

would do well in certain localities here. For where such fruits as the grape, plum, cherry, raspberry, strawberry, gooseberry, currant, etc., grow abundantly in a wild state, apples of such hardy varieties would stand a fair chance of succeeding. The trouble is to get a few trees for trial. I don't think our Government would have spent \$100 to more advantage for many years, than they would do if they sent a few trees to trustworthy persons in different favorable localities. I believe they would thrive, but unfortunately have not the means at disposal to make the experiment.—R. C. B., Stodderville, Man.

Pea Straw for Horses and Cattle.—I intend sowing about twenty acres of new land with peas. What ration will be the most proper, using the pea straw as bulky food for horses, cattle and sheep? 2. In recommending roots, say which would be best, mangels or turnips, with carrots, for horses.—W. J. T., Manitowaning, Ont.

[1. All depends upon the other foods fed with the peas. Peas are highly concentrated and should be fed with bulky foods. The grain part of the ration should not consist entirely of peas; it would be better for you to sell a portion of your peas and buy oats or bran, if you can get them at reasonable prices. However, if you feed nothing with the pea straw except peas, give six to eight pounds a day to each animal, with about half a bushel of roots, for fattening purposes, or for milk. If the pea straw is poor, on account of being cut late, or being too long exposed to the weather, and if the animal fed weighs over 1,000 lbs., you may feed one or two lbs. more peas. We would advise you to cut some of the peas just after they are in full blossom, if you can get good weather for curing them; this makes good food for horses and sheep—better than the average quality of hay. Except for fattening or milking purposes, animals will thrive on this straw with little or no grain fed with it. Peas and oats sown together and cut green make an excellent food for winter. 2. Mangels contain more sugar than turnips, but turnips have more nitrogenous or flesh-forming substances, so that turnips should be fed with the bulkier foods, and mangels with the more concentrated rations.]

Feeding Working Horses—Manure for Onions.—Would you kindly tell me in your answer correspondence, what is the best grain to feed with cut oat sheaves for working horses, or would bran, shorts, or oil cake meal be better than any of the grains? 2. What kind of artificial manure to use for onions; the land I wish to grow them on is a clay loam, and was highly manured with rich stable manure last year.—C. I. S., Columbus P. O.

[1. Cut oat sheaves are too dry when fed alone. Bran or shorts are excellent additions to the rations. A few carrots or apples may also be added with profit, and a small quantity of oil meal for a change will never be amiss, especially when the bowels require relaxing, but hard feed should not be given with the cut oat sheaves. Don't give the bran or shorts in the form of slops, but mix them with the cut stuff? 2. Read our article on onion culture.]

Turnips for Stock.—Another of our Model Farm lecturers at Woodstock stated that it did not pay to grow turnips; they contained ninety percent of water, etc. The farmer who grows turnips and raises stock, or feeds beef for the English market with the turnips and coarse grains he grows, fills his yards with rich manure, and his pocket with the needful. It is well known by all practical stock breeders that our stock must have a change of food in order to keep them in good health, and to obtain the best production of flesh and milk. Turnips are the English farmer's sheet anchor. Our turnips have averaged 600 bush. per acre; we value them at five cents per bush. for feeding beef; there is no other crop we grow that will average \$30 per acre.—W. C. S., New Hamburg, Ont.

[Turnips, when judiciously fed, are worth three times five cents per bushel, and have a worth beyond their nutritive value. Turnips are the cheapest succulent food which the farmers can raise.]

"New Canadian" Wheat. I send you by parcel post, to-day, ten heads of the so called "New Canadian" wheat. I just saw your answer to my question in *Advocate* that came to hand last night. Would like to have wheat identified, if possible, and would also like to know where I could get a clean seed of it.—W. S., Bay View.

[If any of our readers know anything about the variety of wheat called "New Canadian," they would greatly oblige by informing us.]

Pin Worms.—Could you advise me of a cure for pin worms in horses and the probable cause of them? I have tried hardwood ashes, but it does not seem to kill them.—R. N. F., Kingsbury, Que.

[Apply a solution of quassa chips, and give the animal a laxative.]

