

Scientific Agriculture

SEE PAGE EIGHT FOR MARKET REPORTS

FARMING CONDITIONS ACROSS THE LINE

The United States report of agriculture just issued contains some food for thought which Canadian farmers might consider. For instance, the pig clubs, started a comparatively short time ago, promise much towards increasing the meat supply in that country.

Particular emphasis is laid upon the necessity for increasing the number of meat animals. The department, it is stated, has extended its activities in this direction as far as available funds permitted. The attention of the single-crop farmer has been directed to the need of diversification and the introduction of livestock as essential to a sound agricultural economy.

Among the most promising agencies for increasing the meat supply are the pig clubs. These now have a membership of about 9,000 boys and girls, and over 2,000 registered hogs are owned by the members. Poultry clubs also have received much attention, the membership now being approximately 4,000. The report continues:

"Last year the ease with which the meat supply can be increased materially by controlling or eliminating the common livestock diseases was pointed out. The direct losses from them are enormous. It is impossible to give any accurate statement even of direct losses. The indirect losses, which also are great, cannot be estimated at all. It has been conservatively estimated, on the basis of data for thirty years, that the annual direct losses from animal diseases are approximately \$212,000,000."

The potato situation, the report states, continues very serious. There is practically none available for fertilizer use, and present indications are that the supply for this purpose will not be increased materially during the coming year. The various obstacles to the commercial development of the four known domestic sources are pointed out. These sources are: the giant help of the Pacific coast, the alunite deposits mainly in the mountains of Utah, the feldspathic rock of the eastern part of the United States, and the mud of Searles Lake in California.

The outbreak of the war, according to the report, found this country in a peculiarly fortunate agricultural condition, the year 1914 having witnessed an unusually large production of a number of staple crops. In this connection, the reports says, in part:

"The wheat crop of 891,000,000 bushels established the nation's record and was 128,000,000 bushels larger than that of any other year. The corn crop of 2,673,000,000 bushels, while it was only an average one, exceeded that of 1913 by 226,000,000 bushels. The oats crop of 1,141,000,000 bushels was 74,000,000 bushels larger than that of the preceding year and the second in size in the history of the nation. The barley crop of 195,000,000 bushels was nearly 17,000,000 greater than that of 1913 and the second largest on record. The hay crop of 70,071,000 tons was the third in size. The total estimated value of all farm crops and animal products for the year is \$9,873,000,000, an amount greater by \$83,000,000 than the next largest crop value, that of 1913."

ABOUT MANURE

Virgin Loams—Nature keeps up, and is constantly adding to the soil's store of humus by the annual fall and decay of leaves, the death of small plants, etc. These residues, as we may call them, accumulate from year to year in and on the soil, and in the course of time become part and parcel thereof.

Thus we have in outline the making of a rich, fertile, virgin soil. Worn-out Soils—The wearing out of soils—by which is understood the decline of yields through cropping under an irrational method of farming—is due not so much to the abstraction of plant food as to loss of humus or semi-decayed vegetable matter. Humus is the constituent which above all others makes a soil a favorable growing place for crops. This it does by improving the soil's texture of tilth, by increasing its moisture-holding capacity, by maintaining the microscopic life which prepares plant food in available forms, and by storing and gradually liberating nitrogen—the most important of all the elements of plant food. It is humus that imparts the "loamy" quality to a soil, a "rich loam" is the finest type of soil and invariably contains an abundance of decaying organic matter; a poor or harsh soil is one deficient in humus.

Value of Manure—The history of "worn-out" soils usually is that they have been constantly bearing crops—wheat, for instance, oats and potatoes—that left little organic residues and have not received any or very small amounts of manure. These facts explain the exceptional value of manure for restoring these soils, for manure not only supplies plant food but furnishes a large amount of vegetable organic matter, which in the soil becomes humus, improving the soil in the various ways we have indicated and infusing or inoculating it with "life."

Green Manuring—This explanation also holds good for the improvement of soils by the turning under of green crops—green manuring as it is called—buckwheat, rye and, above all, a leguminous crop (clover, alfalfa, peas, etc.). The legumes are the most valuable for this purpose, as in addition to their organic matter they enrich the soil with much nitrogen obtained from the air.

