in proportion to traffic, it attests the basis of a system of county roads, and shows also why roads near and within towns and villages have the reputation of being the worst roads.

Referring to the mileage diagram in the lower right-hand corner, it will be seen that there are 206 miles of roads in the semi-circle. Those improved are 20 miles in length, or less than 10 per cent. of the total. Yet of the total over mileage (2,332 miles), 68 per cent. passes over the improved roads; and 19 per cent. of the roads are not used at all.

(Continued on page 10.)

Quebec's Aggressive and Effective Good Roads Policy

How the Policy Has Developed—What Has Been Accomplished—Provision for the Future

By W. F. STEPHEN, Huntingdon, Que.

NO Province in Canada has made greater advancement in road making than Quebec. It is a recognized fact that this province leads all others in its Good Roads policy and in its length of mileage of permanent highways.

Much of Quebec's land is level, of clay loam, and is not the best material for a hard, solid road. No road is better nor can be as easily maintained as the dirt road, especially when the split log used is used. It is a singular fact that in many of the flat areas of Quebec there are numerous ridges of limestone, trap and other rocks that are valuable for road making purposes. It would seem, in many instances, as though Nature had placed these occasional rock ridges here and there through its flat lands for the very purpose of giving road making material, and much of it has been used. There are sections of the province, especially much of the land lying east of the Richelieu River, known as the Eastern Townships, which are more or less hilly, and where the best gravel roads are to be seen.

In this province the highways are under the control of the rural or village municipalities, save in some cases where certain local roads are under the control of the county councils, and lately the government has taken over, made, and now maintains several leading roads. There are about 1,100 rural and village municipalities, each of which has its municipal council, bound to have the roads kept in the condition required by law. The council exercises control over all its roads; makes them, improves and maintains them at its expense, which is met by a direct tax.

The Quebec Policy.

There are five classes of roads now in the province: Earth, gravel, macadam, concrete and tarvia. The government, which has instituted a Department of Roads, has a special policy for each class of road. By a measure passed in 1907 small grants were offered to municipalities to assist them in the better maintenance of their earth roads. In 1911 the "Good Roads Act" was passed by which grants were given to municipalities to assist in gravelling or making macadam



A Delightful Piece of County Road in Chateauguay Co., Que.

This is the front road between the second and third (lower) concessions of Ormatown. It was built by the farmers whose land front on it, under the management of a committee of five, of which Mr. Neil Sangster was chairman. The provincial government furnished the stone crusher and gave in repair. The macadam is ten feet wide and the county council keeps it in repair. The macadam is ten feet wide and consists of 12 inches of cobble stones, overlaid with eight inches of crushed stone. The cost was \$2,200 a mile. It is acknowledged to be one of the best pieces of county road in Canada and is a lasting monument to the enterprise of the farmers who carried its construction to completion.

roads. The act also provided for the loan to municipalities for road making and rock crushing machinery to assist in making permanent highways. The Department also provided instructors so that the work would be done properly. By amendment to the Good Roads Act, passed in 1912, two categories of work were covered, macadamizing or gravelling by municipalities, and the building of regional highways by the government. The act now allows the government to borrow \$10,000,000, to be loaned to municipalities for the purpose of making permanent roads. All that is required of the municipalities is that they pay the Government two per cent. per annum, on the

amount borrowed for 41 years. So many municipalities have availed themselves of this offer that the government has had to borrow \$5,000,000 additional to meet the demand. Roads are built under Government supervision and are superior to those roads built previous to the Act coming into force. So much for Quebec's good roads policy.

What Has Been Accomplished.

The Premier of Quebec, Sir Lomer Gouin, has considered this work of such importance that he has organized a Department of Roads, under the supervision of one of his Cabinet Ministers. Since his progressive road policy has been adopted over 1,300 miles of macadam, 570 miles of gravel, 30 miles of concrete, and about the same length of tarvia roads have been built. Under the loan system over \$14,026,000 has been expended for the making of these roads. This includes about 300 miles of regional highways, built by the department, such as the Montreal-Quebec, King Edward, Levis-Jackman, and Sherbrooke-Rock Island highways. All are water-bound macadam with concrete or tarvia in low places, except the last mentioned, which is largely a gravel road. All have concrete, or concrete and steel culverts and bridges. The permanent roads in the province vary from 10 to 16 feet in width, except in towns and villages where they vary from 16 to 30 feet. The King Edward highway connects Montreal with the United States system at Rouse's Point, N. Y. The Levis-Jackman connects Quebec with Maine, and the Sherbrooke-Rock Island roadway connects with the United States system at Derby Line, Vermont. This connection brings many of the United States motorists to Canada, and from all parts of the Union. The writer, in one day observed autos from about 30 States pass through his native village, from as far south as Tennessee and as far west as Colorado and California. This indicates the possibilities of tourist travel by auto when there are good roads. Huntingdon county leads in mileage of permanent roads, having about 220 miles completed.

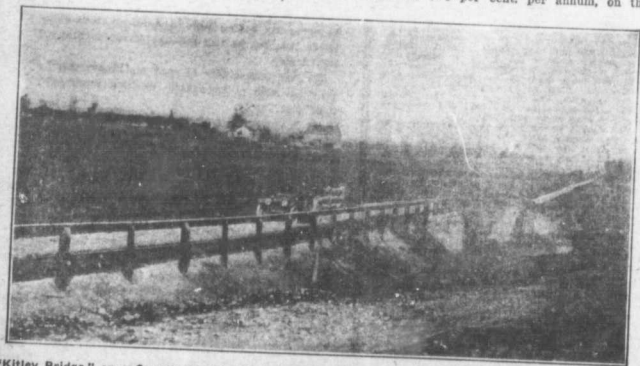
What the Roads Have Cost.

It has been found that the cost of a twelve-foot-wide water bound macadam varies according to foundation and length of haul of material, from \$5,000 to \$8,000 a mile. For a tarvia road \$700 to \$900 must be added, and from \$1,800 to \$3,000 more for a concrete top. The tarvia top road is becoming popular because of its flexibility, its freedom from dust, and because it is more easily repaired. Its endurance will prove it to be the more economical road in the end. The water-bound macadam roads are more susceptible to the action of the weather and of travel. To-day the heavy auto travel must be reckoned with as the suction of the fast speeding machines takes out the bond, and unless here kept in repair the road quickly loses its smooth surface, making it pervious to water and other weather elements.

The Policy for the Future.

Realizing the value of its good roads policy to the farmers of Quebec, the government in the present session, through its Minister of Roads, Hon. J. A. Tessier, has amended the Good Roads

(Continued on page 12.)



"Kitley Bridge," on a County Road in Wellington Co., Ont. Built 1913. Guard Rails and Approaches, 1914.

The Good Roads Activities of the Ontario Motor League

What the Organized Automobile Owners Have Done and Hope to Do For Good Roads In Ontario

W. C. ROBERTSON, Secretary, Ontario Motor League.

GOOD roads are no novelty. Roman chariots thundered over magnificent highways more than two thousand years ago. Road construction has been the special care of kings and emperors in bygone ages, as it is the task of democracy today. With the coming of the railway the highway suffered temporary eclipse as the grand avenue of travel, but the automobile has brought it back into its own.

It is more than a mere coincidence that the last decade, during which the self-propelled vehicle has come into general use, has witnessed the greatest road building activity in the history of the world. It is cause and effect. Ten years ago there was a negligible number of automobiles in use in North America. Today there are over three million. Ten years ago good roads, which would compare with the highways of Europe, did not exist on this continent. To-day thousands of miles of State and Provincial roads of high standard carry an ever increasing traffic.

The millions which have been spent on highways have added millions to land values. But it is not our intention to dwell on the undisputed benefits which have accrued to farmer and city dweller alike from good roads where they have been built, but to tell of the part played by the motorist in relation to the good roads movement. In all parts of the United States and Canada motorists have united to form clubs and association to promote the interests of automobile owners, and these bodies severally and jointly have been doing all in their power to secure the construction of good roads.

The Ontario Motor League, formed in 1907, with a small membership, has grown to a powerful organization to-day of nearly 6,000 members, comprising sixty automobile clubs with headquarters in the principal cities and towns of the province. From its inception the League has kept up a constant campaign for good roads, and with notable results. Speaking at the annual general meeting of the League last January, the Honorable Finlay Macdormid, Minister of Public Works and Highways, paid tribute to the work of the Ontario Motor League in promoting good roads construction, declaring that in his opinion the League, by its good roads educational campaign, had performed a valuable public service, contributing perhaps

more than any other organization to the great success of the movement for better highways in the Province of Ontario.

When the League was formed, a profound apathy prevailed in the province with reference to highway construction. In rural districts, automobiles aroused antagonism. Good roads projects were regarded with suspicion. The need of educational work was apparent on every hand. Unostentatiously the League started a campaign for better highways, determined to persevere until the end was attained, no matter what the difficulties

on the scheme for improving the roads adjacent to the Queen City.

Secure Appointment of Highways Commission.

Encouraged by this success the League redoubled its efforts, and in order to give still greater driving force to its educational campaign in 1912 took the initiative in the organization of the Good Roads Educational Association, in the work of which, together with the League, the Ontario Good Roads Association, the Canadian Manufacturers' Association, and other public bodies were actively interested. The Association elected Mr. Frank Roden, chairman of the Good Roads Committee of the Ontario Motor League, as its President, and in a short space of time met with extraordinary success in arousing public interest in road building. The educational work carried on by the League and its allied associations now led to such a widespread popular demand for government action, that a Public Roads and Highways Commission was appointed in July, 1913, and after many public sittings and careful investigation

in March, 1914, submitted to the Lieutenant-Governor-in-Council a comparative report containing suggestions for organization and financing which formed the basis of subsequent legislation creating a Department of Highways under the direction of a Minister and Deputy Minister.

Paved Highways.

The construction of a pave highway between Toronto and Hamilton was for years a pet project of the Ontario Motor League, and the campaign (Continued on page 13.)



Before.



After.

These two pictures were taken on the same road. They show how the automobile owner's troubles are overcome.—Photos courtesy the Maxwell.

to be overcome or the time required. Through newspaper articles, circulars, pamphlets, advertisements, and speakers from the United States and Great Britain, the League drew public attention to the benefits of good roads as it had never been drawn before. Voters were mobilized to support good roads by-laws, and slowly but surely the province began to move towards the good roads era upon which it has now entered. It was a triumph for the League when York County and the city of Toronto, in 1911, embarked



Some Types of Roads the Autoist Meets; Good, Bad and Very Bad; the Bad Preponderating.

2. A good macadam road allowed to go into disrepair. Maintenance left unused the year after being laid. The reason: It was not rolled, as he turns on to this piece of good road in Prince Edward Co., Ont. 3. As important as construction. 4. "Now for a spin," says the autoist. 5. It was at it. Ruts. Remedy: Grading and the split log drag. 6. One way in which good roads enthusiasts are made.



Serviceableness, Neatness and Permanence are Combined in These Bridges. The Money Invested in Them Will Give Returns in Service for Centuries to Come.

1. The Little Pefferlaw Creek bridge, York Co., Ont. 2. An 85-foot steel bridge at Millbank, Perth Co., Ont. 3. The concrete arch bridge over the Trent Valley Canal between Kirkfield and Balsaver, in Victoria county. 4. An approved style of culvert and guard rail; the modern successor of the old corduroy culvert. 5. Approaching the Bekherdt bridge near Markham, York Co., Ont.

How Good Roads Affect Land Values

E. A. JAMES, B.A.Sc., Chief Engineer, York Highway Board.

WE are not concerned in this article with the desirability, necessity or the value of good roads, nor with passable or possible roads, nor with good roads; roads firm, clean, inviting for 365 days in a year; but with the obvious academic question of land values. The term "land values" has been used in a restricted or technical sense, but also in an extended sense to include not only the soil, but the mines, forests and even the water powers. It is, however, in its restricted sense that we here use the term. Land has a value due to nature, to the growth of society and to the improvements made by industry. We do not propose to separate these elements and here discuss each, because they are so interdependent but we point them out because good roads affect each element in a varying degree. Land values are usually higher in those areas served by good roads and pavements than in the unimproved districts, but at times it may be difficult to analyze values and show to just what extent good roads directly or indirectly affect the values.

How it Works Out in the City.

Land may be roughly classified as commercial, residential and agricultural areas, provided we apply to these three terms their widest meaning. Commercial lands acquire a value from good roads depending upon the use to which they are put. If they are to be used for distributing warehouses, shops or places of entertainment, passable roads are an absolute necessity, and good roads add much to the value.

We have in mind a lot with a frontage of 170 feet on a mud road and a depth of 190 feet to a siding. The lot was 600 feet from a good road and sold for \$95.00 a foot. This was largely a speculative price because the lot was useless from

a business point of view. It was not suitable for a material yard, coal and wood, lumber, or a factory site, because for weeks at a time the road leading to it was impassable, therefore it remained



Cuts and Fills Along the Humber, York Co., Ont.

unused and its value purely speculative. In about one year from the time of the above mentioned sale, a pavement was constructed connecting it with a leading roadway, which distributed material to a large and populous area. The roadway cost the lot owner \$5.50 a foot frontage, but it at once gave the land a commercial value, and the lot was sold for \$150.00 a foot to a company handling builders' supplies, and they are now carrying on a business that gives a good return on the money invested, including land values. Good roads in this case converted speculative values into established commercial values.

Of course, it is equally true that good roads and good roads alone will not increase land values in a commercial area. They will lower land values in these areas just so soon as you pave streets and lanes in this district beyond the area required by the community for commercial purposes. Take a district that requires for storage yards, elevators and so forth, a half mile of railway front. This section is well served with a good pavement, and there is no room for another yard to operate profitably. By extending your pavement another half mile, you do not increase values in this new area because it is useless, and if there is one buyer you lower values instead of increasing them, because you increase the number of possible sites and introduce competition.

In residential areas land values are not so susceptible to good roads. In certain districts the vast majority walk and the delivery wagons are not a necessity. Here a pavement may not increase the value of land more than the cost of the pavement. A suitable pavement in a residential area would cost approximately, for a 25 foot lot, \$12.00 a year. And just as long as the tradesmen and supply houses do not put on a tax or additional price for delivery in unpaved areas, just so long will pavements in these cheaper residen-

(Continued on page 12.)

Municipal Equipment for Road Construction

The Selection and Operation of County Road Machinery--Cost Keeping

H. D. CLEMINSON, Road Supt., Pr. Edward Co., Ont.

THERE are two important requirements to consider in discussing the question of municipal equipment for road construction. These are: (1) Sufficient equipment of suitable road machinery to allow the work to be done economically and efficiently, and (2) a systematic organization for keeping check on road expenditures.

Road Machinery.

