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AND HOME MAGAZINE.

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Small Fruits in the Yukon.

To the Editor FARMER'S ADVOCATE:

Enclosed you will find an extract of a letter from Wm. Drynan, of Dawson City. Mr. Drynan is a practical farmer and fruit-grower, from Paris, Ont., but is now in the wood business at Dawson City. I thought this very interesting, and well worth sending to you.

JOHN CALDWELL.

They talk of Manitoba not growing fruit. Here I am within a few miles of the arctic circle: this summer we had small fruits in abundance: red and black currants, huckleberries and raspberries growing in the highest state of perfection: several varieties of cranberries grown in profusion. There is a red currant here that excels anything I have ever seen. It is the same shape as the Houghton's Gooseberry, and very nearly as large. I intended to mail you a few of the plants or cuttings last fall, but neglected doing so. In the Teslin country I have seen acres of splendid red raspberries, loaded to the ground, with no one to consume them but Indians and bears. In Dawson and the Yukon flats they grow almost every kind of vegetable, and even as high as (13) Eldorado they had potatoes as large as goose eggs. If this country develops good quartz, as it is likely to, I would feel tempted to go into the business and put in five acres of rhubarb. I think it would grow to perfection, and there would be no limit to the demand. Potatoes never sold less than nine cents per pound all last summer: oats at twelve cents all summer and as high as twenty-five cents per pound in winter.

There is a Government farm at Selkirk. I am sorry I did not go over to see how things were when I came down the river, but I may have an opportunity of doing so again.

Seed Wheat for Alberta Farmers.

In order to improve the quality of wheat grown in Central and Northern Alberta, the Canadian Pacific Railway have arranged to supply farmers with seed of No. 1 Red Fife from Eastern Assiniboia and Manitoba, at a cost of seventy-seven cents per bushel, free of freight, to be paid on delivery. Orders must be in before 1st of April, and seed will be delivered at any of the following points: Edmonton, Leduc, Wetaskiwin, Ponoka, Lacombe, H. D. Galt, Timislat, Olds, Didsbury, Carstairs, Crowsnest, High River, Macleod, Pincher, and ...

The Germinating Power of Damaged Wheat.

The following interesting extracts are from reports of germination tests of damaged wheat made by Prof. J. H. Shepherd, of the North Dakota Experiment Station:

There is much demand for information regarding the germinating power of sprouted wheat. It is impossible to tell by inspection what length the sprouts upon such wheat have been, for the separator and general handling have broken them off in nearly every case. The value of a sprouted kernel for seed depends very largely upon what length the sprout had reached, and upon how quickly and thoroughly the seed has been dried after sprouting.

In the 10th annual report of this Station is the result of a trial with sprouted seeds. Wheat from several fields was taken, in most cases just as it came from the separator, for trial. A small measure of each of seven samples was separated by hand to determine the percentage of sprouted berries. Following is a summary of results:

Sample number.	Percentage of sprouted seed.	No. of seeds in 100 of the original samples which sprouted.
1	7.5	97.5
2	31.0	92
3	40.5	92
4	13.5	90
5	12.1	98.3
6	6.6	93
7	7.9	96.8

In the above samples sprouted and sound kernels from each sample were tried separately, with the following results:

Sample number.	No. of sprouted seeds in 100 which grew.	No. of sound seeds in 100 which grew.
4	84	97
5	86	99
6	68	96
7	73	99
Average	77.5	97.5

It will be seen that sprouting injured grain for seed, although the injury in these cases is not as great as would naturally be expected. The sound seed in this case gave a germination percentage of 87½, while sprouted wheat from the same shocks gave only 77½ per cent., and the sprouts were not so strong as those from the sound seed. Sprouting always weakens seed, and the best results never come from weak seed.

A study of the length which sprouts can reach and leave the seed strong enough to grow followed the above trial. Sound, hand-picked wheat was used in this trial. A number of seeds were placed in the germinator to sprout. When the little sprouts could just be seen, a sample was taken out and dried for 8½ days: the following day a second lot was taken to dry, and so on until a certain number had been started to dry daily for a week. Following are the results:

No. of sample.	Age of sprouts, days.	Length of stem sprouts.	Length of root sprouts.	No. of seeds in 100 which grew.
5	2	Just showing.	—	91
4	2	1 in.	1 in.	81
1	3	3-16 "	1 "	75
2	4	1 "	1 "	75
3	5	1 "	2 "	54
6	6	3-4 "	3 "	61
7	7	3-4 "	4 "	58
8	8	3 "	5 "	45

This trial shows that the length of the sprout has much to do with the value of the sprouted kernels for seed. Sprouting always injures seed by weakening all of it, and by causing a certain number of the weaker ones to fail entirely, and when the sprouts exceed ½ inch in length the value of the sprouted kernels is very small, for the resulting plants lack vigor.