The Compost Heap—Manure is an economical means of utilizing the large amount of vegetable refuse that is to be found in the fall of the year on every farm and garden—potato tops, waste straw and the cleanings of the barnyard, and other root crops, kitchen waste and a hundred other forms of vegetable matter that otherwise would go to waste or be burnt. The compost heap from the manure standpoint ranks very high, and the practice in the fall of clearing up and burning all this material is an exceedingly wasteful one that can only be excused when the refuse is known to contain eggs, sports, seeds, etc., of injurious insects and plants. The farmer's store of manure—always too small for the proper upkeep of his soil in the best condition—finds a supplemental material of great fertilizing value in a well-made compost.

Where and How to Make—The compost heap may be made where convenience dictates and of any size, according to the amount of material available. It may be made the receptacle of all animal and vegetable refuse of the farm, save such cases as where the material might disseminate disease. It can be added to at almost any season of the year and re-

quires but little attention. If a deposit of muck or peat, or of pond or river mud, is on or near the farm, these materials can be largely used to good advantage in the heap. Similarly, old sods, the cleanings of ditches, dead leaves, road scrapings and loam can be utilized to good effect. The general plan, but one which need not be adhered to too closely, is to build up the heap in alternate layers, of say six inches in depth, of vegetable refuse and manure (less manure may serve if the supply is limited), covering the whole with a few inches of good soil or muck when the heap has reached a convenient height, say four or five feet. It is important that the heap should be kept moist in order that the processes of decay may proceed properly, but it should not be so wet as to cause drainage from the heap.

If manure is not available a sprinkling of wood ashes may be made over the layer of muck or other refuse. Unless it is intended for garden purposes, the heap need not be turned. According to the nature of the material used and the season of the year, the compost will be ready for use in a few weeks or several months.

FRANK T. SHUTT,
Dominion Chemist (Asst. Director).

WHO PAYS THE FREIGHT ON WESTERN WHEAT?

The high cost of ocean transportation has raised the question as to who pays this extra cost for freight in carrying Canadian wheat to Britain, the producer in Canada or the consumer in Great Britain. This is a problem that may never be settled to the satisfaction of all parties concerned. It is claimed that if ocean freight rates were reduced it would be the consumer in Britain who would benefit and not the producer in Canada, as is generally believed. But there is more than one way of looking at it. If, for example, ocean freight rates from Canadian ports only were reduced it would benefit the Canadian producer almost to the full extent of the reduction in rates. The consumer in Britain would benefit only to the extent that the Canadian wheat crop would influence the general wheat market. One can quite understand, however, that if cheaper ocean freight rates could be secured on the wheat from all exporting countries to Britain, the consumer in the home land might receive the greatest benefit from the reduction, depending upon the demand for wheat and the world's available supply. But that is something that does not generally concern us just now. What wheat producers in this country have been asking is that something be done by our own government to secure cheaper rates for carrying our wheat across the Atlantic. There is no doubt that if the government could secure this reduction it would advance wheat prices in Canada.

If the argument that the consumer pays the freight holds good, and especially the consumer outside Canada, why agitate for reduced freight rates at all? If the consumer in Britain pays the shot, why not call off the railway commission, and allow our railways engaged in carrying wheat from the Canadian west to the seaboard to charge what they like? So long as the consumer outside of Canada pays for it, why not let Canadian railways get as much out of the traffic as they possibly can? The more the railways get out of the foreign consumer the better it will be for Canada and Canadians generally. The bigger earnings of the railways de-

rived from this source will be spent in Canada and also the earnings of ocean transport companies owned in this country. This is the purely selfish way of looking at the question, if the foreign consumer pays the freight, as is claimed. Then take the case of the manufacturer catering to the home trade. If the buyer of the

considered an insult by the man who has failed. The farmer who attempts to do anything on an extensive scale becomes the object of his neighbor's disapproval and even dislike. In a subconscious way they regard his attempt to do more than they are doing just as they would an attempt to outdo them in dress or in elegance of establishment. To them it is a form of arrogance. They sneer at him, pick him to pieces. He is foolish, presumptuous. They say of him that last word of despite: "He knows it all." He generally finds himself socially outlived.