The principal kinds of machinery used are graders, rock crushers, with elevators and bins, traction engines, rollers, together with water tanks, pumps, steam drills, pick plows, wheel and drag scrapers and small tools. Before purchasing any road machinery, we should have some idea of the character of the work required to be done on the road system. Care should be taken to see that the class of machinery purchased is suitable for the work and has sufficient capacity for economical service. In the purchase and operation of the necessary road machinery used in road making, the following are some of the chief points to consider:

Selection and Operation of a Grader.

In the selection of a grader, the amount of work to be done, as well as the motive power to be used, should be kept in mind. A heavy grader should be chosen. Light machines will not stand up under the heavy work. In operating a grader it is more economical to use a traction engine than horses for hauling the machine. With sufficient horse power the cost will be at least \$19 a day, while an engine will do the work at a daily cost for men and fuel of about \$12 to \$14. Besides, an engine can be economically used in heavy work, such as cutting down hills, and digging up road beds, or widening the grade with pick plows.

An engine at least 20 h.p. should be purchased. This engine should be rear mounted so that the strain of hauling the grader will not come on the boiler and cause leaks or permanent injury. It should be built strong enough to perform the heaviest work. A skillful operator is absolutely necessary. Skill on part of the operator can only be gained by experience and study of the work being done. More real science can be displayed in the thorough operation of rolling and grading than in any other operation of road building, as they give the finished appearance to the road.

Rock Crushers and Portable Bins.

In purchasing a crusher, care should be taken to get one of large capacity. The size of the machine should not be decided by the price of a small machine, in order to close a deal when larger machines would have been the more economical in the end. A crusher with a 10 x 20 opening of the jaws, having large buckets in the elevator and a portable bin of at least 30 tons capacity, is the most economical to purchase. A machine of this size will crush about 100 yards of rock a day with less cost than a crusher handling only 75 yards a day.

In order to operate the crusher to its full capacity, the jaws must be kept full. The stone fed should be broken small enough to permit it to easily enter the jaws. This should be done in the quarry as time is wasted by breaking large stones in the crusher

jaws. Besides the loss of time the breaking of rocks with heavy sledges is liable to cause injury to the crusher. When being set up for work, the machine should be blocked up on timbers. A crusher will not work efficiently when resting on its wheels. It must be supported rigidly in order to do good work, as well as save the wear of the bearings of the crusher. Another important point to consider in the purchase of a crusher is the kind of material in the jaws. Cast iron or chilled steel jaws should never be used. Manganese steel jaws, though they cost more, give longer and better service. A jaw of this kind has been known to last over eight years. For road work a portable bin with rotary screen is indispensable. The screen should consist of two sections, giving three sizes of stone. The perforations in the screen for limestone should be three-quarters of an inch, and three inches respectively. The sizes thus obtained will be best adapted for construction. The large stone can be used to form the foundation of the road. The one to three-inch stone for the second course and the small sized and screenings for the finish or binding coat.

In purchasing a roller the following points



The Old Order Changeth, Giving Place to New.

should be considered: First, as regards weight, a 12-ton roller is most effective, and a heavier machine should never be purchased. The rear wheels of the roller are the ones that do the most work in rolling the road, as nearly all the weight of the machine is carried by them. These wheels

(Continued on page 12.)

Four Year's Work on the Roads of Welland Co.

By GEO. RYSDALE.

WE laid out 162 miles of county roads in our county, nine feet wide and nine inches deep, consolidated, and built under the direction of the provincial government. The first three years the government paid 33 1/2 per cent. towards all costs, and this year they paid 40 per cent., which is a great assistance. This year we received from the government 20 per cent. towards maintenance, which I think should be increased to at least 30 per cent.

In the beginning of construction the main objection raised was that we were building the roads with too much crown, but to-day there is quite a change in the opinion. They are flattening out, and instead of being nine feet wide are all the way from nine to twelve feet. The roads are subjected to heavy traffic, heavy trucks, automobiles and steel line traffic, and in all conditions of weather. The most trying time is in the spring of the year, when the frost is going out, until the ground gets settled. The maintenance in roads are subjected to heavy traffic from the American side.

The contract price of stone for 1915 and 1916 was \$1.10 a ton for two inch to three inch stone;

\$1.00 for one inch stone and dust mixed, and 60 cents for dust. The contract called for 2,800 tons of stone to a mile, to be delivered at any point on the railway in the county. We let a contract for 24 miles of constructed road for the sum of \$4,850 a mile; the county to do the grading and build all bridges. These roads were in some of our long hauls. This contract was completed this fall.

I consider our county roads to be our greatest asset. We could not get along without them. Another thing, just as soon as you build a system of county roads, you increase the traffic, hence the extra cost of maintenance. Part of our roads are built of a flint rock and the balance of flint stone, and on watching the two different qualities of stone, I find that the limestone is more easily consolidated and makes a good road a little sooner than the flint stone. However, it does not wear so well. The limestone is dustier, as it seems to grind up faster. I would recommend the oiling of roads as a means of shedding the water. This also holds the binder on the surface of the road, which should not be swept off the surface, for as soon as a road is swept clean it begins to disintegrate again.



Up-to-date Machinery is Necessary for Economical County Road Construction. Snapped at Work Last Summer by the Farm and Dairy Camera. Left: A road roller at work in Oxford Co., Ont. Centre: Scraper for digging up old road beds, York Co., Ont. Right: Road sprinkler working ahead of the road roller, Oxford Co., Ont.

AGRICULTURAL INSTRUCTION CARS

The Grand Trunk Railway
in cooperation with the
Provincial Dept. of Agriculture
including the

Agricultural College at Guelph
are equipping a couple of bag-
gage cars to be run over the

Grand Trunk Lines

Of Western Ontario from Janu-
ary 8th to March 14th inclusive.
The exhibits are being prepared
by the Staff of the Agricultural
College and specialists connect-
ed with various branches of the
Department of Agriculture.
Farms crops, soils, lightning pro-
tection, feeds, fertilizers, dairy-
ing, poultry and honey production,
weeds, insects and fungus dis-
eases, vegetable growing, house-
hold conveniences and labor-
saving devices will be included
in the exhibits.

THIS MINIATURE AGRICULTURAL COLLEGE AND EXPERIMENTAL FARM ON WHEELS

will be found of great interest
to those who are interested in
seed improvement, cultivation,
drainage, potato growing, econ-
omical feeding of live stock,
testing of milk, sanitary
methods in handling of milk,
poultry and egg production, the
eradication of weeds, the con-
trol of insect pests and fungus
diseases, the growing of vegeta-
bles for the household, the main-
tenance of vegetables, water supply
and sanitary convenience in the
home, labor saving devices, etc.
Both the men and women, as
well as the boys and girls
should find much of interest in
the cars.

PLACE, DATE, HALL.

Alma—Jan. 8th, Town Hall.
Egria—Jan. 9th, Town Hall.
Alma—Jan. 10th, Public Hall.
Drayton—Jan. 11th, Town Hall.
Painstern—Jan. 12th, Library
Hall.
Mount Forest—Jan. 13th, Town
Hall.
Durham—Jan. 15th, Town Hall.
Clifford—Jan. 16th, Town Hall.
Midway—Jan. 17th, Town Hall.
Warkenton—Jan. 18th, Hall of Dis.
Res.
Pt. Elgin—Jan. 19th, Town Hall.
Listowel—Jan. 20th, Christ Church
Hall.
Brussels—Jan. 22nd, Town Hall.
Wingham—Jan. 23rd, Opera House.
Lockwood—Jan. 24th, Town Hall.
Ripley—Jan. 25th, Town Hall.
Clinton—Jan. 26th, Town Hall.
Seaforth—Jan. 27th.
Mitchell—Jan. 29th, Town Hall.
Shakespeare—Jan. 30th.
St. Mary's—Jan. 31st, Town Hall.
Alisa—Feb. 1st, Town Hall.
Egria—Feb. 2nd.
Blackwell—Feb. 3rd.

EVERY PERSON WELCOME.
NO CHARGE.

The cars will be open for inspec-
tion from 10.30 to 12.30 p.m.
each day, when competent inspec-
tors will be in attendance to an-
swer questions and to explain ex-
hibits.
Special notices for the
school children will be given from
10.30 a.m. to 10.30 p.m.

MOVING PICTURES.

Evening motion pictures will be held
in the halls indicated, when lectures
will be delivered and moving pic-
tures bearing upon agriculture will
be exhibited.

Second-and-third rates will be
given on all Grand Trunk Railway
trains within a radius of 80 miles,
road rates the day announced and
preceding day, good returning date
announced and following day.

Lists for February 8th to March
14th will appear in the issue.
For folder giving full announce-
ments apply to Geo. A. Putnam,
Department of Agriculture, To-
ronto.

Where We Are At On The Good Roads Question

(Continued from page 5.)

as tend to inferior and scattered work.
The Building of a Trunk Road.
The Ontario Highways Act provides
for the construction of main roads
connecting cities of other important
terminal points.

A main road may be interpreted as
one running directly between two im-
portant terminal points or cities, and
therefore pass through a series of
municipalities. Such series of munici-
palities may petition the Provincial
Government for construction as a
main road, and if the petition is en-
dorsed by three-quarters of the munici-
palities affected, "the Government
will make surveys, prepare specifica-
tions, and appoint a special board of
commissioners to take charge of the
construction and maintenance of the
road. The cost in the engineer's re-
port apportioned among the munici-
palities and the Provincial Govern-
ment contributing 40 per cent, but not ex-
ceeding \$4,000 per mile); and the
commissioners then act as a Court of
Review. In the appeal of any of the
parties affected as to the engineer's
apportionment of the cost. The com-
mission may confirm or revise the en-
gineer's report, and unless a majority
of the municipalities then petition
against the work, the commission is
authorized to proceed with construction.

Just as township control alone has
been found too limited to provide a
market road system of county mag-
nitude, so county control very often fails
to provide the useful action necessary
to construct and pay for roads carry-
ing "through" traffic between impor-
tant terminal points. In the absence of
proper means of organization for main
roads, the various districts bear too
great a proportion to the cost of con-
struction and maintenance. In the
case of main roads subjected to
through traffic, without drawing upon
the cities immediately adjacent, the
roads are available for adequate con-
struction; repair and maintenance become
expensive, and neglect is apt to en-
sue; and to provide for connection at
the border lines of adjacent munici-
palities, with uniformity of con-
struction, has been impossible.

The object of the new main road
legislation is to permit the cost to be
levied equitably upon all communities
benefitted by the road. By this means,
also, sufficient funds become available
for construction and maintenance
of the traffic, without unduly
bearing upon any who are called upon
to pay for advantages derived from
the road.

A road from Ottawa to Prescott, 56
miles, has been surveyed under this
method, and plans and estimates are
being prepared for submission to the
interested municipalities. The To-
ronto-Hamilton trunk highway, 25
miles in length, aided by the Province
to the extent of approximately 40 per
cent, is nearing completion. This
road will serve an exceedingly heavy
traffic between the two cities, as well
as form a link in the most important
main road of the Province.

Township Superintendents.

Township superintendents of road im-
provement is exceedingly important.
An experienced foreman or overseer,
permanently in charge of road work
under each township council, is recog-
nized as being the first step to effec-
tive management. To encourage township
councils to adopt this plan of creating
experienced supervision, the provin-
cial government will pay 75 per cent
of the salary or wages of such a man
for a period of three years.

The Transition Stage of Highway Legislation.

Highway laws which organization
for road control is based, are not
capable of immediate completion, but

are subject to gradual development to
meet the needs of changing conditions
and requirements. Old statutes should
from time to time be removed or mod-
ified; new ones needed to meet new
situations as they arise. The public
viewpoint changes, and laws which
today are in advance of public opin-
ion, are overtaken to-morrow.

An awakening demand for better
roads and the advent of the motor
vehicle are two factors which, at the
present time, are the most impor-
tant, and modification of highway
laws. The motor vehicle is greatly
fold increasing the carrying capacity
of the common road. The transforma-
tion now in progress is necessitating
corresponding enlargement and
amendment of statutes relating to
highways and traffic.

For a considerable period prior to
1900, highway laws of Ontario were
but little changed. The twentieth cen-
tury promises to be the century of
transportation, and already the num-
berous additions to the statute reflect
the situation. The Highway Improve-
ment Act, the Ontario Highway Act,
the Motor Vehicles Act, the Load of
Vehicles Act, are among the new. Other
Acts have been amended to varying
degree. Highway legislation at the
present time is in a stage of transi-
tion and development which indicates
in a remarkable manner the growing
importance of the public Highway
Department of Public Highways
Created.

The legislation of 1916 was of a
striking character, more especially
with respect to the control of traffic.
The Ontario Highways Act, while en-
acted in 1916, was brought into effect
on January 18, 1917, by proclamation
of the Lieutenant-Governor. Under
that Act, a Department of Public High-
ways was created, and general provi-
sion made for a provincial subsidy
of 20 per cent of the maintenance of
country roads. In addition to the grant
of 40 per cent for construction. Or-
ganization was also created for the
control of traffic, and the most im-
portant terminal points; and the
method whereby cities may cooperate
in the construction of main roads with-
in a suitable suburban area was also
defined.

Highway improvement in 1916.
War conditions have naturally re-
tarded road construction during the
year 1916. Rates of interest have ad-
vanced, so that loans have not been
favorable in cases where it has been
necessary to finance construction by
the sale of debentures. The scale of
wages has been high, and labor scarce.
Partially offsetting these disadvan-
tages, prices for farm produce have
been good, and farmers, as a rule,
have been more ready to invest. The
result has been that municipal councils
have been willing to undertake increased
expenditures. But farm labor has
been scarce in many districts that coun-
try roads, however, are not always
able to retain men even for im-
portant repair work and durable con-
struction has been delayed.

Climate conditions during the win-
ter, spring and summer of 1916 have
been unfavorable to roads. In Janu-
ary an exceptional thaw saturated the
road surfaces and foundations, with
the result that the winter break-up of
winter traffic was exceedingly dis-
tasteful to road foundations. The
continuation of wet weather did not
permit normal conditions to return
until the end of the month. This was
followed by a period of extreme drought
and heat, very destructive to road sur-
faces under heavy motor traffic. Thus
the foundations were damaged, and
the roads were ruined by wet condi-
tions early in the season, and the stone
and gravel surfaces during the very
dry weather loosened and "unrav-
elled."

The Tendencies of Organization.
It will be seen from the foregoing

that the tendency of organization is
towards a threefold classification of
roads, viz.:

1. Township roads, under township
control.
2. County roads, under county con-
trols.
3. Main roads, under more direct
provincial control.

