

Items and Articles of Special Interest to Our Farmers

The Summer Fallow

By JOHN BRACKEN, B.S.A., Professor of Field Husbandry, College of Agriculture, Saskatoon.

Little more than a generation ago, a large proportion of the prairie land of Canada and the United States was spoken of as the "Great American Desert." The rainfall of this "Plains Region" was so small that geographers considered it unsuitable for agricultural pursuits other than ranching. Yet today we are growing crops on this "desert" land.

Within the memory of men now living has grown up the science of "Dry Farming"—the science of making the best possible use of the moisture that falls in dry areas. In some parts of the world 12 feet of water reaches the earth in the form of rain yearly. In Central and Southwestern Saskatchewan we get from 13 to 18 inches per year on the average.

Yet water in large quantities is necessary—absolutely essential to grow large crops. The best "dry farmer" in the world cannot grow crops without rain. But he can grow crops on a limited rainfall if he understands and puts into practice the methods now understood of (1) storing the rainfall in the soil and (2) conserving it there for the use of the crops. This is the first principle of "dry farming." In Saskatchewan we call it "summer-fallowing."

Experiments and Experience—two good teachers—have shown that our low rainfall is not sufficient, at least under our present farming system, to grow good crops every year. So we do the next best thing and proceed to store one year's rainfall in the soil and keep it there for next year's crop, thus in most years ensuring that crop against failure from drought.

But can this be done? In farming practice it is not possible to store and retain in the soil all of the rain that falls in any year; but it is possible to store a large portion of it. In every foot in depth of normal soil from 2 to 3 or more inches of water can be stored and retained, and at the end of an average year the soil after a good fallow is moist to a depth of several feet, while adjoining crop-lands, and on our older fields, but

dry. (This year at the University fallowed land yielded 30 1/4 bushels of wheat; well cultivated fall plowing 16 bushels 53 pounds, while spring breaking failed to produce a crop.)

In addition to water, plants must get plant food—chemical elements—from the soil. These cannot be taken up in solid food as an animal gets its food. They must first be made soluble in water, in which form they can be taken up by the crop. The plant does not eat its food, it drinks it. If the "drink" or "soil soup" is thin a large amount of water has to be taken up to get the necessary nourishment. If, on the other hand, the solution is concentrated or thick, a smaller amount of water will produce satisfactory growth. The "soil soup" is always thicker in fallowed land than on land not fallowed. This, together with the added moisture which has been stored during the summer, explains why the fallow is an insurance against drought.

Successful "dry farmers" have become very expert in the handling of the summer-fallow. Their reasoning is something after this fashion:

"Low yields in dry countries are caused by lack of water; then how can we make up that lack? Irrigation is not feasible with us—all we can do, therefore, is to make the best possible use of the moisture we get in the form of rain and snow—but principally rain, because we cannot store or retain the snow as well. This rain water to be of use to the crop, must be gotten into the land—must be "stored" in the soil.

None of it may be allowed to run away. Unless we are careful some may "run off" after the heavy downpours of early summer. In order to prevent this happening, we shall plow and have the land in a receptive condition so that when the rains come they may go into the soil and not run off the surface where they can do no good to the crop. (This year at the University farm, a fallow plowed June 1st yielded 30 bushels 19 pounds of wheat, while one adjoining, but not plowed July 1st and otherwise similarly treated, yielded only 19 bushels 55 pounds.)

For the fallow we shall plow deep and early on our lighter ped or prairie land is practically

not quite so deep nor so early or our heavy and newer lands and on those fields in the eastern and northern part where the rainfall is greater, lest the crops grow heavy and lodge, or too late and get frosted.

We shall then work the surface of that land so that the moisture will not be lost by evaporating into the air, nor by the growth of weeds or other plants, because it is only in these two ways (except on very light soils where leaching occurs) that the moisture can get out of the land. We shall keep down the loss from evaporation by putting a "mulch" on the land—a loose granular layer of soil that will effectively lessen the amount of water that evaporates. This we shall accomplish principally by using the drag harrows immediately after plowing and as soon as the soil is in condition after rains. The drag harrows we shall use as much as possible because they cover so much ground and at such a low cost. But we shall use the disc or the spring tooth or "duckfoot" cultivator if harrowing causes the soil to drift or if weeds get so well established that the harrows do not kill them.

In the fall when the stubble interferes with the harrows we shall use the disc because we must lessen this evaporation after one crop in order to have the moisture for the next, or even to cause weeds to germinate or to make the plowing of the next fallow easier. (Discing in early spring before the fallow increased the yield of wheat 1 1/2 bushels per acre this year—discing early after harvest last fall would probably have done better still.)