He is a renegade—this man who dares new things in a discouraged land, breaking the established customs and theories of those about him. To maintain you can raise oats where others declare oats cannot be raised, and for years have successfully proved it by not raising oats, entitles you to general odium. After you have failed

no crops at all.

The one and only hope for such a community lies in the advent of a new comer with sufficient push and go and vim and energy and determination to haul the backsliders out of their rut and set them firmly on their feet. What is needed is more information so much as more inspiration.

CO-OPERATIVE MARKETING OF WOOL IN THE PRAIRIE PROVINCES

Cooperative Wool Selling
An United States exchange says: The cooperative marketing of wool has been tried this year in the three Canadian provinces of Manitoba, Saskatchewan and Alberta. In Manitoba 74,000 pounds of wool was handled by the cooperators under the direction of the Department of Agriculture. A charge of one cent a pound was made for handling, grading and selling. The whole lot, except 504 pounds of tags, was sold at 26.8 cents per pound, netting the growers 507 cents more than under the old system.

In Saskatchewan 306 sheep owners, whose clips ranged from 10,000 pounds down to 12 pounds, cooperated. They handled, graded and sold 148,339 pounds at a cost of \$596. Bulk of the wool brought 25 cents a netted the grower an average of 23.66 cents after paying his freight to the central point, Regina.

The Alberta association handled 85,

FARM BUILDINGS THAT PAY

1. General Purpose Barns.
2. Dairy Barns.
3. Beef Cattle Barns.
4. Horse Barns.
5. Sheep Barns.
6. Piggeries and Smoke Houses.
7. Poultry Houses.
8. Implement Sheds and Granaries.
9. Silos and Root Cellars.
10. Farmhouses.

The above bulletins, prepared by the AGRICULTURAL AUTHORITIES OF THE UNIVERSITY OF SASKATCHEWAN and by the BRITISH COLUMBIA FOREST SERVICE, will help you to decide on the best designs for your Farm Buildings. The bulletins show detailed plans and complete bills of materials for buildings that have all the latest practical improvements, and are specially designed to meet prairie conditions. They will help you to estimate the cost beforehand, order the materials, erect the buildings and make the fullest use of them. They will prove of real value to every prairie farmer.

SERVICE TO WOOD USERS

For copies of any of the above bulletins in which you are interested, write the Chief Forester, Victoria, B.C. For information on any matter connected with the use of lumber or other forest products, address H. Houston, British Columbia Lumber Commissioner, Regina, Saskatchewan; or the Chief Forester, Victoria, B.C.

British Columbia Has a Wood For Every Use

093 pounds which sold at an average price of 26.7c. Cost of handling and grading and selling is not stated in the official report, but the experiment is declared to have been satisfactory to both growers and buyers, the latter getting the wool at a central point without having to travel around and pick up small lots.

THE FARMER AND HIS COUNTRY TOWN

The life of the country town hangs on the surrounding agricultural community. To a marked degree the weal or woe of the one is inseparably connected with that of the other. If the town is slow, the farming community suffers; if the fields fail to produce fully or if there is waste of crops, the town as well as the country loses. The country town is directly interested in crops, especially



Farm buildings on a model Alberta farm. These buildings are painted yearly, and make a neat appearance.

manufactured article pays the freight, why should the manufacturer concern himself whether the railways charge much or little for carrying his goods over their roads? Not long ago there was a conference at Ottawa between the minister of agriculture and the packers of this country for the purpose of securing orders from the British war office for Canadian canned and dressed meats. One of the arguments for action of this kind was the high freight rates, which prevented the packers from doing business in the regular way. Who is paying the freight in this case? Really the question is so involved that in these days of government commissions we ought to have one to find out who pays the freight, the consumer or the producer.

INSPIRATION

In too many sections of the country the success of a successful man is con-

This perfectly delicious story—Prudence and the younger sisters, among them irresistible twins, keep something going all the time. Laugh and tears lie close together in it, and it reads rapidly and interestingly throughout.

PRUDENCE OF THE PARSONAGE
A Novel by Ethel Houston. All Stores \$1.25 net. The Bobbs-Merrill Co., Publishers.