The trend of organization is fully
in keeping with the methods of those
countries which have most success-
fully developed general systems of
road traffic. This plan of classifica-
tion and control permits roads to be
built of a type suited to the traffic
over them. Cost is equitably and fair-
ly distributed. Township councils
now in progress is necessitating the
maintenance of roads carrying heavy local
and through traffic, and are thus bet-
ter able to improve the side roads (of
purely local farm traffic) in such a way
that a highway system of universal
excellence, suitable to all variations of
traffic, is gradually developed.

There is still much opportunity to
"clean up" Old Ontario." To make On-
tario famous as a country of good
roads is to provide one of the most
important factors in national progress.

Tanning Skins With the Fur On

By J. B. White.

THE following directions are for
dressing Fur (Doe, Jack, Dog,
coon, bear, otter, mink, rat or
skunk, but bear in mind no amateur
can tan beaver, calf or horse hide.

Clean the skin thoroughly of flesh
and fat; wash clean in soap suds
and rinse in clean water. Cut away
legs, head and other useless parts of
a green skin. A dry skin must be
soaked in soft water until as soft as
when green. Take equal parts of
borax, saltpetre and sulphate of
soda and enough water to form a thin
slurry. Paint this on the flesh side of
the skin and double it up, flat sides
together, and lay in a dry place for
24 hours. Prepare another mixture
of two parts of sal soda; three of
borax; four of hard soap, and melt
the slowly together. Paint this on the
skin and fold again as before for 24
hours.

The skin should now be scraped
clean and worked a little to soften.
Then mix one-third alum and two
thirds salt, enough to work into the
skin, leaving it almost covered. Fold
up for 24 hours and then spread out
and let dry for a week.

The skin can then be washed clean
and with a little rubbing while dry-
ing should be as soft as a glove.
Heavy skins, like otter or large bear,
may need second application. To
make a skin look like professional
work, finish with sandpaper. I have
tried about fifty recipes for dressing
skins and find this is the best.

Every Dairy

equipped with milking machinery and
utensils likely to harbour germs

Should Use

every precaution to insure absolute
cleanliness. Rubber tubes and teat
cups should be immersed in chlorine
of lime solution after thorough wash-
ing. The active disinfectant prin-
ciple of

Chloride of Lime

is the available chlorine. That made
and specially packed by the
Salt Co. is full strength, yielding 33
per cent. chlorine—the only kind that
will serve the purpose. Buy from your
dry supply store or

THE CANADIAN SALT CO., Limited
Windsor, Ont. 513

The Need for All-the-Year-Round Good Roads

Bad Roads a Burden—Good Roads an Asset—John B. Laidlaw, Ontario Co., Ont.

EVERYONE will recognize that roads are a necessity, but we become so accustomed to our necessities that we often fail to appreciate their true value to us, and in order to obtain a clearer view of the necessity of something we should consider how we could get along without it. If we apply this test we will realize that our whole manner of life would break down without roads. If, then, they are so necessary, why should we be content with roads which are only available for a part of the year? Why should we be content with "summer roads" instead of demanding "all year roads"? No farmer would consider a good investment to purchase a horse which could only be used in fine weather; he wants a horse that can be used in all weathers, and the worse the weather, the more he needs a good horse. If he buys an implement he wants to get one strong enough to stand up under the work to which it is to be put, and which will not fall him when most required. If the same test is applied to roads, then every farmer should be an advocate of good roads. As a matter of fact, a great many farmers really recognize that good roads are a necessity, but are afraid that the cost is too great. This is the greatest fallacy, especially when the county road system is adopted and the liberal assistance of the Government obtained.

Two Mills on the Dollar Would Do It. In almost any county of Ontario a tax of two mills on the dollar will carry the construction and adequate maintenance of a good roads system covering all the main roads, which would probably be about one-third of the total roads in the county, and would accommodate about four-fifths of all the traffic in the county. That would mean a tax of \$5 a man assessed at \$2,500, or \$10 to a man assessed at \$5,000. Either man often loses that amount in one day when the roads are bad, and loses the amount many times over in the course of the year, because of bad roads. To refuse to support good roads because they cost a small amount is the most penny-wise, pound-foolish policy that could be imagined.

Over three hundred years ago Lord Bacon wrote that one of the things that made a nation great was easy communication from place to place. We have spent millions of millions to improve the communication over long distances, which, while of great value to us, are taken advantage of but by very few in the course of the year, especially by those in the rural communities. We have neglected all these years the improvement of the roads, which are the means of near-by communication from place to place, and undoubtedly one of the reasons why the rural communities of Ontario have become depopulated and the values of farm lands and village properties have decreased, is because the means of communication from place to place have been neglected.

The Burden of Bad Roads. Bad roads impose great suffering upon the rural communities at certain times of the year, and especially upon the women. The social life cannot be maintained; it is impossible to see one's friends; the sick, the child to church, even to send the children to school, and if we wish to raise the standard of life in the rural communities and make life really worth living, then let everyone join hands for "all year good roads" properly built and properly maintained, and the latter is just as important, if not more

so, than the matter of construction. The county roads system of the Ontario Government is the best method at present available for the improvement of the roads. Under the standard of construction varies according to the work which the road has to do. It leaves a large measure of home rule in the hands of the county; it utilizes such road material as is available in the county and assists the county which has not such advantages to bring in material from outside at the lowest possible cost; it relieves the townships of a load greater than they can carry and enables them to perform much greater service to the public on the side roads in the townships than they could before.

Good roads are the cheapest and best things we can buy and we should have them everywhere and without further delay.

The 1916 Acre-Profit and Hog-Feeding Competition

(Continued from page 4.)

In a competition, two men are being kept to Guelph. The hogs were selected when six weeks old, and a value of \$4 each was placed on them. Contestants were allowed to feed four and select the best three at the end of 22 weeks of age, and a record kept of the amount of feed used. The value of the hogs, live weight, fed and watered, was taken at 1½ cents a lb. Both profit and type were taken into consideration in awarding the prizes. The profits are, considerably above those secured the previous year, the highest profit then being \$12.31, as against \$16.37 for 1916. It is probable, however, that in most cases the value allowed by the terms of the competition, while the market price allowed for the hogs was about that obtained. The price of hogs was taken as \$23 a ton; of shorts and middling, \$25 a ton; of ground oats and barley, \$25 a ton. Other feeds were in proportion,

the prevailing prices during the early summer, when the contests got under way, evidently being those upon which the cost of production was based. This, however, does not alter the basis of comparison for the year. Clarence G. Taylor, of Lennox and Addington, with Yorkshires and Tamworths, secured the highest profit of \$16.37 a hog, the average cost of production being \$11.11 and the average value \$27.48. Herman F. Hooper, Durham County, with Berkshire and Tamworth crosses, made \$16.23 average profit, the cost of production being \$9.28, and the value \$36.51 a hog. Sedley Steen, of Lanark County, with Chester Whites, secured \$15.52 average profit, the average cost of production being \$12.32, and the average value \$28.44. Carl Breken-shire, Victoria County, secured an average profit of \$16.24, with a production cost of \$9.83, and a value of \$25.07 a hog. Frank Johnston, of Ontario County, with Yorkshires, made an average profit of \$15.16, the average cost of production being \$13.25, and the average value, \$33.44. This includes those whose average profit was over \$13 a hog.

The Biggest thing on the farm

THINK MAN, what you miss when your farm lacks the telephone!

- ¶ You miss up-to-the-minute market reports that your competitors in the next township get every day. That costs you money—real money time and again, when shrewd men who know the market take advantage of your isolation.
- ¶ You miss the *ease* of being able to telephone for supplies. Instead you must take a horse and man from work to go on errands. Think how often that has cost you half a day for man and beast. The telephone would save you that loss.
- ¶ You miss the *ease* of being able to telephone for help in case of fire—for the doctor in case of illness. Somewhere every day the telephone saves property of humanity.
- ¶ You miss the *satisfaction* that only the telephone can bring into a community—the *possibility* that keeps your wife from heart-breaking loneliness and your children from the "city-fever."
- ¶ You miss all this, that nearly 125,000 families on farms in Canada have found they cannot do without.

CAN YOU AFFORD TO BE WITHOUT THE TELEPHONE?

¶ Not when you consider that you can make it earn its full annual cost easily every month in money saved and satisfaction gained—not when you consider the pleasure and convenience it brings you—the *ease* and the *time* it will remove from your life.

¶ Why, home friends, talk to the telephone boy.

"IT'S THE BIGGEST LITTLE THING ON THE FARM"

¶ Hundreds of Farmers who have telephones in their own homes, have helped us to prepare a new booklet entitled "How the Telephone Helps the Farmer." Needless to say, it is one of the most interesting booklets ever published on this subject. If you are interested, you should have a copy by all means. Asking for it won't obligate you in any way, so write to-day.

WE SUPPLY everything a Telephone Company would supply—on a complete plan—made apparatus and installation at cost to the telephone business. Our business is the telephone business.

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FOR 1917

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Sydney, Nova Scotia

When You Write--Mention Farm and Dairy

Municipal Equipment for Road Construction

(Continued from page 8.)

should not be too wide, so that pressure a square inch on road in roll would be very near the same as that exerted by the wheel of a road wagon. The rear wheels should be on a level, so that they will not cut a crowning road when it is being rolled. A double cylinder engine is the most satisfactory type to use. It runs smoother than the single cylinder. It will start from any point; which is important should your rolling slip off a wet road into the ditch. The boiler should have a large amount of water space, and it should have a good sized fire box. The small water space and smallness of the fire box is a serious defect found in some rollers.

Care of Rollers.

In order to keep the fuel consumption as low as possible, and reduce risk of burning the boiler or the rollers as well as the boilers of the other engines used, in road making, they should be frequently cleaned. The engineers should be required to wash out their engines at regular intervals, depending on the quality of water used, even if they have to work over this to do so. While it is very important to keep the machinery in good condition when in operation, it is also important to care for it when not in use. A winter's exposure to the weather will cause more deterioration than a season's wear. The machinery should all be thoroughly cleaned after the season's work and stored in an enclosed shed provided by the municipality for that purpose.

Cost Accounting.

One of the requirements of a system of cost keeping is simplicity. Another is that the information obtained shall be arranged in concise and convenient form for future reference. The system should be as simple as possible so that the various foremen working under the direction of the road superintendent or commissioner can supply the information required without too much difficulty. It should include a statement of daily wages, paid on each part of the work as well as the amount of work done for the expense incurred.

The objects of an efficient system of road costs are as follows:

- (1) To enable the superintendent to prepare at any time a detailed statement of the cost of each section of road built and show the cost of each part of the work as grading, crushing, quarrying stone, teaming, rolling and finishing as well as amount of supplies used by each outfit.
- (2) To enable the superintendent to check the cost of quarrying and crushing per cubic yard; the cost of hauling per yard mile, as well as cost of finished road and the cost of coal, oil, dynamite or other material used in road construction.
- (3) To make comparisons between the work of the different foremen, and enable him to stop inefficient or poor work on the part of any of the foremen.

How Good Roads Affect Land Values

(Continued from page 8.)

real areas reduce land values. In residential areas where motors are used, land values are increased by good pavements, provided the area paved does not exceed the area required for residential purposes. Just as soon as the area paved exceeds the area required, land values will decline. Taxes, interest and idle money will force owners to sell at a loss.

A Concrete Case.

In a promising residential area lots were selling at \$28.00 per foot frontage. The street was paved, and immediately the sales were recorded at \$35.00 per foot, an advance of \$7.00 per foot on an expenditure of \$2.15

per foot, while parallel streets just as desirable remained at the old price of \$28.00 per foot.

The more expensive residential areas have their land values increased within limits, but the degree of increase depends on the use of the residents of the street make of it for pleasure purposes, not upon the commercial aspect of delivery of goods.

How it Works Out in the Country. It is in the agricultural areas that the effect of good roads on land values is difficult to specify. After examining a number of specific areas we make a few general statements, that until the annual road report, tax represents 1 per cent. of the land values, good roads touching the property increases on land values, and within a distance where a road, of two miles a tax of 3-4 per cent. of the land value. When the tax goes beyond that limit it tends to lower agricultural land values, unless the property can be converted into residential or "avocational" farming areas, good roads become a burden and will lower land values in a marked degree.

All agricultural lands do not require for their highest development good highways, and there are many instances where the social and intellectual advantages highly desirable in any community can best be secured by showing the road for certain periods. In those areas where mixed farming is followed and where the population reaches one person per twenty acres as in the rural areas of Wentworth, Norfolk, Simcoe, York, Dundas, etc., the increase in land values due to good roads is not difficult to calculate. Agricultural lands acquire a value due to their natural fertility, their suitability for producing certain products, their access to the market, and the possibility of enjoying while earning a living, a healthful, moist and cozy atmosphere, surrounded with those comforts of to-day which are the necessities of to-morrow.

Farm Values Increased.

A concrete case will best illustrate values. A farm of 110 acres sold in 1910, including good farm buildings, for \$90.00 per acre. In 1911 a good road was promoted past the farm and the farm was sold for \$100.00 per acre. In 1914 the road was completed in front of the farm, but not to the market, when it was again sold at \$210.00 per acre. The increase in tax in this case was less than 1-10th of 1 per cent.

Good roads assuredly increase farm land value, and unless the tax becomes a burden never decrease, for, differing from commercial and residential areas, the volume of production of similar commodities creates favorable shipping facilities, thereby improves prices to the producers. Good roads in rural communities are an important link in the line of communication from the producer to the consumer, and since the producer pays the larger proportion of transportation, cheaper transportation must increase producing land values.

Short Course in Drainage

THE Ontario Agricultural College announces a special free short course in farm drainage, from Jan. 9 to Jan. 20, 1917. Any man or boy may enter the course, the only condition being that he report at all the lectures. Machine owners and machine operators are especially invited. Instruction will be given in the care and manipulation of surveying levels; map reading and making; general principles of drainage; depths; grades; distance between drains; the capacity of small tile and other drainage topics. In fact, all phases of the drainage problem will receive attention. Special lectures will also be given in the construction and care of the gasoline engine and in keeping cost accounts for machine owners.

The Good Roads Activities of the Ontario Motor League

(Continued from page 7.)
 carried on with this end in view kept public attention fixed on the need of such a highway and the great boon it would be to the two cities and the intervening district. This campaign was continued until the municipalities interested committed themselves to the building of the road and the Toronto-Hamilton Highway Commission was appointed by the Government to superintend the work.

The Ottawa-Prescott Highway scheme was taken up by the Ottawa Valley Motor Car-Association, which is affiliated with the League, long before the municipalities or any other public bodies were prepared to endorse it, and it is largely due to the enthusiastic campaign carried on by that club that the construction of the road is now assured.

The League publishes a monthly magazine, the Canadian Motorist, which is devoted largely to the advancement of the good roads cause. Through this magazine and other mediums the League is endeavoring to impress upon the public the wisdom of building roads of the best type, roads which will stand up to the increased traffic attracted by improvements.