We shall keep down all plant growth on the land because weeds or domestic plants use from 300 to 1,000 pounds of water for every pound of dry matter they produce, and once used, the water is not available for the next year's crop. (A thin pasture crop of oats and clover on last year's fallow decreased the yield this year from 30 bushels 15 pounds of wheat to 18 bushels 55 pounds, a loss of 11 bushels 20 pounds; and a short crop of rape on last year's fallow decreased the yield of wheat from 30 bushels 15 pounds to 22 bushels 15 pounds, a loss of 8 bushels 45 pounds. Pasturing the fallow is a good practice on heavy soils in the more humid parts of the province, but not on "dry lands" in the southwest.)

This land then, in addition to having an increased supply of moisture, and a larger amount of available plant food, will be ready for early seeding in the spring, and we shall have done our part toward producing a good crop. But some one says: "I did that and my crop did not ripen—it got touched with the frost because it was late in maturing." Another: "I don't believe in letting one-third of my land worth \$30 an acre lie idle, it isn't good business." Another one says: "The fallow is wasteful of fertility—nitrogen and organic matter—and should be discontinued."

Another: "Will not grass or hoed crops or rotation of crops accomplish all these things claimed for the fallow?" And another: "I did all these people say and in the spring after the seed was sown, and just as the crop was coming up, the wind rose and the surface soil, because it was so fine, was carried away and the resulting crop was 'patchy,' uneven and unsatisfactory."

And yet another: "I did that and my crop was so heavy and ran that it 'lodged,' was poor in quality as a consequence and cost me double what it should have to harvest it." And still another: "I plowed my fallow early in June and it kept my teams busy all summer cultivating it to keep down the weeds. I prefer to do it later because the weeds don't grow so much and it takes less horse power and time to keep it black—I reduce the cost of following."

(To be continued.)

WISCONSIN INCUBATOR AND BROODER BOTH FOR \$17.50

130 Egg INCUBATOR
30 Chick Brooder

Both for \$17.50 freight and duty paid

Write Us Today—Don't Delay
WISCONSIN INCUBATOR CO. Box 234 RACINE, WISCONSIN, U. S. A.

Saskatchewan Grain Growers' Convention

(Report continued from last week's issue.)

The consideration of the financial statement brought out a very helpful discussion from delegates who asked questions and contributed information. It was explained by Mr. McKinney that when a special organization meeting was to be held the Central office would send literature to the individual farmers in the district if their names were supplied. By this means larger meetings were secured and good organization work resulted.

Mr. Musselman showed that the cost of sending a speaker to each local only once a year would be more than all the money paid in membership fees. Furthermore it was not desirable to send out so many speakers, but rather the strength of the organization lay in the work done in the locals by the individual members.

Mr. Musselman, in reply to questions, explained that the cancellation of orders for binder twine accounted for the large stocks on hand. The association had borrowed \$300,000 from the bank and still owed \$100,000 on the twine. As prices of twine were going down it would be necessary for the 36,000 members of the association to give their business to their own organization. If all the members gave their twine business to the Central there would be no net loss on the twine business this coming season. Mr. Musselman stated that he had a new source of very choice twine for the coming year but he was not at liberty to disclose this source.

Very complete explanation was given to the delegates in regard to the financial statement of both the organization and trading departments.

The report of the executive on the production of twine from flax fibre and which appears on another page of this issue, was read to the convention. In answer to questions, Mr. Musselman stated that fibre could be extracted from frozen flax and that the process followed in the experiments in Saskatchewan was different from that used by a big American corporation, who were reported to have spent \$3,000,000 in vain endeavor to produce a satisfactory twine from flax straw.

James Robinson opened the discussion on the paragraphs in Central board's report dealing with the boosting of oat prices. The paragraph reads:—"Following reports of the short oat crop the early months of the season saw certain elevator concerns at many points entering into strenuous competition for business which took the form of lower grading, the taking of insufficient dockage and paying in some cases prices exceeding those fixed by the board of grain supervisors. Such practices involving the exploitation of those farmers who having a poor crop or no crop at all, were in the market for seed and feed, cannot be too strongly condemned."