PUT CREAM IN NOSE AND STOP CATARRH

Tells How To Open Clogged Nostrils and End Head-Colds.

You feel fine in a few moments. Your cold in head or catarrh will be gone. Your clogged nostrils will open. The air passages of your head will clear and you can breathe freely. No more dullness, headache, no hawking, snuffling, mucous discharges or dryness; no struggling for breath at night.

Tell your druggist you want a small bottle of Ely's Cream Balm. Apply a little of this fragrant, antiseptic cream in your nostrils, let it penetrate through every air passage of the head; soothe and heal the swollen, inflamed mucous membrane, and relief comes instantly. It is just what every cold and catarrh sufferer needs. Don't stay stuffed-up and miserable.

TIMBER STATEMENT FOR BRITISH COLUMBIA IS ENCOURAGING

Victoria, B.C., Dec. 24.—The timber statement for the month of November issued by the Hon. the Minister of Lands, shows that the total scale of sawlogs for the Province amounted to 47,436,313 ft. B.M. in addition to 291,577 lineal ft. of poles and posts and 3,386 cords of ties, shingle bolts and posts, etc. The sawlogs scaled in the various districts are as follows: Vancouver, 31,319,771 ft., Nelson, 3,572,906 ft., Island, 3,201,743 ft., Vernon, 1,007,903 ft., Kamloops, 790,341 ft., Prince Rupert, 482,763 ft. In the Nelson district 205,092 lin. ft., and in Cranbrook division 85,370 lin. ft. of poles and piles were scaled. Shingle bolts, etc., scaled in the Vancouver district amounted to 7,846 cords. During the month, timber sales recorded cover an estimated total of 6,800,000 ft. sawlogs, and 6,900 ft. of poles and piles—calculated to produce a revenue of \$12,404.

GOOD SEED

When any crop is well adapted to a locality it does not pay to bring in seed from a distance except for introduction of new varieties. This is especially true of our cereals. Northern-grown oats give better results than home-grown seed in the center of the corn belt because this cereal is better adapted to a cool climate. The best possible seed corn can be grown right at home in any part of the corn belt, and failure to have the most productive strains is due to the grower and not to the land. We usually make a mistake in believing that a change from one type of soil to another is desirable, provided the soil used is well adapted to the crop. Many of our successful gardeners develop strains of seed for themselves upon which they place a high valuation and they will not dispose of the seed to anyone else. The possibilities of seed selection lie directly before every producer of corn. Starting with fairly productive variety, if he would

select each fall the type of ear and type of stalk he wanted, he could have within a few years a strain of corn that for his own farm would not be excelled by the best-bred corn in the country.

SWEET CLOVER

A correspondent states that he failed to seed sweet clover this fall and wishes to know whether it can be sown successfully in the spring. Agriculturalists prefer the spring unless the soil is very weedy. Sweet clover is a biennial and when sown in the spring it has two full summers for growth. It is quite hardy and may be sown early in the spring.

FARM WANTED

Wanted, to hear from owner of good farm for sale. State cash price and description. D. F. Bush, Minneapolis, Minn.

Evening Classes

THIS FALL AND WINTER in all practical Commercial Studies, with experienced experts in charge, giving individual instruction, with proper class location of all studies.

SPROTT-SHAW

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Students who have attended the City Night Schools are already supplied with Sprott Shaw Text Books from our Toronto wholesale. All others may be supplied from our Calgary stock. You may study Bookkeeping and Accounts, Shorthand and Typewriting, Civil Service, Law, Elementary English, Penmanship, Mathematics, Telegraphy, etc. Don't fail to enroll soon in Calgary's newest, largest and best-equipped Commercial School, the school that during the past year received 100 per cent. more calls for office help than it could fill. We excel in Touch Typewriting.
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HUNDREDS OF THOUSANDS OF DOLLARS have been lost every year to Owners of Stock in Alberta, much more than is lost by a fire. Why not have your stock insured?

For further particulars apply
GREAT NORTH INSURANCE COMPANY
Oddfellows Block, Calgary.

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HOUSEHOLD SCIENCE. For Full Information and Calendar Apply to REV. GEO. KERBY, B.A., D.D., Principal.