The Work of Road Improvement.

Some of the automobile clubs in the League engage directly in the work of road improvement. The work done may be simply the mending of a few holes in the road, or the use of split log drags in springtime, but this effort, if well directed, often achieves immediate results which could not be obtained without considerable delay from lethargic county or township organizations. Automobile clubs sometimes spend part of their funds in oiling the roads of their district. One

of the clubs arranged to maintain a five-mile stretch of main highway in good condition by subscriptions among the members and a contribution from the club. While the Toronto-Hamilton highway was in course of construction the motorists of Toronto and Hamilton, through the League, maintained six or seven miles of the detour road in good condition by having it dragged and graded at intervals. Several clubs have organized road improvement bees, the members turning out to clear stretches of road of loose stones which prove injurious to tires.

Many of the activities of automobile clubs have an indirect influence in highway improvement. The practice of all automobile clubs in discouraging speeding on the part of motorists generally may be considered an influence more potent than that of legislation in tending to the same use of the road, not to mention the aspect of public safety. A movement which will keep the speed of motor cars within reasonable limits must be admitted to be of the greatest value in the preservation of road surfaces, for engineers are agreed that the damage to road surfaces from automobile tires increases rather with the square of the speed than in direct ratio.

Road Information Bureaus.

The maintenance of road information bureaus supplied with accurate data regarding temporary road conditions through the advice of members and road scouts, is an important feature of the work of an automobile club. The best use can be made of highways only through the possession by the parties travelling on them of accurate information as to their present condition. The service of the information bureau is supplemented by special maps and road guides, giving descriptions and cyclistometer readings of the main travelled roads. In erect-

ing numerous direction signs and danger signs where required, automobile clubs supply another real need on the part of all who travel the highways. These signs are recognized and protected by law in Ontario. In this regard of making available the actual road resources of the country the automobile clubs perform a valuable public service.

Though much has been accomplished the Ontario Motor League is by no means content with its achievements. Its ambition for good roads is unbounded. A widening membership means an increasing influence, and it must not be forgotten that the Ontario Motor League is the representative body of all the motorists in the province who, owning 50,000 cars in 1916, contributed over \$600,000 to the provincial treasury in motor vehicle registration fees. This year the government will receive at least \$800,000 from the same source, and next year well over a million dollars. The Minister of Highways has declared that the revenue derived from motor vehicle fees is to be used to enable his department to carry on an aggressive policy of road improvement. Ample funds are now in sight for this purpose, and it is but reasonable to expect that when the war is over the government will devote a much larger amount of money to road improvement than the aggregate of motor vehicle fees.

A Transprovincial Highway.

With such an outlook the Ontario Motor League has entered upon a campaign for the construction of a transprovincial highway, stretching from Windsor to Montreal, to serve as the main trunk line of a provincial system of highways, with branches to Niagara Falls, Ottawa, and other important points. The League is pointing out that apart from the more apparent domestic benefits which would

accrue from the building of such a main road, its existence would attract so many United States motorists to Ontario on automobile tours that the revenue from tourist traffic alone would soon pay for the cost of constructing the road. In all the cities and leading towns along the route of the proposed transprovincial highway the Ontario Motor League has affiliated automobile clubs which will cooperate with the parent organization in this campaign, and from the sympathy and public appreciation which the project has so far received there seems little doubt but that the transprovincial highway will become a reality in the not far distant future.

Quebec's Aggressive and Effective Good Roads Policy

(Continued from page 6.)

Act, to provide for the further granting of loans, and especially for the maintenance of the roads already built, or to be built. Heretofore this has been the weak spot in this otherwise splendid policy, as no provision had been made for maintenance. Quebec is not the only community taken with good roads enthusiasm to forget that the making of a road is only the beginning of a good roads system. The maintenance is as important as the making, and Mr. Tessier's amendments propose to rectify this mistake and in future keep the roads up to the standard, thus the new Act gives the Minister more latitude, not only in the building of new roads, but in their maintenance. The experience, so far, of Quebec's good roads policy has been most favorable. It has created a proper appreciation of what good highways mean, and that should keep the movement going at a busyness like pace.

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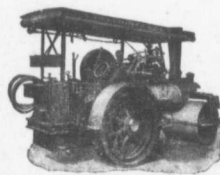


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OUR GUARANTEE

We guarantee that every advertiser in this issue is reliable. We are able to do this because the advertising columns of Farm and Dairy are as carefully edited as the reading columns, and because to protect our readers, we turn away all unscrupulous advertisers. Should any advertiser herein deal dishonestly with you as one of our paid-in-advance subscribers, we will make good the amount of your loss, provided such transaction occurs within one month from date of this issue, that it is reported to us within a week of its occurrence, and that we find the facts to be as stated. It is a condition of this contract that in writing, to advertisers you state: "I saw your advertisement in Farm and Dairy."
Rogues shall not ply their trade at the expense of our subscribers, our good friends, through the medium of these columns; but we shall not attempt to adjust trifling disputes between subscribers and honorable business men who advertise, nor pay the debts of honest bankrupts.

The Rural Publishing Company, Ltd PETERBORO AND TORONTO

"Read not to contradict and to confute, nor to believe and take for granted, but to weigh and consider."—Bacon.

New Commissioner of Agriculture

JUST what is involved in the appointment announced recently by Premier Hearst, of Dr. G. C. Creelman, president of the Guelph Agricultural College, as commissioner of agriculture? Many are asking this question. As we understand the situation the appointment is justifiable and even commendable under existing conditions, whereas did these conditions not exist, it might be open to serious objection. The situation which has necessitated the appointment has developed during the past few years. It affects several departments of the provincial government.

Several years ago the provincial secretary, who has charge of the provincial prisons and insane asylums, from a study of conditions elsewhere, decided that the best form of work for prisoners and the most satisfactory method of treatment for the insane was to give them as much outdoor work as possible. This led to the establishment of modest farms wherever this was practical in connection with these provincial institutions. Gradually these farms have developed until now they cover thousands of acres, and have become an important provincial work. A few years ago it became necessary to appoint an expert agricultural officer to have general oversight of these farms. The question has now arisen as to whether or not these farms should continue to be run under the provincial secretary's department or under the Department of Agriculture.

During the past few years interest in the development of New Ontario has greatly increased. Pressure has been brought to bear upon the department of lands, forests and mines, with the object of encouraging farming in New Ontario, to start various agricultural enterprises, such as creameries and the growing of certain crops. Thus, under this department also, a line of activity has developed which in some respects might better be directed by the Department of Agriculture.

Hitherto it has hardly been practicable for the

minister of agriculture to deal with this situation. Had he attempted to do so the ministers in charge of the other departments might have thought that he was endeavoring to strengthen his department by taking over work which had been developed under their direction. The new arrangement, as announced by Premier Hearst, seems admirably suited to deal with this situation. Premier Hearst, as head of the government, proposes to take over direct supervision of the department of agriculture. He is in a position to effect such changes as may ultimately be found desirable where an ordinary minister could not do so.

Another factor in the situation has been created by the war. The proposal to settle so many as possible of the returned soldiers on the land, has necessitated the consideration of the best means of making such action possible. In view of the fact that the agricultural population of the province has been steadily declining for years, showing that farmers under existing economic conditions are finding it difficult to make ends meet, it is manifestly a difficult proposition. What chance will returned soldiers, many of them lacking in agricultural training, have of making good where thousands of practical farmers have failed? This is one of the problems which the government is attempting to face.

In selecting Dr. Creelman to investigate the situation and suggest remedies, Premier Hearst has probably made the best choice possible under the circumstances. Dr. Creelman's genial personality, his wide experience and proved executive ability, with his general grasp of agricultural conditions in Ontario, and his acknowledged standing in agricultural circles, qualify him for the new duties which have been assigned to him.

Appointment Probably Not Permanent

WHAT will be the status of Dr. Creelman after the problems mentioned have been disposed of, the government itself does not seem to know. The presumption is that he will once more give his full time to the direction of the agricultural college, unless unexpected new problems arise which may require all his attention and necessitate his leaving the college permanently. Ordinarily, we might expect that there would be serious objection to his continuing to act as Commissioner of Agriculture in connection with the department of agriculture. In all branches of the government service, the chief work of each department rests in the hands of the deputy minister of agriculture, who is directly responsible to the minister of agriculture. The deputy minister acts as an executive head over all branches of the department. In every case the deputy minister should be a man whose early training has qualified him for the position, and who is able to command the respect of those under him. Unfortunately, the present deputy minister of agriculture in Ontario has not had the benefit of an agricultural training, and thus he is not able to assume responsibilities and command the confidence of the public to the extent he otherwise might. Possibly this has had something to do with the appointment of Dr. Creelman as Commissioner of Agriculture. However this may be, it does not affect the point that the deputy minister should be the executive head of the department with which he is connected.

One of the chief duties of the deputy minister is to prepare the estimates for the expenditures of the department over which he presides. To do this it is necessary that he shall consult with the heads of the different branches of the department, receive their reports, compare the relative importance of the work they are undertaking, and divide the appropriate sums in accordance therewith. In order that he may do this effectively, it is necessary that he shall be free from

direct connection with any one of these departments. His estimates, as finally prepared are submitted to the minister, who, of course, deals with them as he sees fit, and also consults the heads of the different branches of the departments concerned. As a rule, however, the estimate of an efficient deputy minister, such as the late Dr. C. C. James proved himself to be when he filled that position, are altered but little.

With this statement of conditions in mind, it will be seen that the appointment of Dr. G. C. Creelman as commissioner of agriculture raises some interesting questions. As long as the new commissioner deals only with such problems as those arising out of the necessity for co-ordinating the agricultural work in the different departments of the government or after-the-war problems, there need be little fear of friction in the work of the department. Should he, however, begin to deal with the routine work of the department, friction might quickly develop and it would become necessary for him instantly to resign as president of the agricultural college. Were he not to do so, he would be open to the charge of so adjusting the appropriations as to advance the work of the agricultural college at the expense of other branches of the department. The heads of these branches would not long submit to such a condition. The situation would become a most difficult one also for the deputy minister of agriculture, who would then become little more than a subordinate official.

As a temporary appointment for the accomplishment of the specific purposes mentioned, we believe the selection of Dr. Creelman by the government is to be commended. From the announcement made by Premier Hearst we are justified in concluding that the work mentioned is all that it is intended that the new commissioner shall undertake. The successful performance of the duties indicated may ultimately greatly increase the scope and importance of the work conducted by the department of agriculture. We therefore join, we are sure with many others, in wishing the new commissioner every success in the prosecution of the important duties that have been assigned to him.

The Railway Lobby

THAT the railway lobby is the worst curse of public life in Canada to-day, was the statement made by Sir Adam Beck at a public meeting recently. Sir Adam backed up his statements by referring to what members of the Dominion House of Commons have said on the same subject in his forceful indictment. He said: "I am a member of the Legislature. I have seen these railway lobbies there. Their tactics and methods make a man ashamed to be a member of the Legislature, and I say on the authority of Mr. R. B. Bennett and Mr. W. F. Nickle, members of the Dominion Parliament, that the promotions and lobbies and attempts at influence carried on by the Canadian Northern have been one of the greatest curses which Canadian public life ever experienced. Oh, for some of the spirit and forcefulness of a David Lloyd George! If you remove the influence of railway promoters and lobbyists from our national, provincial and municipal life you will greatly purify and better conditions, and men of the calibre you want to represent you will be more ready and glad to go into public life."

Railway lobbies will continue as long as there are railway promoters to corrupt members of legislatures for the purpose of gaining special privileges and diverting public funds to their own coffers. The nationalization of railways is the remedy. Such a move in Canada would free the members of our legislatures from one of the most sinister influences to which they are subjected.

In Union There is Strength

Western Farmers Coming East

EVIDENCES of the interest being taken by western farmers in the growth of the farmers' movement in Ontario is shown by a letter received by Farm and Dairy from Mr. Roderick MacKenzie, secretary of the Canadian Council of Agriculture, which states that the Council is working on arrangements to send some prominent western farmers to Ontario for a month this winter to discuss subjects affecting the welfare of farmers generally. There is to be no expense connected with this to the eastern clubs who make arrangements for the meetings. It will be necessary to have the meetings arranged in order so as to save expense in having the speakers attend them. Clubs desiring to have one of these speakers should write immediately to Mr. J. J. Morrison, secretary, United Farmers of Ontario, 110 Church St., Toronto.

Mr. MacKenzie states that the farmers' platform adopted at the recent meeting of the Canadian Council of Agriculture, an outline of which was published recently in Farm and Dairy, is proving very attractive to the farmers of western Canada. They are taking hold of it in earnest, and are preparing to back it up energetically.

Another proposal that the Canadian Council of Agriculture has under consideration is the sending of a western business man, who is in sympathy with the farmers' platform and who knows from experience that the success of the business man depends upon the success of the farmers, to address a series of meetings of business men in the towns and villages of Ontario. This speaker will vote special attention to the effect the protective tariff has upon business in the west. Western farmers are convinced that the system of protection that now exists in Canada is telling against their prosperity, and thus affects the prosperity of the country at large. They believe it also affects the prosperity of Ontario farmers. The speaker in question has a full knowledge of the burdens protection places on the public, and will be able to speak from experience.

In addition to these speakers, it is hoped that Mr. Woods, the president of the United Farmers of Alberta, will attend the annual convention of The United Farmers of Ontario during the winter, and deliver one or more addresses. Mr. Woods is a practical farmer who stands high in the farmers' movement in western Canada, and whose addresses, if he is able to attend, will be of the features of the convention. Practical work of this kind will do much to promote the farmers' movement in Ontario.

U.F.O. Organization Work

DURING the past two months, Sec. J. J. Morrison of the United Farmers' Company, has addressed a large number of meetings in both old and new Ontario. Several new clubs were organized during Mr. Morrison's itinerary. On Oct. 30th, a meeting was held at Hereward in Dundas county, with an attendance of 50. A club was organized and at a subsequent meeting held on Nov. 8th, 23 new members were enrolled. Mr. A. Richardson and Mr. A. L. Park respectively. On Nov. 24th, at a meeting held at Millbank, a U.F.O. local was organized with a membership of 23. The new club signalized its faith in the central company and for stock in the central company and by securing 25 buttons. At a meeting held in Milton on Nov. 18, it was decided to hold a special meeting in two weeks to discuss taking stock and

affiliation. Three shares of stock were subscribed for by the Usbridge Club at a meeting held on Nov. 19, and at which Mr. Morrison gave an address. A new club was organized at Eramosa on Nov. 29, and on Dec. 30 at Wellington, a club was organized with 13 members.