Flour for Cows—Snow Water for Stock.—I have a quantity of low grade flour which I wish to feed to my cow. Could you tell me in what shape it would be best to feed it? I don't want to increase the quantity of milk, as she gives more than enough already. I want to keep her in condition. She is a 3-year-old Durham, and, I think, in calf. She is fed on hay. 2.—Will snow water have any injurious effects on a mare in foal? She is not worked, and is fed on hay. She is in good condition. Should the water be given cold or with the chill off?—F. G. A., Humboldt N. W. T.

[Flour, or any fine meal, should never be fed by itself, as it balls in the stomach, nor should it be fed in the form of slops. Mix it thoroughly with bran, coarse meal, or cut hay. In fact all meals should be mixed with cut feed. Don't feed bran if you wish to diminish the flow of milk. 2.—Water from clean snow is much purer than the average water given to stock. The water should neither be cold nor warm.]

Black Muck and Lime Composts—Lime for Vegetable Soils—Draining Muck Land—Reducing Bones.—1. Please inform me through your columns the most profitable way of using salt black muck and lime, whether together or separate. If together, should the lime be slaked before mixing? The muck is not quite as salt as marsh mud. Is lime useful on black soil where there is no clay to mix with it? If so, how should it be applied? 2.—Should black mud land be ditched or left in a wet state where it has a natural chance to drain and is not swampy? It brings fair crops of hay in damp seasons, but poor crops in dry seasons. 3.—What way can bones be turned into fertilizers to the best advantage?—G. W. B., Petticoilae, Westmoreland Co., N. B.

[1.—Black muck may be successfully composted with lime, putting a dressing of slaked lime between the layers of muck and keeping the heap moist. The lime helps to decompose the organic matter. However, this method is only profitable on a small scale for special purposes. Such compost should not be put on vegetable soils. Lime may be spread on land rich in vegetable matter; but such soils do not require muck. Spread the muck on clay or sandy soils, just as you would apply barnyard manure, and plow it under. 2.—All depends upon the character of the subsoil. If the water is removed by natural drainage within 24 to 36 hours after heavy rains, the land does not require draining. 3.—See our issue of March, 1885, page 74.]

Manitoba Wheats—Must Red Fyfe go?—The proposition made some days ago at the meeting of the Manitoba Board of Agriculture to do away with Red Fyfe and substitute therefor some other variety such as White Fyfe, Golden Drop or White Russian, does not meet with general favor. The chief objection to Red Fyfe is that it is not early enough, and therefore it catches the frosts which are inevitable in the Northwest during the first week in September, and, as we have seen for the last three seasons, somewhat earlier. Certainly the attention of Northwest grain raisers is properly bestowed when it is given to a solution of the problem of getting a variety of wheat that will not only mature early, but that will keep up the reputation the Northwest has already achieved for raising *hard* wheat, unexcelled in any other part of the world. So long as the markets of the world continue to be inundated with soft wheat, such as we have seen produced on the Pacific Coast and in more southern latitudes, the Northwest varieties must hold a first place. Another objection raised against Red Fyfe is that it is not as productive as White Fyfe, and under certain conditions the former would not ripen, but it has been clearly shown that such conditions would be unfavorable to the maturity of any variety, and therefore, until a variety is found that is free from these objections, Red Fyfe is the safest and best yet in use. It was shown to the satisfaction of the Board that Golden Drop is much earlier than either varieties of Fyfe, but it was admitted that it was more liable to smut than either. The experiments now in progress amongst a considerable number of Northwest farmers in order to discover a variety of wheat that will exceed any known variety, must, sooner or later, eventuate in a variety that is an improvement in all respects, for if these conditions cannot be reached, the efforts will have been in vain. Some of these experiments are being conducted with much scientific knowledge, while, in the majority of cases, they are but the crude and ill-digested essays of settlers who know little or nothing of the scientific features of experimental farming; but a variety may be stumbled on just as the "Goose" wheat of Dakota was found. A wild goose was shot two or three years ago in the Turtle Mountain District, Dakota, and in its crop was found a few kernels of wheat of a variety which Judge Bennett, of Fargo, declares is something not only new, but the best variety yet. The contents of the goose's little granary were sowed, and from these has sprung a variety of wheat that bids fair to take the lead in northern Dakota and Minnesota. Undoubtedly one of the necessary features that will have to be observed by farmers will have to get up earlier in the morning and take more advantage of this than they do. It is a matter of observation that those who have been