In a large section of Alberta and Saskatchewan, said Mr. Robinson, only a small portion of the oats required for seed and feed was grown. Some elevator companies operating at many points had sent out two lists of street prices for oats; those for districts where no oats were for sale being much higher than those sent to where farmers had oats to sell. This has a straight discrimination against farmers in stricken districts. Prices for feed had gone higher than for oats commanded for seed purposes. In order to escape the commanding order, good oats had been mixed with bad to bring them below the seed standard so that they could be sold to the trade. A large quantity of seed oats had been lost on this account. Street prices for feed oats in southern Alberta had gone 18 cents higher than in some other parts. When an order-in-council, commanding feed oats also, had been passed the price fell as much as 20 1/2 cents showing how the market was being manipulated. The Saskatchewan

Growth of Co-operative Sentiment
F. R. Sinnott of Linton supported the resolution and referred eloquently to the growth of co-operative sentiment and business in his district. Mr. Larnoy, of the Goodland's local, referred to trouble he had in getting prompt deliveries of coal from Central and supported the scheme of raising more capital in order that they might improve the service. H. C. Fleming strongly urged all locals to loyally support their Central by sending their orders to it. By this they would be able to become a greater factor in the control of prices. John Evans, of Nutana, also stated that there were locals who were not supporting their central. He supported the scheme for enlarging the associations' trading activities because he thought it would help to build up co-operation in the province.

W. J. Orchard said that if 5,000 of the members would subscribe \$100 each it would supply all the capital requested by the directors. W. Williams Thompson stated that there were 400 co-operative trading businesses in the province, many of which were doing an indifferent business. He said that the Grain

Co-operative Elevator Company had been approached by the trade in an endeavor to get them to make two sets of prices, one for north and another for southern Saskatchewan. But they had refused, and protested against the practice. The company had not sent a bushel of seed oats out of Saskatchewan and had not made a dollar out of oats retailed to shareholders or customers. An important point mentioned was that the average local freight from one side of the province to the other was as high as the average rate from Saskatchewan to Fort William.

Mr. Musselman in dealing with the suggestion that a committee be formed to buy and sell seed oats, recounted the experience of the association some years ago and which indicated that such a scheme was not feasible.

On Wednesday afternoon, the question of raising capital to finance the trading activities of the association was brought up. The outline of a scheme for raising this capital was presented by the Central board. After reviewing the development of the trading department and of co-operative work by locals the outline stated that the board had decided that the time was ripe for a vigorous move forward. It was recommended that sufficient capital be raised immediately to secure a warehouse in Regina and to stock same with a full line of groceries and other commodities. Smaller distributing centres at strategic points were suggested. The plan was to authorize the sale of debenture stock for an amount of \$500,000, in allotments of \$100 each or many multiple.

In all cases where offered, full payment will be taken with the application. Where terms are preferred they will be as follows:—

With application for each \$100 subscribed, \$20 cash and two notes of \$35 each, maturing November 1, 1919 and 1920 respectively, bearing interest at eight per cent per annum.

The security offered would be—The general assets of the association, exclusive of life membership and other trust funds. In case of a winding up of the association, or of the trading department, the holders will have a first claim on the assets of the trading department, after ordinary creditors, or any specially-secured creditors have been paid. Their claim will take priority over the holders of capital debentures such as are held by the incorporated locals. Interest at six per cent, would be a first claim on the profit of the trading department with an undertaking that an additional two per cent, would have to be paid before any distribution of profits on a patronage basis. The proposed scheme bore the endorsement of all the directors.

J. R. Mosiman, of Guernsey, in opening the discussion, stated that at his point they separated the education and business departments. This year they had made \$3,500 profit. It had always appeared in his local, however, that local trading companies should be under Central management. A resolution to this effect was presented by Mr. Mosiman.

Growth of Co-operative Sentiment
F. R. Sinnott of Linton supported the resolution and referred eloquently to the growth of co-operative sentiment and business in his district. Mr. Larnoy, of the Goodland's local, referred to trouble he had in getting prompt deliveries of coal from Central and supported the scheme of raising more capital in order that they might improve the service. H. C. Fleming strongly urged all locals to loyally support their Central by sending their orders to it. By this they would be able to become a greater factor in the control of prices. John Evans, of Nutana, also stated that there were locals who were not supporting their central. He supported the scheme for enlarging the associations' trading activities because he thought it would help to build up co-operation in the province.

W. J. Orchard said that if 5,000 of the members would subscribe \$100 each it would supply all the capital requested by the directors. W. Williams Thompson stated that there were 400 co-operative trading businesses in the province, many of which were doing an indifferent business. He said that the Grain

Growers should carry their co-operative activities on until service, and not profit only, would be the basis of distribution. When asked if he would advocate the elimination of merchants who were giving a good service, said that the work could be carried on and that good merchants would be found willing to go over and take their places in the great co-operative enterprises finding therein a wide field of service.

W. C. Paynter, of Tantallon, reviewed some of his experience in farmers' movements, including the Patrons of Industry and a communistic colony with which he was formerly connected. All his experience had gone to show him that co-operation should be extended to every distributing point, so that there would not be competitors but co-operation, but all business in connection with distribution would be on a co-operative basis.