On Dec. 6 and 7, meetings were held at Gaulala River and Bar River. Full reports of these meetings appeared in last week's issue of Farm and Dairy under the caption "Two Good Meetings in Altona." Mr. Morrison was very favorably impressed with the prospects of the spread of the movement in New Ontario. The work is being conducted in cooperation with Mr. Smith, the district representative. Bank credit and other matters were arranged at the Bar River meeting. At a meeting held in Whitevale, on Dec. 13, about 50 were present, the speakers being Mr. Morrison and John Scott, of Claremont. At this meeting a club was organized with 34 members and it was arranged to meet every third Tuesday in the month.

U.F.O. Endeavor to Relieve Corn Situation

THOSE who have followed the markets in the daily and weekly press will have noted that for the last two or three weeks no corn was changing hands. "No sellers, owing to embargo"; "Buying of American corn ceased"; "Embargoes on all roads east of Chicago preventing delivery," and similar expressions, together with nominal quotations, indicated that the supply of feed corn, an important consideration with the farmers of Ontario this year, has been temporarily cut off.

Urgently in need of feed corn, the United Farmers of Ontario, which has a membership of between 6,000 and 7,000, the other day complained to Sir Harry Drayton that they are unable to obtain delivery in Ontario at the present time, that as a result there is considerable suffering.

Sir Harry was asked to use his influence with the railways to have the embargo lifted so that 150 cars, worth at least \$150,000, might leave Chicago for Ontario farmers. The traffic managers of the railways were also appealed to to expedite delivery of these orders, which were set for December 1. In addition to the demand for feed corn, the farmers fear they will have to pay increased freight rates after January 1. Indirectly, they say, too, the cost of living is affected by the delay in moving these cars. Dealers in Chicago are ready to ship as soon as the railways will take the business.

More Letters of Thanks

FARM and Dairy continues to receive letters of thanks from the fire sufferers in the Matheson district who have been helped through the generosity of the farmers' clubs in old Ontario who furnished funds or supplies for their families. One of the latest letters received has been from Mr. Thomas Waldron, of Matheson, who in extending his thanks, acknowledges the receipt of much needed food. Mr. Waldron says in part: "Kindly convey our sincere thanks to one and all who have helped us. We are now fairly comfortable and will be able to get work."

Mouldy ensilage should not be fed to any stock. Mouldy ensilage is usually caused by the corn being put up too dry, by being poorly packed or by the silo not being air tight.

Wishing Our Members A Prosperous 1917

We are glad to announce to our members that the car shortage for feed stuffs, especially corn from Chicago, will be relieved shortly. Your manager, Mr. C. W. Gurney, wired Sir Henry Drayton, Chairman of the Dominion Railway Commission, and Hon. Martin Burrell, Minister of Agriculture, pointing out the urgency of the situation. Return replies to-day read as follows:

United Farmers of Ontario, Toronto. Ottawa, Ont., Dec. 29.
"Took up your request at once with Chairman of Railway Commission, and am informed by him this morning that he has got the matter adjusted."
M. BURRELL.

United Farmers of Ontario, Toronto. Ottawa, Ont., Dec. 29.
"Matter of movement of your feed corn gone into with both railroads. Embargoes placed owing to Chicago and other congestion removed by both railroads, so that the traffic will be handled to extent of ability of both lines."
H. L. DILLAYTON.

A telegram from J. E. Duval, of the G.T.R., advises us of the full removal of restrictions on feed for live stock, and we are instructed that 20 cars of corn are starting forward immediately.

CUTTERS, SLEIGHS, ETC.
We cannot emphasize too strongly the splendid line of cutters, sleighs, etc. we have been able to secure for this season. We trust that our patrons will take every advantage of the savings offered on these. Get our list of prices.

Remember that we are in a splendid position to supply you with seed corn and clover seed. Buy early.

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Get All the Cream with a Lily Separator

YOU cannot expect to get all the profit from your cows unless you have a separator that skims clean. Why don't you make up your mind now to buy a Lily cream separator for the Lily skims so close that it leaves hardly a drop of cream in each gallon of skim milk.

Besides saving money, a Lily separator saves a lot of work. It can be kept perfectly clean and sanitary with five minutes' work after each separation. The oiling is automatic. Renew the oil about once a week, fill the chamber to a plainly marked level, then every bearing is oiled by the spray from the spindle drive gear. Nothing could be simpler.

Buy a Lily separator. It skims clean. It is easy to care for. It oils itself. It turns easily. It takes up little room in the dairy. It is a safe, sound, well-made machine, easily kept in hand. It is perfect working condition. A responsible company stands behind it. You can't get a better cream separator.

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EAST—Hamilton, Ont.; London, Ont.; Montreal, Que.; Ottawa, Ont.; Quebec, Que.; St. John, N.B.





STRENGTH of character is unyielding resistance to whatever would disconcert us from without or unsettle us from within.— Charles Dickens.

Winning the Wilderness

(Continued from last week.)

HORSES are very human creatures, responding not only to the moods of their masters, but to the conditions that give these moods. The West was no kinder to the eastern-bred horse than to the eastern-bred man. All day Juno had plumed about the stable and pawed the hard earth floor in sheer nervousness. She leaped out of doors now at Virginia's call, as eager for comfort as a homesick child.

"We'll chase off and meet Asher, darling." Even the soft voice the mare had heard all her days did not entirely soothe her. As Virginia mounted the wind flung shut the stable door with a bang. Juno leaped as from a gunshot, and dashed away up the river to the northwest. Her rider tried in vain to change her course and quiet her spirit. The mare only surged madly forward, as if bent on outrunning the tantalizing, grinding wind. With the sense of freedom, and with the boundlessness of the plains, some old instinct of the unbridled days of by-gone generations woke to life and power in her, and with the bit between her teeth, she swept away in unrestrained speed.

Virginia was a skilled horsewoman, and she had no fear for herself, so she held the reins and kept her place. "I can go wherever you can, you foolish Juno," she cried giving herself up to the exhilarating ride. "We'll stay together to the end of the race, and we will get it out of our systems once for all, and come back 'plains-broke'."

Beyond a westward sweeping curve of the river's course the chase became a climb up a long slope that grew steeper and steeper, cutting off the view of the stream. Here Juno's speed slackened, then dropped into a steady canter, as she listened for a command to turn back.

"We'll go on to the edge of that bluff, lady, now we are here, and see what is across the river," Virginia said. "Then we will hurry home to Asher and prairie hay."

When they came at last over a rough shale outcrop to the highest headland, the river bed lay between its base and a barren waste of sand dunes, with broad grassy regions beyond them spreading southward. The view from the bluff's top was magnificent. Virginia held Juno to the place and looked in wonder at the vast southwest on this strange September afternoon. Across a reach of level land, miles wide, a prairie fire was sweeping in the majesty of mastery. The lurid flames leaped skyward, well roll on surging roll of black smoke-waves, with folds of gray ashes smothering between poured out above the horizon. Beyond the fire was the dark blue storm-cloud, banded across the front by the hail mark of coppery green.

Virginia sat enchanted by the grandeur of the scene. The veil had fallen from her head, and with white face and fascinated eyes, she watched the glowing fury, a graceful rider on a graceful black horse, on the crest of the lone headland outlined against the sky.

Suddenly the terror of it broke upon



The Finishing Touch.

her. She was miles from the cabin with its double fireguard. Asher had said such fires could leap rivers. Between her and safety were many level banks where the sandy stream bed was narrow, and many grassy stretches where there was no water at all.

Distance, storm wind, fire and hail, all seemed ready to close down upon her, making her senses reel. One human being, alone before the wrath of Nature! In all the years that followed, she never forgot that scene. For in that moment a whisper came from somewhere out of the void, "The Eternal God is thy refuge, and underneath are the everlasting arms," and she clasped her hands in a wordless prayer.

The wind that had been cruel all

day grew suddenly kind. A dead calm held the air in a hot stillness. Then with a whip and a whirl, it swung its course about and began to pour cool and strong out of the northwest.

"The wind is changing," Virginia cried, as she felt its chill and saw the flame and smoke tower upward and bend back from the way. "It is blowing the fire to the east, to the south-east. But, will it catch Asher? Oh, you good Wind, blow south! blow south!" she pleaded, as she dashed down the long slope for the homeward race.

When Asher reached his claim, he looked in vain for Virginia's face as he passed the cabin window. He hurried the ponies into the corral, and the wagon under the lean-to beside the stable, half-conscious that something was missing inside. Then he hastened to the cabin, but Virginia was not there.

"She may be in the stable." He half-whispered the words in his anxiety. The ponies in the corral were greedily eating their hay, but the black mare Juno was gone. As Asher turned toward the house, he caught the low roaring of the tempest and felt a rush of cool wind from somewhere. A huge storm-wave of yellow dust was rolling out of the southwest; beyond it the heavens were copper-green, and back of that, midnight

elements can exert. He turned at last from the fire and storm to see Juno and her rider swinging down the northwest prairie, keeping close to the river line before the chill north wind.

"Oh, Virgie, Virgie!" he cried, as she slipped from the saddle and he caught her in his arms. "I've lived a hundred years since I left you this afternoon. What made you run away?"

In the joy of her safe return, he forgot the fire.

"Why, don't you see the wind is from the north? And it is blowing everything south now? I saw it begin to guard really keep off that thing; I saw from the high bluff up yonder?"

"I put it there to do it, and I'd take the chances. Awful as it is, it can't do anything but burn, and there's nothing here to burn. If it hadn't been there, everything would have been gone and you would have come back to a pile of ashes if the wind had left a pile."

"And you put your puny hands to the plow handles and say to that awful fury, 'So far, and no further. This is my home.' You, one little human being, Virgie's eyes were glowing with wonder at the miracle.

"Yes, with my puny hands. Me—a little man," Asher smiled quizzically, as he appraised his broad brown hands before his face and drew himself up to his full six feet of height. "Only I say, 'our home.' But I was so scared about you, I forgot to notice the change in the wind. The fire is chasing to the south, and the hail-storm has veered off down that stream this side of those three headlands over there. The wind gives and the wind takes away. You can't plow a guard around it."

They sat down by the cabin door to watch the storm and flame blown far away in whirls of glaring light and surging cloud, until the rain at last drowned all the fury and washed it over the edge of the south horizon out of the world.

"Sometime we'll plant hedges and forest trees and checker the country with windbreaks until days like this will belong only to an old pioneer's memory," Asher said, as the storm swept wide away.

"Then, I'm glad I came early enough to see this. I'm getting 'plains-broke' along with Juno, isn't it wonderful to be a real pioneer? Back in Virginia we were two centuries of generations away from the first settlers," Virginia exclaimed.

But Asher did not answer. He was thinking of Jim Shirley's declaration: "She's got endurance as well as grace and beauty."

CHAPTER IV. Distress Signals.

Also, we will make promise. So long as the Blood endures, I shall know that your will is mine; ye shall feel that my strength is yours.

—A Song of the English.

Virginia Aydelot soon grew brown as a berry in the tanning prairie winds, and it seemed impossible that this strong young woman of the sod cabin, with her simple dress and her cheeks as soon, could have been the dainty child of the old Southern mansion house.

No other autumn had ever seemed quite so beautiful to the Aydelots as this, their first autumn together. Life was before them with its call to victory. Youth and health, exuberant spirits and love were theirs. Theirs, too, was the great boundless world of mist and rainbows, of rainbow tinted grasses and opal heavens, where two sunsets were ever the same. They could laugh at their poverty, believing in a time when Ease and Plenty (Continued on page 18.)

The Upward Look

The Quiet Hour

WHEN He had sent the multitude away, He went up into a mountain to pray.—Matt. 14: 23.

One of the most vivid pictures we have of our Christ in His going apart into the lonely, retired places to pray. If He needed these hours of communion with His Father; if He needed them for self-realization, then how great must our need be. Will we face this solemn question on the solemn threshold of this New Year? To keep pure and calm and strong, each one must have a daily quiet time for communion with his Heavenly Father and with himself. The power cannot come without the first; the self-knowledge without the second.

But so many will declare that anyone who works as many hours a day as they do could not find time. But with wise planning and a prayerful decision as to what else can be left out, this quiet time can always be saved. In this time must come the Bible reading. How impossible it is to be in close touch with the sources of all power without knowing the living message!

Sir Rabindranath Tagore, the great Indian writer and teacher, has been visiting our land. He is perplexed and heart-sick over the rush and hurry that he sees on all sides. The East has still some lessons to give the West. It says of us: "Their remorseful hurry to do something and get somewhere leaves them no time to think. Meditation is a lost art. Civilization is sacrificing reality for illusion; the spiritual for the material; man for things."

Life is so largely a question of values that one always must decide what is most vitally important. This quiet time will make life sweeter, cares less heavy, character stronger, God nearer. Then how can we do without it?—I. H. N.

A 'Pie and Weight' Social

By R. M. McKee.

WHILE attending the Women's Institute Convention in Toronto this year, I had the pleasure of meeting one of Farm and Dairy's well-known household contributors, Miss Alice A. Ferguson. As the afternoon session on the first day of the convention was very short, Miss Ferguson and I strolled down one of the long corridors in the Technical School and into a reading room, where we spent a pleasant hour together.

Our conversation naturally turned towards Institute work. Miss Ferguson is secretary of the King branch of the Women's Institute, and she is certainly a live wire in that community. Like the majority of institutes at the present time, the King branch is deeply interested along Red Cross and patriotic lines, and the members are doing commendable work. One of their difficulties, as is also the case with many other branches, is in securing necessary funds in order to carry on this work. Miss Ferguson told me of several ways in which they had made money, and one which impressed me as being very original and unique was a "Pie and Weight" social. While this social was not as great a success financially as some other schemes they had tried out, it was very interesting.

To advertise the event, Miss Ferguson printed cards, on which appeared the following interesting information:

Come
To an evening's fun.
Pie and weight, with a debate,
At the home of the reeve, on Friday eve,

November 10, that's when.

Full moon's coming soon.

Fun begins at eight; don't be late.

Each lady brought her box of refreshments, consisting of pie, sandwiches and cake, and also had to bring an envelope containing her name. The gentlemen drew the envelopes in order to select their partners. Two pairs of scales were on hand, and the ladies were weighed. The gentlemen paid one cent for every pound over 100 lbs. that their partners weighed. Miss Ferguson was of the opinion that this did not amount to a large enough sum, and that their social would have been more successful if the gentlemen had been charged 25 cents each as well.

A short program was given, the feature number being a debate on the subject, "Resolved, that the Light Weight Woman that do More Work than the Heavy Weight Woman." As an indication of the talent with which some of the young men in the vicinity of King are endowed, one of the debaters, Mr. James McClelland, prepared his points on the subject in verse. I was delighted to receive a copy of this poem from Miss Ferguson, and here it is:

The woman who's thin, she never sleeps in;
She's up in the morning as bright as a pin.