Get Your Farm Home From the Canadian Pacific

Get your new home in the Canadian West with its magnificent soil, good climate, churches, public schools, good markets, unexcelled transportation and the comforts of civilization. Take twenty years to pay. This land is sold only to settlers who will actually occupy it. You will have a home and a business, and terms so attractive because we want farmers and because our success depends on yours. Come where you can get ten acres for every acre you own or farm, where every acre will produce as large crops as the highest-priced landfarming lands anywhere. Mother Earth provides no better land than this rich virgin Canadian soil. Government reports for the past years easily prove this.

We Give You 20 Years to Pay We will sell you rich Canadian land for from \$1.00 per acre to \$3.00 per acre, irrigated land from \$15.00 per acre to \$20.00 per acre. Long before your final payment comes due, your farm will have paid for itself. Many good done with the high prices that will prevail for your farm with one crop. Realize what can be advanced in price proportionately.

We Lend You \$2,000 for Farm Improvements in the irrigation districts, if you are a married man, of farming experience, and have sufficient farming equipment to carry on the work, with no other security than the land itself, and give you 20 years to repay it. This shows our confidence in the land and its ability to create prosperity for you and traffic for our line. This money will provide your buildings, your fences, sink a well, etc.—interest only at 6 per cent.

Advance of Live Stock To settlers in fixed areas who have been one year in occupation of their land, who have the necessary seed and shelter and can satisfy the Superintendent of Agriculture and Animal Industry that they are possessed of practical experience in the care and handling of live-stock, cattle, and in some cases sheep, to a value not exceeding one thousand dollars, may be advanced under easy terms.
Ready-made Farms on 20-year Terms Write for special terms on this plan which are exceptionally liberal.

This Great Offer is Based on Good Land The Canadian Pacific offers you the finest land on earth for grain growing, cattle, sheep, and horse raising; dairying, poultry, vegetables, and general mixed farming—irrigated lands for intensive farming; other lands, with ample rainfall, for mixed and grain farming. REMEMBER THESE LANDS ARE LOCATED ON OR NEAR ESTABLISHED LINES OF RAILWAY, NEAR ESTABLISHED TOWNS. And you are east on irrigated or other land, improved or unimproved.

Highest Grain Prices Ever Known. Realize, therefore, the great opportunity presented to Canadian farmers owing to the great population, which insures highest prices for grain and food products for some years. Take the best year. The present time, with ample rainfall, for mixed and grain farming. REMEMBER THESE LANDS ARE LOCATED ON OR NEAR ESTABLISHED LINES OF RAILWAY, NEAR ESTABLISHED TOWNS. And you are east on irrigated or other land, improved or unimproved.

F. H. CAMERON, General Superintendent of Lands
DEPARTMENT OF NATURAL RESOURCES, C. P. R.
CALGARY, ALBERTA.

For Sale—Town lots in all growing towns, on lines of Canadian Pacific Railway. Ask for information concerning industrial and business openings in these towns.

LIVE HORSES

"His attitude"

HORSE



WEANING THE foal has been fed a little grain in roughage and dam's time will be merely ration. The time vary with conditions, is to allow it five to heavy to light, but if wean the foal before Separation must be satisfactory, and the small lot fenced either poles. The weaning cessful accomplishment through which the least setback in growing time the colt can pounds of oats or pounds of barley mixed plenty of clean alfalfa it will continue grow fast for its dam.

THE HORSE Speaking of horses, Adrian Farm says: "The most serious the horse business, number of rejected mounts being sold. The types are much, adian types to begin is known for a fact, horses are diseased, some form on another they are being unlo. He here for military claimed that if the these horses, and the lein test, that nothing to eradicate, there upon the Canadian duty paid, and do a veterinary inspection have been sold for duty would be. If it would pay the allies to destroy the animals duty. The whole be plicated that it is d the real position of case, the business of "rejects" on Canada jury to the horse to the danger of some, being introduced, to eradicate, there upon this country by types of horses, the place of good of which we have enough to supply the something can be situation like this, not done, the horse



It is and It has I've m' had The the of repay any If yo with all illustra interest CANA

