

## Faults of the Market

EDITOR FARMER'S ADVOCATE:

In reviewing a few of the agreements that have recently been given in favor of a change from the private or company owned abattoir system, I would like to point out that in spite of the lectures farmers have had on "feeding the market" all the year round, not ten per cent. of the farmers practice stall feeding to any extent. We cannot say that ninety per cent. do not understand their own business. If feeding could be done for part of the winter, it would be more popular, but the big dealers keep the price down with their frozen stuff, and the only chance is late in the spring when we are too busy to look after it.

My contention is that we need an up-to-date storage system under independent management. In suggesting that a combination of government ownership and farmer's co-operation might evolve a scheme similar to the plan of handling produce in the western Provinces, that has been quite successful, I have been criticised for giving this as an illustration, since the cases were not analogous. Well, Well, very few illustrations used in an argument are *exactly* analogous, but I contend it was near enough for the purpose for which it was used.

I believe that emissaries of the big cattle dealers are seeking to choke off expressions from representative farmers in favor of the change. The Brandon cattlemen have met, and although resolutions prepared by several competent parties were handed to the committee, the chairman gave no opportunity for taking a vote, while the packinghouse man had all the time he wanted.

Man. J. BOUSFIELD.

## FARM

Letters Upon Farming Operations, Welcomed.

### Topics for Discussion

To afford opportunity for the interchange of ideas, and to provide a place where information may be given and received, we will publish each week at the head of this department a list of topics, which our readers are invited to discuss. Opposite each topic is the date of publication of contributions on it and readers are reminded that articles contributed on any of the subjects given, must be in our hands at least ten days earlier than the subject is scheduled for discussion in our columns.

For the best article received on each topic, we will award a first prize of Three Dollars and for the second best Two Dollars, paying the latter sum for other contributions on the subject received and published in the same issue. Articles should not exceed 500 words in length.

#### ORDER OF SUBJECTS

April 7.—*Explain how to manage ducks profitably, outlining your own methods of rearing and marketing, mentioning the difficulties that have to be contended with in the business, and explaining how these may best be overcome.*

April 14.—*How would you rear and train a Collie dog for use on the farm?*

April 21.—*What method of preparing the land, seeding and after care, have you used with best success in (a) the growing of red clover or alsike, (b) the growing of alfalfa. Prizes are offered for both A and B. What we want is the experience of those who have been successful in the growing of either the ordinary clovers or alfalfa.*

### Remember the Smut Treatment

Although the percentage of grain rejected for smut last year was quite small, considering the amount of poor seed that was sown, it must not be forgotten that it is absolutely necessary to treat seed every year, if the evil effects of smut are to be avoided. Conditions play an active part in the growth of smut. One would naturally have expected that last year, there would have been considerable smut, for the reason that it was not convenient to always sow the best seed, but natural conditions appear not to have been favorable to smut growth, and besides there is the fact that formaldehyde was more largely used than ever before.

Many farmers have remarked since last season, that they thought they had more smut after using formaldehyde than in previous years when they

used blue-stone, but single trials are not conclusive, and the general average points in the other direction.

This year it is to be hoped the percentage of rejections for smut will be further reduced. It is an object that every one should have in mind. Even with the smaller percentage of rejections for smut in last year's crop, the total loss was enormous.

The underlying principle in treating seed to prevent smut, is the same as that which is so carefully observed by modern medical practitioners, and which was so closely followed by the Japanese in their late war, namely, cleanliness, freedom from infection. Grain is treated to kill the spores of smut, so that the disease may not break out. Then it naturally follows that the treatment should be thorough, and the "after treatment careful. It is not enough to simply treat the seed, it should be kept free from further infection. To put treated seed in bins or bags or boxes that may have held smutty grain before, is like washing a plate and setting it away in the ash box. After treating, put the grain into clean bags, or bins that have been washed down with the solution. If the drill has been sitting where smut spores could settle about it, give it a thorough washing out with the solution, using only formaldehyde where there are metal parts. Try to have every surface with which seed comes in contact absolutely free from spores, and so reduce the danger of infection.

### Handling Timothy Sod

EDITOR FARMER'S ADVOCATE:

I have a field that has been seeded down to timothy for three years. It will not produce another paying crop of hay. What would you advise me to do with it? If convenient, please answer through your columns.

Sask.

J. H.

Ans.—There are several ways in which such a field might be treated. If one had stock he might use it for early pasture, then break it and cultivate it as a fallow for next year's wheat, or he might break it early and work it up for a crop of rape or fodder corn for late summer feed for cattle or hogs. Under any circumstances it could hardly be advisable to try to grow a crop of wheat, oats or barley this year, although farther west such crops are grown the first year of breaking.

If early pasture can be used to advantage, we would advise leaving the sod until late in June, then plow it up and work it down to rot the roots and grass. If there is no particular need of early pasture, and green feed in the fall can be used to good advantage, we would suggest breaking up right after wheat seeding, cultivating well, and plowing again early in July and seeding to rape. However, if stock feed is not wanted particularly at any season, break and backset, and prepare for wheat.