Her work in all done, and she's reading the news,
Before the fat woman has buttoned her shoes.

The thin woman can go up the stairs on the trot,
While the fat one toils up, all panting and hot.
She has to sit down and recuperate,
While the thin woman's rooms are made tidy and neat.

The woman who's thin can crawl under the bed,
And gather the dust without bumping her head.
While the woman who's fat is sure to get stuck;
She hears the 'phone ring, and curses her luck.

The woman who's thin, whenever she kin,
She hops on a car and to the city goes in;
She picks up a remnant for a very few cents,
And soon makes a dress at little expense.

But alas! her fat sister, how sad is her lot!
The cars make her bilious, the stores make her hot.
She must do her shopping right here in the village,
And the local shop keeps her fortune will pilage.

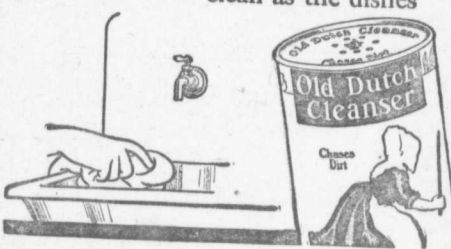
The thin woman can crawl through a hole in the fence,
And so shorten the distance to the store and thence;
While the fat one must go on the public highway,
And meet many neighbors, who cause a delay.

We now have convinced you, I certainly know,
That the woman who's fat is exceedingly slow;
While the woman who's thin is as swift as two plas;
She's half through her work, ere the fat one begins.

A North of Ireland orator in a Scottish county constituency sought to ingratiate himself with his audience at the outset thus:

"Gentlemen, I am an Irishman. I am proud to be an Irishman, but I am not ashamed to admit that I have a drop of Scotch in me!"

And for fully a minute he could not understand what the uproar was about.



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Winning the Wilderness

(Continued from page 16.)

would rule the land where now they must fight for the bare necessities of existence, picturing life not as it was then with its many hardships, but as it would be in a future day when the real world whose last outpost they had left almost fifty miles to the eastward, should move toward them and help to people the prairies.

All the week days were full of duties, but every Sabbath morning found the three settlers of the valley making a prairie sanctuary of the Aydelot cabin. The elder Aydelots had not united with any church, but Asher and Jim, when they were only boys, had been converted at a Methodist revival in Cloverdale. It was an old-fashioned kind of religious leading, but was strong enough to hold the two for all the years that followed. Virginia had been reared an Episcopalian, but the men out-voted her and declared that the home was the Sunflower Inn for six days in the week, but on the seventh it was the “First Methodist Church of the Conference of the Prairies.”

There was no levity in its service, however, and He who dwelleth not in temples made with men's hands blessed with His good benedictions of peace and trust and courage the three who set up their altar in Him in this far-away place.

On Sabbath afternoons they explored the sand dunes and the grassy level up and down the river. Sometimes they rode northward to the main trail in hope of sighting some prairie schooners coming hitherward, but not once that season did the trail hold a human being for them.

October slipped into November with a gradual sharpening of the frosty air. Everything had been made as snug as possible for the winter. The corrals were enlarged for the stock. The houses and stables were hatched against the cold and storms; and fuel and food were carefully stored. But November was almost passed before the end of the bright and sometimes even balmy days.

“We must have Jim up to the Sunflower Inn for Thanksgiving dinner. Might as well invite the whole neighborhood,” Asher said one evening, as he helped Virginia with the supper dishes.

“I'm planning a real dinner, too,” his wife declared, “just like old Mammy Diane used to cook. You couldn't tell it from hers if you'd ever eaten one of her spreads.”

“I suppose it will taste about as near like one of Diane's meals as you will look like the cook that made her meals,” Asher answered.

“Well, I'm getting along that way. Look at my tanned arms now. There's no regular deal here, a perfect freckle at the elbow, and my muscles, Mammy Diane would say, 'is jus' monstrous.’”

Virginia pushed back her sleeve to show the well-marked line where white above met tan below.

“Jim will think anything is better than eating alone out of his own grub box, and your dinner will be a feast,” Asher said, opening the door to carry out the dish water. “What do you think of this?”

A gust of cold rain swished in as the door fell open.

“Our rain is here, at last. Maybe it will bring snow for Thanksgiving, and we could have a touch of New England here,” Virginia said.

(To be continued.)

A tourist was driving along a dusty road in the west of Ireland one hot summer day, and stopped at a small inn for refreshment. On asking the driver if he was dry that worthy replied: “Dhroy—Did yer honor say dhroy? I'm so dhroy that if ye slapped me back ye'd see the dust flyin' out of me mouth!”



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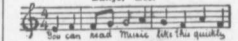
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HOME CLUB

Do We Overstep the Bounds

RECENTLY I read an article in the women's page of a leading daily paper, in which the writer, in describing the loaded table of the farmer, terms it vulgar, and the daintily set, sparsely victualled table as a token of refinement. The writer described the farm table where she was a guest, as being so filled with food there was little room for food.

I stand condemned. I must confess



"Sating the Critter."

Alice A. Ferguson, a frequent contributor to Farm and Dairy, making friends with the young things in the pasture field.

to being vulgar. We do have plenty to eat, and when guests come we try to give them plenty, too, of the best we have. I have been a guest in refined homes when I was almost afraid to eat, lest there should not be enough food for all. I would like the opinion of Home Club members on this subject: "Do we farmers place too much food on our tables, overstepping the bounds of refinement by so doing?"

"So many men, so many minds." So many people, so many different likes and dislikes. In our home there are a diversity of appetites. Mr. Hired Man has more dislikes than likes. Our Mr. Man has his peculiar likings also, while the majority of us like almost all kinds of food and relishes. We want our men to have plenty of good nourishing food, so provide what we know they will like; but we do not restrict ourselves to their limit, but provide the vegetables and relishes which they refuse. We do not place on the table a limit and say "eat it or do without." No; when we have fish, and Mr. Hired Man does not like fish, we provide meat for him. It does fill up the table, but there is plenty of good appetizing food for each, the kind suited to each taste. We men and women on the farm work, and work hard, in the fresh air and in contact with Mother Earth. We need plenty of good food, and we have it.

I notice when refined people come to our home they enjoy the food, too. A man said to me recently, as he sat at our table, "The farm is the place to get lots of good things to eat," and that sentiment has been expressed to me over and over. Guests come, and come, and we want to use them well. What will

they like? They may not like this, so we place something else on, too, and let them choose. Perhaps it is vulgar, but—

We have growing girls and boys, empty to their loes. Do we stint them in their eating? We know how difficult it is to satisfy the appetite in the growing season. So we provide plenty of good blood and body builders and keep a clean bill of health. The left-overs of yesterday must be utilized, but there is not enough of some things, so something more must be prepared, and the variety fills up the table to the point of vulgarity.

A well-to-do farmer and his wife drove 12 miles one Sunday morning to attend special services in the church of their choice. They were invited to dinner by one of the pillars of the church. They had breakfasted early, and were ready for a good satisfying dinner. For first course they were served one potato and a thin slice of roast beef. Bread was passed, but as there was nothing to eat with it, Mrs. Farmer's wife left hers till later. The maid removed the plates, and brought on dessert—musk melon. Probably there was a cup of tea also, but the lady wished she had eaten her bread, for she left that refined table feeling decidedly unsatisfied. The host and hostess were people of sedentary habits, and possibly considered a frugal meal sufficient. Had the tables been turned, however, Mrs. Farmer's wife would have provided a sumptuous past, and been classed vulgar.

Again, do you like the plan of having the staff of life handed to you on the point of death? In other words, the loaf and bread-knife are on the table, and the bread is cut and required, and passed on the bread-knife or on a plate. It has its advantages, I know. It insures against having bread cut and left to dry out, but I feel ashamed to ask for bread, bread. It may be refined, but then—oh, well, I fear I am irreparably vulgar, for I will place plenty of food on our table.



"Visiting at Uncle's."

On the Farm of P. H. Robison, Leeds Co.

It is not rich nor too elegant, but wholesome, well cooked, clean and abundant. If you don't believe me, and you could endure our vulgarity, come and have dinner with us.—"Tirza Ann."

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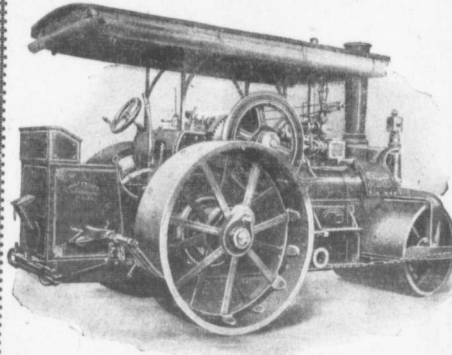
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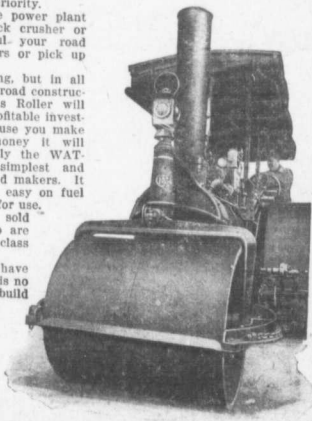
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The Laundry Room

J. L. Shupferd.

To conserve labor and to promote
health is the duty of every house-
wife. During the winter months the
housewives in the rural districts of
Minnesota find that, of all house-
hold tasks, the laundry work is the
most taxing, not only on strength, but
also on health.

The need of a laundry room is ex-
treme at this season of the year. It
is not possible to do the washing with-
out the house booming somewhat
damp from the steam which arises
from the hot water, and in case there
is a cold in the family, they are
almost sure to contract colds on such
washday and thus suffer from such
local congestion during most of the
winter. This should not be regarded
lightly. "Nothing but a cold" is an
expression too commonly heard. A
cold reduces the vigor while nature is
trying to make both growth and daily
repairs, and prevents that perfect de-
velopment which might otherwise take
place during childhood—not to men-
tion those dangerous gatherings in
cars and mastoid bones, so common
to childhood, which are almost in-
variably caused by colds.

But before building and equipping a
laundry room at home, think over
the possibility of a cooperative laun-
dry, whose expenses and benefits may
be shared by the entire neighborhood.
It may not be practicable in all cases.
The admonition is simple to think on
this matter and decide what is best in
your particular case, remembering
that laundry work done in the kitchen
in winter is always a menace to fam-
ily health. Meanwhile, the following
suggestions may help to tide over win-
ter washdays with lessened dangers
and hardships.

When washing is done in a room
not under the same roof with the main
part of the house, the dampness may
be confined to that and the adjoining
rooms, thus keeping the living room
basely free from drafts; but when
work is done in the kitchen the
living room adjoining is usually both
damp and cold, because the little
ones find many excuses for opening
the door to permit them to remain there.

What Efficient Leadership Can Do

A GIRLS' Bible class with over
20 names on the roll and an
average attendance of about
20, some of whom drive in six miles,
is in a small village church evidence
of efficient leadership. Such a class
is found in Solina, Durham Co., Ont.,
and its flourishing condition is the
result of patient work of Miss Lulu
Reynolds, the teacher, assisted by the
loyal support of the girls in whose in-
terests the class is conducted. To
her work, Miss Reynolds brings ex-
ceptional qualifications. In addition
to being a great student of the country
girl and her problems, she has had a
broader experience in Women's In-
stitute work. As an institute lecturer,
she has visited many parts of Ontario,
and her name is familiar to the
many of our women folk. She has
also been prominent in local Institute
circles, first as president of the In-
stitute of her home village, and later as
district president for Durham,
a position which she still holds.

The girls' class, with which Miss
Reynolds values her connection
highly, has been meeting every Sunday
afternoon for Bible study, also meets
the first Thursday in each month for
Bible and social work. At first,
these meetings were confined to new
year, but later the work was enlarged
and now includes the reading of
papers, elocution and music. The ob-
ject is to get every one to take an
active part in the class. "One of
the great benefits of our meetings,"
said Miss Reynolds, in conversation
with an editor of Farm and Dairy re-

cently, "is that it keeps the girls well
up in their composition work. After
they leave school, they frequently
have no practice along this line, and
are apt to forget a great deal of what
they learned at school. By having
papers to prepare and read, they keep
progressing instead of going back."
Such a class in a laundry cannot
spring into existence in a day. It has
been gradually built up from small
beginnings, often in the face of dif-
ficulties, but it is a great deal of what
is unobtainable. To show what a
band of devoted girls can do, it is
only necessary to mention that the
class took the initiative in getting
supplies for the fire sufferers of New
Ontario, which were shipped early in
November. How many of our women
folk are improving the opportunities
that exist in every neighborhood for
doing real constructive work along
the lines that have been followed so
successfully by Miss Reynolds and the
members of her class?

Getting the Most Out of Vegetables

WHEN cooking vegetables it is
quite possible to lose valuable
ingredients through improper
methods. The nutrients liable to be
lost when boiling vegetables are pro-
tein compounds, mineral constituents
and sugars. The Minnesota and Con-
necticut Experiment Stations have
conducted interesting experiments in
connection with this subject. Here
are some of their findings:

The first experiments were made
with potatoes which were boiled
under different conditions, and the
loss determined. When the potatoes
were peeled and soaked for several
hours before boiling, the loss amount-
ed to 82 per cent. of the total nitro-
genous matter and 28 per cent. of the
mineral substance; when the potatoes
were peeled and put into cold water,
which was then brought to the boil-
ing point as soon as possible, the
loss amounted to about 16 per cent. of
the nitrogenous matter or protein,
and 19 per cent. of the mineral mat-
ter; potatoes peeled and placed at
once into boiling water lost only
about eight per cent. of the nitro-
genous matter, although the loss of
mineral matter was about the same
as in the preceding case; when, how-
ever, potatoes were cooked with the
skins on, there was but a trifling loss
of matter, either nitrogenous or
mineral. In the baking of potatoes
there is practically no loss other than
the very little which may escape in
the moisture given off.

To obtain the highest food value,
potatoes should not be peeled. When
peeled, there is least loss by putting
them in cold water and boiling
quickly. Even then the loss is con-
siderable. When potatoes are peeled
and soaked in cold water, the loss is
very great.

It has also been found that consider-
able losses occur in the boiling of
other vegetables, such as carrots,
beets and parsnips. The loss in the
mineral matter is serious, as vege-
tables furnish mineral material from
which teeth and bone are formed.
Vegetables should be boiled in large
pieces and in as small a quantity of
water as possible.

To prevent the serious loss which
occurs when the water in which vege-
tables have been boiled is thrown out,
the water should be boiled down and
used in the making of the sauces
which are to be served with the vege-
tables.