The following resolution was moved by William Thompson, and seconded by W. J. Benwell, and passed unanimously:—"That this convention endorse the proposed plan for raising money for the trading activities of the association and pledge our hearty support thereto. That when sufficient capital had been raised to establish a satisfactory wholesale department, the Central shall, as soon as convenient, take over the management of locals who request them to do so, the locals to put up the necessary capital."

An outline of the conditions under which the debenture stock by which capital was to be raised should be issued was then read to the convention. This was a carefully-prepared document and is reproduced elsewhere in this issue.

Hon. C. A. Dunning, who was called upon to discuss the proposal, said that he had only had opportunity to give the matter a cursory examination. However, the scheme gave the investor the treatment accorded to holders of preferred shares at the same time not affecting the democratic principles of the association. He believed the scheme would work.

A large number of questions were asked, the most important of these referred to control of the associations' trading activities by purchasers of the debenture stock. It was explained that these activities would still be controlled by the G.G.A. to the convention of which the convention of investors would report. A motion proposed by Hon. Geo. Langley, stipulating that the minimum subscription be reduced from \$100 to \$50 was put

to the convention but was defeated. The scheme was then presented to the convention and approved, after which subscription lists were circulated. Notice was then given of amendments to the constitution made necessary by the plan for raising capital and extending the trading activities of the association. R. M. Johnson, of Eastview, opened the discussion on the revised Farmers' Platform by reading the new and revised sections as approved by the Canadian Council of Agriculture last fall.

It was moved by delegate Meiton that in the clause referring to the senate the word "reform" be changed to "abolish."

Mr. Musselman suggested that changes be made as recommendations to the Canadian Council of Agriculture. It was explained that the Council had in mind an elective senate when the Platform was drafted. The clause was allowed to stand as first drafted.

B. A. Carruthers, of Goodland, referred to an article in an American periodical by a well-known Canadian writer, which held that the Platform really looked to a severance of Empire ties. If this was the case he would refuse to support it in any way. Mr. Maharg replied that nothing was further from the minds of the Council of Agriculture than such a course. There was nothing in the platform to lead to any such conclusion.

John McNaughton, of Horris, proposed an amendment, calling for the total prohibition of the sale and manufacture of liquor in Canada. This was carried by a tremendous majority and without delay.

The amendments passed by the Ontario, Manitoba and Alberta conventions, and which have been fully reported in The Guide, were then read to the convention. A motion was proposed favoring unrestricted reciprocity with the United States which would automatically, according to other clauses of the Platform, accord similar treatment to Great Britain.

Mr. Simson moved for a gradual reduction of the tariff. This motion did not receive a seconder. The suggestion by a delegate that the Platform, as drafted by the Council of Agriculture be approved in bloc, did not meet with a favorable reception from the delegates.

Hon. C. A. Dunning said that the Canadian Council of Agriculture represented the best brains of the farmers. Before, therefore, an amendment to the Platform was finally passed upon, he suggested that a member of the council be asked to tell the convention why the idea embodied in the amendment was not embodied in the Platform.

Mr. Maharg explained that the reason the council did not ask for complete elimination of the tariff between Canada and the United States was because it felt that the demands as made, were more possible of early fulfillment.

(Continued on Page 4.)

Children Cry FOR FLETCHER'S CASTORIA

GET BUSY
Send for our
Spring Catalog
and get full particulars of our
\$5000 Victory Bond Competition
We prepay all shipping charges, and ship your order within 48 hours.

Christie Grant Limited
MAIL ORDER SPECIALISTS
WINNIPEG Dept. L CANADA

HAIL INSURANCE AGENTS WANTED

The LONDON GUARANTEE AND ACCIDENT CO., LTD., of London, England, are desirous of placing agencies for hail insurance for season 1919. Please communicate with BELL & MITCHELL, Ltd., Western Trust Bldg., or the Company's Office, 208 Darke Block, Regina, Sask.

CALL AND EXAMINE THE
CANADIAN FAIRBANKS-MORSE CO., LIMITED
Line of machinery, including the famous WALLIS TRACTOR
at Regina Agency
Cadillac Motor Sales Co., Ltd.
2047 Broad Street, Regina, Sask. Phone 2952 E. T. WILBAND, Manager

Percheron Stallions and Mares
Stallions sold on liberal terms. Mares offered for cash only.
I sell more Stallions to German farms in Western Canada than any person in the business, and am always pleased to have visitors.
Correspondence answered in German.
W. GRAHAM
Ave. G. & 21st St. Saskatoon, Sask.