### How the Cereal Crops are Improved

EDITOR FARMER'S ADVOCATE:

While not presuming to set our opinions against those of persons having scientific knowledge of such matters, there are some things in your comment on our letter in the issue of February 10th, with which we cannot agree. You say, that while "some crops may be improved by enriching the land, others do not respond to such treatment." Are we to understand that there are crops which will do equally well on any kind or condition of soil on which they may happen to be placed? Again, that "constant self-fertilization" or "inbreeding" tends "constantly to deteriorate qualities, that have been developed by breeding or by exceptional means of cultivation." The tendency of qualities so produced to deteriorate, is admitted, but, can it be shown that self-fertilization, or so-called inbreeding is the cause? If such be the case, why should it operate only on the improved qualities? To say that it applies to all qualities, is to assert that our cereals would long since have degenerated out of existence. Instead of which they have, by means of self-fertilization, arrived at their present high standard of development, and it must be supposed, are still advancing with the aid of such assistance as man can give. Undoubtedly, if the protection of man were withdrawn, our cultivated plants, and our domestic animals as well, would degenerate either out of existence or to the level of their wild kindred. Neither self-fertilization nor cross-fertilization would be the cause. Self-fertilization is the natural means of propagation among

the cereals and cannot properly be called inbreeding.

Your assertion, that, our article refers wholly to the "improvement by giving attention to the seed" is hardly correct, or, if so, only because we have not succeeded in expressing ourselves clearly. Our idea is this: New varieties are formed by cross-fertilization, or the combining of qualities already existing in two or more different varieties. Further improvement must be obtained through stimulation of variations, through the influence of environment, and the selection of those variations, which go further in the required direction. It is stated that "the ultimate improvement by selection may soon be reached," or rather, that by selection, there being no "fresh introduction of new blood into the plant to excite a variation in the direction of an improved character," therefore, "it is impossible to raise the quality of a given variety above its best specimen." This can be true, only of selection without regard to the influence of environment. There are those, who assert that the only advantage of selection is in maintaining the purity of the variety, and that improvement in quality can only be had through cross-breeding. These, it seems to us, are very narrow views of the question. Does not "Mendel's Law of Heredity," show that the unit characters are not disturbed by cross-breeding. Its great advantage, therefore, is in combining the various characters already existing, in separate varieties. The resulting new varieties will contain the average qualities of the parents, and cannot be superior to the best of these. Is this not shown by the fact that, notwithstanding the cross-breeding which has been carried on at the Experimental Farms, no wheat has yet been produced which is equal to the Red Fife? Of course combinations have been produced which are preferable under certain conditions, but in quality none of these are even equal to their best parent Red Fife. That "the average can never be as high as the best" goes without saying. Nevertheless, if there be anything in evolution, the best can always be raised to a higher standard, and therefore the average also.

Now we come to the assertion that "plant breeders have gone a step further than selection" and that "this step is called regeneration." The term "regeneration," in this connection, is a new one to us and, outside of a certain quarter, we have never seen it put forward. While having no desire to detract in the slightest degree the valuable work done in plant improvement, and not doubting that there must be some ground for putting forward the idea, we are yet of the opinion, that a great deal of credit is being taken for so called "regeneration" that does not belong to it. That, in fact, capital is being made of the necessity of introducing fresh blood to cure the evil results of close inbreeding in animals, to push a supposedly analogous process in plant breeding. That the cases are not parallel we have no hesitation in asserting. Cross-fertilization, implying the constant introduction of new blood, is Nature's method of reproduction in the animal world. Close inbreeding, as much as is possible an approach towards self-fertilization, with its lack of fresh blood, is an unnatural process and, therefore gives evil results. Self-fertilization, on the other hand, is the natural means of propagation among cereals. By it they have developed to their present position in the vegetable world and no amount of reasoning can make it the means of their deterioration. Inbreeding in the case of animals, would not be practiced, were it not that its approach towards self-fertilization makes it of value in the improvement of live stock.

That regeneration, or crossing within the strain, has the effect ascribed to it, of "so disturbing the natural course, as to produce plants having extreme characteristics," we do not believe. If, as stated above, crossing of varieties does not disturb the unit characters, with how much greater force will this apply to crossing within the strain? If hybridization does no more than form new combinations of already existing characters, how much can be expected from crossing closely related plants having, naturally, almost identical characteristics? Very little indeed.

Gilbert Plains Mun, Man. Dow Bros.

For the sake of clearness we will endeavor to make ourselves understood, upon each of the points raised by Messrs. Dow, in the order in which they appear above.

"Some crops may be improved by enriching the land, others do not respond to such treatment." Every one will have noticed that when

the wild oat for inst pile, the number and much increased, but in such a place, there grains, than if it we soil, and these chara are made use of in p we do not mean Banner, will do well yielding propensities cannot be materially ing, while other type

"Constant self-fert to deteriorate quality by breeding, or excep The proof that this the positive improv have been cross-fertil their own variety. deterioration will co they will simply det condition determine agencies, just as the

## CLOVER

There are difficult clover growing in thi to be faced in those tinent, from which farming population have been drawn. despite everything t trary, are not the m of this plant. Clov central temperate zo of that region, cond favorable developme or north, from their submit them to conc to more or less, bef luxuriance. But as cultural crop grown a more southerly cl wheat, is known to 60th parallel, north l yet they are grown. continent. Two hu was a plant of the t beyond the Arctic c years since corn beg belt, and spreading states. In another staple crop on this northern limits of reached. Clover, on grow it successfully, extensively and with as it is now grown States, in Ontario other parts of the w crop.

The purpose of tl marize the methods growers of clover i those who are about crop may have some undertaking.

One of the first d cessful clover growir absolute necessity. Why should we g query that confront years ago, went int of North Dakota, to the farmers of that s growing wheat, and forever. Clover wa turned readily into value unless transfe and there was littl business for the aver North Dakota is w farmers were willing too were becoming the inexhaustibility. The "wood" as the was getting out of it the way it used to getting in. Because ing the land by gro the weeds by the s some of them here a clover seed in the result. They soon sod turned over f than they got from t previously followed,