In paying the interest on a mort-
gage by the amortization plan, a part
of the principal must be paid each
time so that when the last interest
payment is made the principal is also
paid. The plan is based on the prin-
ciple that a loan should be so in-
terested as to earn more than the interest.

the girls will work. After frequently line, and of what. By having they keep back. Plans are not day. It has from small of difference of down what a do, it is on that the ear load of year of New ed early in e some oportunities borhood for work along followed so side and the

of Vege-

ables it is use valuable e wrong e liable e beles e pro-constituents and Con- s and Con- s of in-eriments in-erfect. Here

were made e are boiled s, and the potatoes for several os amount- total nitro- ent. of the potatoes to the boll- sible, the 6 per cent. of protein, sistance main- placed at last only the nitro- the loss of t the same when, how- with the trifling loss genous or of potatoes other than escape in

food value, led. When by putting and boiling loss is con- are peeled the loss is

at consider- boiling of s carrots, loss in the s as vege- rials from s formed in large quantity of

loss which which vege- thrown out down, as the sauce the vege-

a mort- an, a per- paid each at interest pal is also the prin- s to invested interest.

HORTICULTURE

Repairing the Orchard

By J. B. Frith, Ontario Co., Ont.

THE season for overhauling the orchard is rapidly approaching, some farmers do not realize the necessity of going carefully over every tree and giving it a certain amount of repairing. Nevertheless, it is all im- portant, and time spent in this way will yield a good profit.

The heavy crops of apples of the previous autumn may have split or cracked some portion of the trunk or a limb may have become partially de- tached from the main body of the tree. An iron rod with large washers on each end placed through the limb and parent trunk may prolong the life of this limb for many years. The rod should be made sufficiently long, so that the future growth will not be in- terfered with. Wounds caused by pruning knife or saw should receive careful attention. It may be that some old wounds have not healed and decay has set in. The decaying wood should be cut out and the space filled with some waterproof substance, as cement.

The storms of winter may have caused damage, large limbs may have been broken off and the bark of the tree injured. All splinters and stubs of limbs should be trimmed with the pruning saw so as the moisture can- not collect on the damaged surface and start decay.

In young orchards and even in fair- ly old plantations there is always a danger of priding from mice or rab- bits. The life of many trees can be saved where this has happened if prompt measures are employed. As an instance of this let me tell of a tree that came under our observation a few years ago. This Talman Sweet tree was about fifteen years old, and had been bearing for some time. It was valued quite highly by its owner, but was almost completely girdled and he expected it was lost. An old orchard- ist was consulted and he instructed the new man to bridge-graft the injured parts and to trim back the top. This was done and the tree continued to live and today is apparently as healthy as ever.

In order that anyone can intelligently repair trees of any description it is important that they understand some- thing of its life and manner of growth. To quote an article that recently came to my notice,

"To many of us, the structure, growth and physiology of a tree are practically unknown. We have a vague notion about trees adding a new ring of wood each year. The new man to bridge-graft the injured tree mainly useful to hold up the leaves, and we talk about the roots taking moisture from the soil and feeding the tree.

"As a matter of fact, the mineral salts and the water that the roots take up are in such crude form that they are of no use whatever to the tree until they have been brought through what is really a desiccative process. This process takes place in the leaves, so the trunk of the tree must act as the circulation medium for the leaves and again for the dried sap to flow back and give nourishment to all the living tree cells, even the roots.

"The crude stream flows upward through an inner circle of the tree trunk, and the digested stream flows downward through an outer circle. It is this life-giving sap, flowing through the outer portion of the trunk, that gives the added layer of new growth to the tree. This vital circle lies just next the bark, and is called the cam-

bium. A cross section of a tree shows this to be softer and more moist than any other part.

"Being thus soft and lying so near the outer surface, it is naturally liable to injury, and the injury of this most vital part means danger to the tree. With these few simple facts in mind, it is easily seen why trees should be protected from the teeth of horses curiously hitched to them, why gus- bers should not be fastened to them, and why all the other brutal abuses of trees should be taken in hand by law if necessary.

"Nature has her own way of healing tree wounds, whether made by man's carelessness or by severe storms. When a limb is broken off the ex- posed bit of cambium receives a gen- erous supply of the sap, and because this sap gives growth it in the spring it forms a fold or lip about the wound which gradually covers and protects it.

"The great danger to a tree is not in losing a limb, but in having a wound made in which water can stand and cause decay, or in which injurious insects can find lodging. Nature heals the wound wisely, but she cannot heal it rapidly enough to eliminate these dangers, and this is where man's skill comes in to hasten the process of healing."

Wintering Cattle Cheaply

OCCASIONALLY there comes a winter when, owing to the scarcity of feed, the average farmer is driven to the end of his resources to get his cattle through. It is a very easy matter to criticize him for sell- ing his stock and to call down anathemas on his head for jeopardiz- ing the live stock industry, but it is not so easy to bring a herd through without sacrificing. It is doubtless true that much stock is sacrificed that

could with a little more resourceful- ness be brought through, to the im- mediate profit of the farmer himself and to the advantage of the live stock industry in the future. Those who have their own interests and the inter- ests of live stock in general at heart, will keep as many of their cattle as can be conveniently wintered, and if any are sacrificed, it will not be the breeding stock. It will, therefore, be possible to bring the herds up to the usual strength within a year or two should we be blessed with favorable seasons.

With all concentrated feed at the present unheard of levels, it may be sound business to rough the vigorous young stock and even the dry cows through the winter on the cheaper feeds, even if in so doing they do not come out in the spring as well fleshed and conditioned as is usually the case after more abundant seasons. To mean that they will be half starved and left exposed to the rigors of the winter in open and draughty sheds and around straw stacks, it means to pull them through so that in the spring they will come out, at least, in good hearty condition. Growing stuff especially should not be allowed to come to a standstill. If they are kept growing a little and in a thrifty and hearty condition, so that even if they do lose a little in flesh, it will im- mediately start gaining upon being re- turned to pasture. Adequate protec- tion, rest and sufficient water and regular feeding of the coarse feeds are the first requisites in roughing the winter successfully. The best combination for cheap win- tering is alfalfa and alfalfa or clover hay. Straw alone is not sufficient. It has not nutriment enough to keep cattle in a thrifty condition. They must have something more. The past season fortunately, was a good one for hay and most, if not all, have a larger supply of this than usual to round out the ration.

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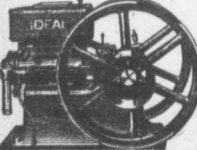
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The Practicability of Cream Grading--What Dairymen Say

More Than Instruction Needed
Geo. F. Agur, Palmerston.

As a former maker and a present producer, I know that a large quantity of cream is produced which is very inferior in quality, and we have made about all the improvement possible by means of instruction. We had a case in our own creamery last winter, to illustrate. A patron was sending a very poor article, and the cream hauler brought a ton of extreme fat to methods used. The maker and myself (as secretary-treasurer) visited the parties, who were under 35, and found the pigs and cows running loose in a large stone basement. In places the manure was so deep you could not walk upright in a nine-foot stable. The separator was in one end of the stable, on a raised platform, but was not partitioned off to keep the pigs away, and one of them stood by with a fork white and other separated. We explained that conditions were not sanitary, and I had parties over to inspect my stables and gave them the government bulletins on care of cream. This did not improve them one bit, so they sent their cream to the city, and told us that they received as much for theirs as we did, and did not have near as much work.

The present system is paying a premium to the careless producer. The difficulties look fairly large now for the adoption of a grading system, but they will be met when the time comes, and will not be half as formidable at close range as they look at a distance.

Cream Not Getting Better

Jas. M. Phillips, Dunville.

I FEEL that something should be done towards grading cream, as I am satisfied that we are not getting any better cream in 1917 than we did in 1908. In fact, some of it is poorer. My opinion is that if we are to grade cream and do it justly, we should have an allotted territory to work on. Just as long as we have wagon routes from three different creameries on the same piece of road, I do not see how grading can be done properly, as you will understand how the patron will pull around, and then we have so many places to ship to as well.

I am strongly in favor of grading, and paying accordingly, but we certainly should have our own ground to work on. I am also strongly in favor of a man to do the testing for as many factories as possible every two weeks. This system of one factory testing with scales, and another by pipette is decidedly wrong and should be stopped at once. I believe in justice to all, but fail to see how it can be accomplished under present conditions. I have tested several samples of cream from patrons sending to other factories, and find them testing as high as eight points more with the scale than they had received by the pipette system.

Must Have a Proper Sample

Fred Dean, Woodstock.

WHEN the cream is delivered by the individual patron in separate cans, or shipped by rail, there will be very little difficulty in giving the proper grade to the cream, but where routes are established all over the districts and incompetent haulers have the responsibility of taking the samples, I have my doubts as to its working out satisfactorily. When it was my lot to inspect the farms where cream was sent to the creameries, I used to get on a cream wagon at five a.m., and ride from 25 to 35 miles a day, visiting during the day

from 30 to 40 patrons. During those visits, especially in some districts, I found the farmers had a habit of always bringing a special sample of cream to the hauler to be taken for the test, telling the hauler that the rest was the same but soured.

A lot of the haulers did not know any better, while others did not want to make any trouble, and did as the patrons wished them to do. This would have affected the cream haulers were not conscientious and watchful, as it was surprising the way that a lot of patrons used to try and get ahead of the creameryman. We know of more than one company and one man who lost everything in a few years, because he did not keep tabs on his haulers, and therefore paid for thousands of pounds of fat that he never received. Unless something along the line of grading is adopted, our good reputation will be a thing of the past.

Creamerymen Must Cooperate

W. H. Forster, Hamilton.

GRADING can only be made practicable by the creamerymen pledging themselves, each to the other, that they will administer the grading system honestly, and not manipulate it to the detriment of the patrons, and that their judgment may be educated as to the proper classification of the various grades of cream as it comes in.

Must Have Butter Grading Too

H. A. Clark, Warwick.

CREAM grading in this province is a very hard thing to do, for in every district here we have six or seven different cream wagon routes going over the same roads, so it makes your patrons, for the patrons that remain, just the least bit baffled, why all he has to do is to let the other factory cream hauler know, and he is right after it. Under these conditions I think it would be very hard to hold your patrons for the price on the received the second grade price and his neighbor first, would be vexed, and he naturally would say that his cream was as good as his neighbor's, and that the factoryman was at fault. Still, I am in favor of cream grading, if every factoryman is made to do what is right in the things that I have already mentioned, and if the butter is graded when it reaches the market. There is a great difference in churning of butter, even if they are all made from first grade cream. If the butter were graded also, we would receive the right price on the start, but if not, we would have to work up a trade of our own, which is slow work, and probably then would not receive a full price. If the butter were graded, the buyer would quote a price for firsts and seconds, and we would get the right price for what we had to sell. I think it would also help makers more careful in grading their cream.

Uses the Individual Can

H. A. McIntosh, Fenelon Falls.

A MAN, to be fit to grade cream, should be competent to make a butter. We have a splendid lot of cream sent to our creamery, and this is accomplished by the individual can. The great trouble for years has been the tank system. The sampling of cream should be done at the creamery, when a creamery is run on the basis of so much a pound for making. There is nothing to be made in reading samples wrong. Our cream is all delivered in individual

cans, and we would not have it otherwise.

Paying by Grade a Forcible Argument

Mack Robertson, Belleville.

WHILE thinking grading is the only forcible way of getting to some people the fact that their cream is not first class. Telling them it is not first class, and paying them as much as their neighbor, who is putting up first class cream, has no effect. Two or three cents less per pound butter fat makes a very forcible argument, and they would listen to it. They may get mad, but a prominent dairy authority says that you have to make a man mad to make him think.

Holds Meetings in New Localities

R. R. Cranston, Southwell.

REGARDING prize butter, you will find the butter shown by Mr. Dvan, my maker, was superior to that shown by the men who won at Toronto. Environment has much to do with the quality, both in the West and Quebec. Would you not expect the factories in the West to get the trade at their own door just as soon as they made more butter than they consumed in their respective provinces? We certainly should give good butter for the price we are getting for it.

The plan I adopt is to hold meetings in all new localities that start sending to my factory, until they understand how to take care of their cream; what per cent. of fat is best, and how to make it. I have taken the best interest of the business. I have taken on a new route this year. When I have my annual meeting this year in the afternoon, I will hold a meeting at night on the same subject, and have the same speaker go there.

Begin by Grading Butter

C. Christensen, Caledonia.

BEGIN with an agitation for the grading of butter. The cream grading would follow as a matter of course, if butter was paid for according to quality. As long as butter of inferior quality brings as high prices as good butter, the adoption of cream grading is useless.

Selecting the Herd Boar

THE saying that "the sire is half the herd" is as true in the hog feeding business as in any other. It is of great importance, therefore, that the boar to be used should be selected early and carefully. It is commonly assumed that the prepotency of each parent is equal and that they each exert about the same influence upon the offspring. This is not in all cases correct, but taking it to be true, the boar would be the sire of each pig in the herd and he would have the chance to stamp upon each his good qualities, whereas there may be two or three sows in use and they can only influence their own offspring.

The keeping of the best as a sire is therefore of great importance. Great care in his selection is necessary. He must have a good form, be a good feeder and an economic producer, all of which he must be present enough to transmit to his brood sows. Usually the best cannot be procured when he is required for immediate service. The early choice is generally the safest one. "Buy now and you get a good axiom. Thus, the young animal can be put in fit condition and become accustomed to new surroundings before the mating season commences.



Things to Remember

THE warm weather we have had until this last week or so has possibly resulted in our neglect of a few details about the buildings. It would be wise, therefore, to go over the different buildings and see that they are made tight and free from draughts. An open crack too near the roosts, may undo all the season's work in raising young stock by starting a cold in the fowl that is nearest the draught. This cold usually develops into roup. Remember a draught is worse than roosting right out doors a storm. A writer in the Canadian Horticulturist, says in part:

"If your poultry house had damp walls last winter; if in cold weather a heavy coat of frost collected on walls and roof, your ventilation was poor. The quarters are too close. The best way to get ventilation without a draught is to take a few light sashes out of the windows and cover the window with plain factory cotton. This allows a free circulation of air, and carries off the dampness. Cold air, if dry, will not harm the fowls. It is in the unventilated house (where the air is damp) that frozen combs, un-healthy fowls, and unproductive hens are found.

"The most important point to be observed when keeping fowls in confinement is to keep them industriously at work. This is the golden rule in managing fowls in large numbers, and is the key to success. Make them scratch for their food.

Feather Eating.