good farmers in Ontario are indifferent farmers in Manitoba and the Northwest. This is in most instances due to the boom craze which was sweeping in its course, "taking in" a great area, and affecting farmer and city dweller alike during its reignancy. Its effects are still lingering, and it will only be when the farmers have "settled down" to real work that these effects will disappear. At best the summer seasons are very short in the Northwest, and as this fact appears to have been lately recognized more expedition is beginning to show itself. How to escape the early frosts is one of the problems, and more expedition is the solution. True, an earlier variety of wheat than both Fyfes or the Golden Drop may be found, possessing the other good qualities of plumpness and hardness, but it is yet an unknown quantity, though it would be assuming too much to say that it is incapable of solution. Some years ago the well known Squaw Corn was introduced into the eastern country from Montana as a variety that would mature in six weeks. It undoubtedly does mature in this short time, but the corn is as hard as flint, so hard, indeed, that a "racer" becomes toothless if he is fed on it. It has not been inexpressively termed "flint" corn from its adamant quality; and there is a legend that in Montana, where it originated, the settlers use it to cut glass and iron. The re-occurrence of early frost may continue to be a marked feature in the climate of the Northwest, though these frosts were unknown prior to '83, and for this adverse climatic change the settler must be prepared. He must take advantage of time more than he has been doing. He must subscribe to agricultural journals and peruse them attentively. He must follow the example of his Dakota neighbor in this respect—he must read more than he does. He will thus combine science and practice, and so be enabled to keep abreast of the times. A very large proportion of the Northwest settlers are untired and inexperienced, so that there is greater need on their part to study the literature of their calling. They are told a great many useful things by wise ones, who, among other things, advise them to go into mixed farming, forgetting that it takes money to act upon the advice. It takes money to purchase stock, and the money—"aye, there's the rub!" but the settler is doing this as fast as he can, in many instances faster than he can afford, for in these days the settler, like other people, is too ready to rush into difficulties by pursuing will-o'-the-wisps. One experiment he may pursue without investing any capital, that is, he may be more spry, get around more rapidly than he does, and by taking advantage of time escape the ill-effects which the regular frosts are sure to bestow on his crops if he continues to be as tardy in the future as he was in the past, and as he still is in the present.—G. B. E., Winnipeg, Man.

Treatment of Clay Land.—I have a piece of heavy clay land on which I wish to grow hay. It is sod ground at present, but does not bring more than half a crop. By plowing and sowing with oats, I can get a good crop of green feed without manure. Which of the commercial fertilizers would you advise me to use in order to get a crop of hay in after years? What quantity per acre, how applied, and probable cost? My land is somewhat late on account of spring land of my neighbor's lying higher than mine. Would it be a good plan to dig an open ditch on the line and another down across my place.—W. G. C., Queen's Co., N. B.

[Fertilizers will produce little or no effect, especially in a wet season, until your land is thoroughly drained. An open ditch would only benefit the land near it; you should tile drain the field. Read our articles on "Farm Drainage." You should only sow shallow rooted crops until the land is drained. By draining you will require few or no fertilizers for several years. For prices of the different constituents of fertilizers see our February issue, page 38.]

Muck—Wood Furnaces—Transplanting Maples.—1. Seeing in a back number of the *Advocate* that there is a difference in black muck with regard to its value as manure, I would like to know, through your valuable paper, where I could get it properly analyzed to see if it is the right sort or not for putting on sand or clay knolls? 2. Where could I get mineral water analyzed? We have a spring of it on our farm, and would like to know what is in it, as the cattle like it and get fat drinking it. 3. What is your opinion with regard to wood furnaces for farm dwellings. 4. Is it better to transplant ash-leaved maples in the spring or fall? We have about 500 one-year-olds.—D. B., Warkworth, Ont.

[1. All mucks are rich in nitrogen, but the percentages vary considerably in the different kinds. You cannot get it analyzed except by paying a heavy charge to some expert analyst; but if our Government did its duty to the farmers, it should do all sorts of analyzing free of charge. Any kind of muck is good for sandy or clayey soils. 2. Write to the Minister of Agriculture, Ottawa, and ask him if he will get it analyzed by the public analyst. It is nonsense to talk about cattle getting fat on mineral water. 3. We think wood furnaces would be rather expensive for heating farm dwellings, except in large dwellings where the whole house is required to be kept constantly heated. 4. There is a dispute about the best time for transplanting trees, some advocating the fall, others the spring. Much depends upon the nature of the season. Transplant when you have the most time, spring or fall.]