Bin-Burned Wheat.—There is a large quantity of stack-burned and bin-burned wheat in the Northwest this season. Tests show too small a percentage of germination to warrant the use of either for seed, although neither sample tested gave evidence of having been burned to more than a slight degree. In reporting upon extended trials with bin-burned grain, in Bulletin No. 9 of this Station, Prof. H. L. Bolley writes: "Any seeds which have at any time been heated because of moisture when in bulk are very liable to have been injured beyond ability to grow."

Seed Wheat of 1899.—The following, from the 10th annual report of this Station, gives the results of a trial with one-year-old seed wheat:

A trial was made with one-year-old wheat to determine whether it is fit for seed when that old. The different varieties varied in the percentage of germination from 73 to 100 per cent., the average being 90½ per cent. Seven of the varieties showing the lower percentage of germination were given a second trial, this time in sand, and the results differed very little from those obtained in the first trial. The results indicate that most one-year-old wheat which has been kept in a dry place was fit for seed.

The foregoing reports indicate that sprouted and burned wheat may be fit for seed, but they also show that a germination trial is the only way by which their fitness can be proven.

Simple Device for Testing.—Take an ordinary dinner plate, put in it a small quantity of water and a piece of wool or cotton flannel white is best, and wool preferred large enough to cover the plate, or nearly so, when doubled. Between the folds of flannel place the seed, counting the kernels care-

fully and making a note of their number. Then invert a somewhat smaller plate over the first, and keep in a moderately warm atmosphere, both day and night. The seeds can be examined occasionally without injury by taking off upper plate and raising top fold of cloth carefully. Water must be kept in the plate all the time, of course. Germination should take place in three full days, or seventy-two hours. This device may be used for testing other seeds, including the grasses and clovers, and corn.

Manitoba Government to Appoint a Commission on Agricultural Education.

In reply to an inquiry as to the establishment of a school of agriculture, the Premier and Minister of Agriculture Roblin made the following announcement:

It gives me pleasure to answer the question of the hon. gentleman at once. I have not been an idle man during the past two months, and the railway question has occupied most of my time, but this topic of agriculture and what can be done for it has always been before me. Indeed, our railway policy is in a sense a phase, or form, of our agricultural policy. I cannot forget that the commanding interest of this Province is agriculture, and that it is the duty of the Government to do all it can on its behalf. Accordingly, I have been reflecting from time to time on the steps which should be taken to promote the higher agricultural education which every intelligent farmer sees to be required if the Province is to hold its own amid the keen and increasing competition which we have to encounter. This question, too, has been brought under my notice by correspondents, by members of this House, and by deputations. Among these deputations I may mention more particularly one from the Council of the University. Representative members of that body have assured of the readiness of the University to further the interests of agriculture by providing any scientific instruction at its command and by welcoming the establishment of a chair of agriculture. The conclusion to which the Government has come is that now is the time for a full and deliberate survey of the whole question of agricultural education, so that we may know exactly what we need and that there be no waste of resources or of men. I am thinking of what is taught in our schools and of what might be taught if our teachers were themselves taught as they might be, and I am also thinking of the provision which might be made training men and women to be agriculturists, and for carrying to a higher point the education of those who have already a practical knowledge of the main process, but who feel the need of fuller and more thorough instruction. It seems to the Government that what is desirable is to institute an inquiry into what has been done elsewhere to further the interests of agriculture, and to invite suggestion on the whole subject from all parties concerned. On the basis of the information thus acquired our further action and legislation should be based. The Government, therefore, propose to appoint a commission, of the ablest men whom it can induce to serve, in order that this great question may be dealt with in the most thorough and effective manner. I may read, for the information of the House, the terms in which we describe the scope of the commission and the instructions to be given to the commissioners.

The Government resolve to appoint a commission to take into consideration the whole question of agricultural education in the Province, and especially how provision may be best made for the higher technical education, both the theoretical and practical. They instruct the commission:

1. To inquire as far as they deem necessary into existing systems of agricultural education in America and Europe.
2. To invite suggestions on the subject from all individuals and bodies interested; and
3. To make recommendations as to the means by which the teaching of agriculture may be furthered throughout the Province, and particularly the higher teaching of those young men and women who mean to devote themselves to farming, for whom adequate technical instruction and training should be provided.

Iron Roofing.

In February 5th issue of the FARMER'S ADVOCATE, I notice, under Miscellaneous, a question, asking what is the best material for roofing a barn, and you ask any of your readers, who have had any experience in that line, as to durability, price, cost of laying, etc. We have had experience with metal roofing, which is advertised in your paper, known as the "Safe-lock shingle." It costs about the same as the wooden shingles, and can be laid by any ordinary carpenter in less than half the time required for wooden shingles, and they will last a lifetime; but they must be painted after they are on awhile, as the paint that is on them is of very little use. We have had them on our house for a number of years, and they are giving perfect satisfaction, standing some very hard storms, and they are both fire and lightning proof. The roof is prepared the same as for the ordinary shingles, putting the boards close together and laying paper under the shingles for a house, but I don't think paper is needed on a barn.

Oak Lake, Man.

L. J. S.