"Feather eating is usually caused by a fowl getting a scratch from which blood gets on the feathers. The other discover this, and in the craving for meat, one of their natural foods, they attempt to eat it and the feather comes out. They quickly find that the root of the feather is soft and meaty, and go back for more, till the habit gets established. It generally is a well (grain) fed fowl that gets its feed where it is quickly picked up, and has nothing to do till next feeding time, that develops this bad habit. When this is first noticed remove the fowl that is being plucked and see that its wound is healed and washed clean before it is put back. Give fresh cut bone, if possible, or meat in some form. Feed in deep litter where the hens must work busily most of the time to get their feed.

"This is a good time to arrange for a good market. Eggs are scarce, and retailers or private consumers will be glad to contract at a good price for a regular supply.

Provide Water.

"Over ninety per cent. of the egg is water, so that water is of great importance to the laying hen. She must have it and if you are particular about the quality of your eggs, give her plenty of good, clean water in clean utensils.

Grading Your Hens.

"It will pay you to study your flock and find out which are the layers. The busy hen that is first off the roost in the morning, and last to get on it at night, can be counted on as doing her share for the egg basket.

"That drone that wants her feed on a trough where it will be no trouble to fill up, and then squats around till next feed, had better be used for next Sunday's dinner, or go to market in the next batch of culls. She is eating her head off. Your house should ac-

commodate only the profitable layers. It is not fair to them to charge up the food of the lazy sifter to them."

Be Clean

THE poultryman who follows the daily cleaning method, is generally the one who looks after the other essentials, considering them equally as important. Cleanliness should be more rigidly enforced in winter than in summer, for the reason that on account of much bad weather, and longer nights, fowls are compelled to spend more time in the houses.

It is a sad commentary on a man's humane ideas to compel a flock of poultry to roost for a week in an odor-laden atmosphere of droppings accumulated during the period. You may strew ashes, road dust, land plaster or what not over the bed of filth each morning, but the odor will grow stronger and stronger. Then when the weekly cleaning takes place it is not necessary to go inside the house to know what is going on; the fact is smellable some distance off. This odor finds its way into every crack and crevice in the house.

The cleaning of the dropping boards is only part of the "be clean" idea. It is oftentimes painful to the ordinary poultryman to step into the up-to-date scratching pen. Some people seem to think that the scratching litter does not need to be changed from fall to spring. When the litter gets damp or musty, dry straw is added and for a few days the fowl enjoy fairly sanitary quarters. Their scratching and turning over of the litter soon contaminates it and the last condition is worse than the first. When we think of the daily droppings of the hens and the dampness from water spilled in the pen, can we conscientiously expect the best results from the flock kept under such conditions?

When it is intended that the cockerels shall be grown for "soft roasters" (four pounds in weight), they should be separated from the pullets before the combs begin to grow a bright red. After that they will begin muzzing the pullets, thus keeping them from properly developing.

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The Makers' Corner

Butter and Cheese Makers are invited to send contributions to this department, to ask questions on matters relating to cheese making, and to suggest subjects for discussion.

Oppose Margarine in N.S.

N. S. Dept. of Agriculture.

A MOVEMENT which is receiving a good deal of support in Canada to-day is that, which aims at to get the Government to remove the restrictions which at present exist in regard to the importing, manufacturing and selling of oleomargarine in Canada. The movement has been prompted largely by the present high price of butter. Those who are behind the movement claim that, if it is consummated, it will result in giving the consumer cheaper butter. From this point of view, it is not altogether the movement, but such is not altogether the case, as will be shown in the latter part of this article. Naturally, dairymen all over Canada are opposed to this movement, which they believe will militate against the splendid development which has taken place in dairying all over Canada, and in no

part more than in the Maritime Province. It is our intention, however, not to deal with the matter from the dairymen's standpoint, but from the standpoint of the consumer.

An Army of Inspectors.

First, oleomargarine, butterine and other so-called imitations of butter are made from a combination of different

The Dairymen's Conventions

The annual convention of the Dairymen's Association of Eastern Ontario will be held at Napanee, on January 4th and 5th. The Standardization of Cream and Butter; The Use of Pepsin; The Dairy Standards Act; Cow Testing Associations; Farm Management and many other subjects of interest to dairymen will be discussed.

The annual meeting of the Dairymen's Association of Western Ontario will be held at Woodstock, on January 10th and 11th. The Effect of the War on the Dairying Industry; Grading Problems; Experiments with Ration Substitutes; The Problems of the Producer; Cow Partnership and many other topics of timely interest will be fully dealt with.

fats, such as lard, tallow, the leaf fats of the intestines of animals, etc., compounded with vegetable fats, which rendered and salted together result in a product somewhat similar in texture and flavor to butter itself. But this mixture, like all imitations, does not come up to the original article. It lacks the pleasing characteristics of the appetizing flavor and the aroma which are peculiar to good butter alone. In the United States, where oleomargarine is manufactured and sold to a large extent, it was found that the sale was reducing the sale and consumption of butter. This, however, was due not so much to the fact that so much oleo was the place of so much butter, but rather to the fact that consumers of butter, knowing that there were imitations on the market, lost pleasure in eating what was set before them for butter and often did without it, fearing lest the seeming genuine article were an imitation. For this and other reasons, legislation was enacted prohibiting the manufacture and sale except under certain restrictions, the manufacturer and seller having to pay stringent regulations. To carry out the provisions of this legislation, an army of inspectors was employed, but despite all the restrictions and the methods taken to enforce them, it is stated that the law is being constantly broken.

Nor has this manufacturing and selling of oleomargarine in the United States given the consumer any substantial relief. For the imitation article is held as close to the price of the genuine butter as it can be sold. However, since the imitation is manufactured from cheap fats, both the manufacturer and the seller realize handsome profits.

From the foregoing considerations, it should not be hard for the people of Canada to get at the real source of the agitation for the removal of these restrictions in regard to oleomargarine.

Coming apparently from the consumer, there is little doubt that the agitation can be traced to the manufacturer who has the greatest interest at stake in the matter.

The Situation in a Nutshell.

To sum up the situation: No permanent relief from the high price of butter would be obtained for oleomargarine would be held at as high a

price as possible. The fact that when eating so-called butter, a person would always be suspicious that it was the imitation and not the genuine article, would take away the zest from eating one of the most healthful and wholesome articles of diet. It may be claimed that legal restrictions would prevent this result, but such has not proven the case in the United States. To enforce the restrictions an additional tax would have to be levied on the people to pay for the necessary inspection.

For all these reasons, we appeal to the consumer just as strongly as to the dairymen to use his influence to prevent the authorities at Ottawa from changing the present law. And from urging both consumer and dairymen to move quickly in letting their objections be known. This can be readily done through such channels as the Standardization, County Farmers' Associations, Women's Institutes, Local Council of Women, and many other organizations whose interests are identified in questions of this kind. The whole question is worth the careful consideration of every consumer as well as every dairymen in Canada.

Margarine a Blow to Dairying

At the annual meeting of the Waterloo County Board of Agriculture a resolution was unanimously passed requesting the Government to allow importation of oleomargarine as substitute for butter into Canada. It was contended by Messrs. J. R. Wood and L. E. Snider that importation of this substitute for butter would strike at the dairying industry of the country.

It was also maintained that the farmers were not to blame for the high price of butter, but the creameries, and that the Government wants to let, and that the price of butter the creameries should be taken over.

How the Margarine Interests Work

THIS manner in which margarine interests endeavor to palm off their product as genuine butter, and the subterfuges they resort to in influencing public opinion, are well brought out in the following extract from an address before the annual meeting of the Wisconsin Butter-makers:

"There are several articles on the market imitating or supposed to take the place of butter, and chief among them is oleomargarine. Oleomargarine manufacturers do not always stop at butter, but often sell it as butter where they have a chance to sell it colored, and in this way defraud the people, who are led to believe that they are buying butter. They also spend a lot of money advertising in magazines and daily papers or other places where the people can see it, and they have clever advertisers and they have plenty of money. When you read in the papers, for instance, that the Women's League in St. Paul opposes the reappointment of the present Dairy and Food Commissioner because he is selling colored oleomargarine, some one had made these women believe that he was trying to stop the sale of oleo, when, as a matter of fact, he was only trying to enforce a law he was under oath to enforce and protect them from being imposed upon by unscrupulous dealers."

The British Columbia Dairymen's Association will hold a milk competition and butter competition at Nanaimo, B.C., on Jan. 25 and 26. Prizes are offered for market milk and cream and approved milk class, while the butter competition includes prizes for solids and prints.

Wayside Cleanings

By W. G. Orvis, Field Representative, Farm and Dairy.

Saving the Short Corn Crop

WHILE on the way to the Whitney Tractor Demonstration, an editor of Farm and Dairy fell in with Mr. Harold Bell, of Peterboro country. The conversation turned to the subject of corn. Mr. Bell has a silo filling out, and, therefore, in a good position to estimate the corn crop last year, and to compare it with that of previous seasons. The previous fall he filled 24 silos with his outfit, while last fall 24 were filled in the same length of time. This, Mr. Bell stated, was a pretty good indication of the relative yields of the two years in the district, though, of course, last year the yield was well above the average. "Some might think," continued Mr. Bell, "that it is when we have a big corn crop that the need of a silo is greatest. Far from this being the case, it is when the crop is short that a silo is most needed. The short, thin stalks of a poor crop waste in the stock and in handling, a good deal more than the large, stout stalks that are produced in a good year. This waste can best be eliminated by using the silo."

A Handy Turnip Rack.

While walking along a country road in Durham county early in November, an editor of Farm and Dairy observed the two men busily engaged in getting in the last few loads of their turnip crop and climbed over the fence and walked across to where they were working. The rack in which they were loading the turnips at once attracted my attention. The sides were close board, but the bottom was composed of slats probably one and one-half inches

square, set an inch or two apart. These sloped hopper like to about mid way between the fore and hind wheels of the wagon. Underneath the rack was a wide spout which could be let down at either side and the bottom of which was also slatted. By the time the load was pitched in and down to the barn, practically every particle of dirt had disappeared from amongst the turnips. Upon reaching the barn, the spout was set down at the side to which it was desired to deliver the roots and with a little assistance, they were soon in the bin below. Mr. Pascoe, on whose farm the rack was seen at work, stated that on a good turnip year, when the roots are large and round, the turnips would roll out and last fall, being small and rooty, more difficulty was experienced in unloading them. A turnip rack of this description not only saves a great deal of labor in harvesting the root crop, but also insures the least possible amount of dirt reaching the root house. Since turnips usually begin to rot when they are accumulated, at the point below which they have been delivered to the cellar, getting them housed in a clean condition as Mr. Pascoe did, may save a considerable amount before spring. This is of small consideration with turnip prices ranging as high as 50 cents a bushel.

Road Drainage.

"The all important thing about building any road, is drainage," quoth an ex-reeve of one of our lake front counties. "Almost any road is good when it is dry. The ungraded prairie road, when dry, is a good road. The old-fashioned high turnpike, that would be considered expensive and unnecessary to-day, provided good drainage, and was usually a passable road," continued our friend. There is some truth in his sayings.

Permanent Roads.

"There is no such thing as a permanent road," said a contractor who made a close study of the problem for years. He supported this statement as follows: "Every road will wear out and need repair; in fact the repairing of the road, or the renewal of the wearing surface is the big end of the whole proposition. It's like the poor, always with us. One of the things to watch in building roads, is to have them made of material that can be repaired."

Concrete Roads.

"The chief objections I have to the concrete road is the expense and trouble repairing them," was the statement of a councillor who visited a concrete highway this summer. He contended that if a break occurred, it necessitated the raising of a road building of a section of the full width of the road and several feet wide. That the frost will heave and crack them is a common belief. Some claim them to be slippery and hard on horses' feet, and on vehicles. Others say they will not wear as long as other roads that cost but little more.

Grading the Concrete.

In support of the concrete road, a noted authority states that the dissatisfaction caused by some roads not wearing, is traceable to the contractor. If a good grade of cement is used, and the gravel properly graded, they are the most permanent road that can be built. The material used is all important. It should be graded so as the smaller particles will fill in the spaces between the larger, making a solid mass, held together by cement. This kind of a roadbed approaches very near to the rock formation, the most durable of all substances. The only wearing that can take place with a road like this is the gradually wearing into dust particles its surface, which will be quite slow.

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Two yearling bulls, sired by a brother to the champion R. O. P. two year old heifer (record 13.13 lbs. milk and 520 lbs. fat), and dam a son of ex-champion R. of P. cow, Primrose of Tangier (record 16.15 lbs. milk and 625 lbs. fat). These bulls are from dams whose milk average a high fat content.

We are also selling a choice bull and 2 heifers, with same top crosses, at Southern Counties Ayrshire Club Sale at Tillamung, December 28th, 1916. All are choice animals, the bull in sale being from same family as the champion H. of P. bull "Scottie," who was bred by us.

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Offer for sale at attractive prices a few choice bred Holsteins. No. 1—A yearling son of a 34 lbs. bull and a 29 lbs. 3 year old prize-winning cow. No. 2—An 8 months son of a 34 lbs. bull and a 45.1 lbs. 2 foundation herd, and will be tested again at next freshening. Write for printed pedigrees. We also have for sale a few females bred to our herd sire, KING SIGIS PONTIAC CANADA.

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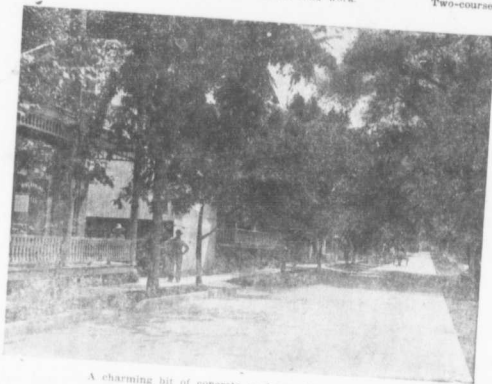
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January 4th 1917.



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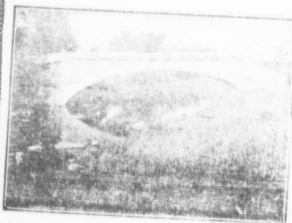
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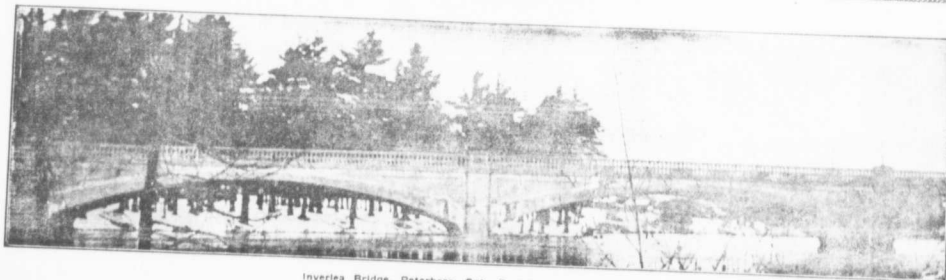
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