

and summer use. Another may find it better, in his case, to bury them, mixed with moist soil, in the earth. By throwing an extra quantity of straw over them in winter and so covering them with straw or chaff, that they will not thaw it till late, he may preserve them almost at pleasure; for so long as the ground in which they are imbedded is kept cold, they will neither grow nor will, nor will they lose any of the fine qualities they had the previous autumn. If the potato hole were on the north side of a building, or if a temporary structure of rough boards were placed over it, to keep off the sun; either of these would be a help. I will only add that if those who have a fine crop of potatoes will devise some way to protect them from the sun, air, and light, from the moment they are dug; and to keep as many of them as are designed for spring and summer use, cool and moist till the day they are to be cooked, "they will find their account in it."—*Prof. J. A. Nash.*

Deep Fall Ploughing of Wheat Stubbles to Extirpate the Midge.

To the Editor of THE CANADA FARMER:

SIR,—IN THE CANADA FARMER of July 1st, we have a sketch of "wheat insects," including the midge, its greatest foe. Among the remedies to destroy the midge, are to carefully destroy the worms that pass in the screenings of the fanning mill, "and deep fall ploughing of wheat stubble." Would not spring ploughing do as well? To adopt the remedy of ploughing the stubble, farmers one and all, should, commencing next spring, quit seeding to clover with wheat, and seed with oats, barley, &c. Seeding with clover on wheat in the spring, is generally adopted in these parts,—and it might require a good deal of agitation to arouse and create a will in every one to quit it. Wheat is our great staple, and the loss the country has sustained is very great. I recommend that all newspapers, farmers' clubs, influential men, &c., make use of their united influence, with the powerful aid of THE CANADA FARMER, in persuading all farmers to try the experiment of deep fall ploughing of wheat stubble, and to carefully destroy the midge worm that passes in the screenings of the fanning mill. The subject ought also to be seen to by our legislature, and county and township councils. In some places in these parts, but little harm has heretofore been done by the midge, but it is on the increase.

We have had light crops, or rather small yields from other causes. A sort of blight seems to affect my wheat, in spots, this season. I never had it so before, and have heard the same opinion from others. Wheat will not be near the yield that has been predicted. F. SMITH.

Charlottesville, Aug. 6, 1865.

Qualities of Hay.

TIMOTHY for muscle; clover for milk; corn for fat. The timothy should be cured in full blossom, or a little later. Clover should be cut when first reddening, before it is fully matured. This is the time, and the only time to cut clover. Then all the nutritive juices are in perfection. Such hay—or grass cured—has a slight laxative tendency—just what is wanted in winter. It will be greedily eaten, even when somewhat touched with mould—and give milk in profusion. This never fails. On the other hand, timothy, instead of secreting milk, will form muscle; hence, the hay for horses; and hence preferred so generally. Straw, when early cut and properly cured—not dried—has somewhat the quality of clover. But oh, how neglectful we are about the curing of straw, when it is one of the finest of employments. There is a fragrance about such straw, and the pale-green tint, which make it a valuable and most pleasant fodder.

Timothy, then, for horses; clover for milk cows; and straw, well cured and cut, for either. It is excellent to mix with meal, or feed carrots and beets with. We would, when thus fed, make but little difference between good barley or even oat straw, when early and properly cured, and timothy for stock, especially cows in milk. For young stock, tender timothy is excellent. We are so reckless in feeding. We feed promiscuously—we feed what we have to feed without taking much pains to get a proper selection, or to prepare it well. For instance, we feed few corn stalks, raised on purpose for fodder, when yet this is one of the cheapest and one of the best hays that can be fed—and in the summer, in a drought, it is of the greatest advantage, fed out green.—*Rural World.*

Shade as a Renovator of the Soil.

We have frequently taken occasion to state the fact, that the rapid deterioration of our soils has been brought about quite as much by the too frequent use of hoed crops as by slovenly culture. Plant a piece of new and fertile land in tobacco, corn or potatoes, for a few years in succession, and it will begin to show evident signs of exhaustion. The abundant quantity of potash and soda and the phosphates, which the land originally contained, will be lessened to a degree that cannot be accounted for by what had been carried away by the crops that have been harvested, for the actual annual amount of loss from this source is comparatively small. The loss, then, must proceed from some other cause; and a very little reflection will satisfy any intelligent person, that the true theory of a rapid exhaustion of a naturally rich soil is the loss, by evaporation, through the exposure of the naked surface of the soil to the ardent rays of our summer sun and facilitation of the process by the constant stirrings with the plough, the shovel, plough and the cultivator, which the proper cultivation of all hoed crops requires. The lightening of the soil; the incessant turning up of fresh earth to the action of the sun's rays; the energetic chemical action within the soil itself, which is thus produced, and which renders soluble the potash, the soda and the phosphates it contains—these are primary causes that lead to its impoverishment, and which the loss of organic and inorganic constituents, by cropping the land, has but a very small share in producing. Let us illustrate our meaning by an example drawn from history. The vast desert region that stretches from Cairo to the Red Sea was, ages ago, the seat of an enormous population, and of cities whose extent was of almost fabulous proportions. It was, at that remote period of the world's history, celebrated for its fertility. Its groves, its gardens, its meadows, its arable lands, were spread out into the interior for many hundreds of miles. It is now a sandy, barren, waterless desert, evincing no signs of fertility, except along the narrow strip of land which follows the course of the Nile, and which is nourished by the annual overflow of that stream. What caused this change? What but the stripping the land of its groves—the constant cultivation of the land under a burning sun, and the drying up of the springs and fountains by which the soil was moistened and fertilized. Here, with us, we suffer from similar causes, although, perhaps, in a less degree. As our forests are felled, the streams they once sheltered and nourished diminish in value—the springs run dry and the soil gradually becomes more arid and less fertile. As if to aid this process of degeneration to the best of our ability, we cultivate our lands to an enormous extent in hoed crops, and thus by evaporation and by washing rains perfect the work of destruction. Is there no remedy for this? Undoubtedly there is, and quite an easy one, if we would but adopt it. We cannot well prevent the destruction of our forests and the consequent diminution in the volume of our streams; although many earnest voices have already been raised in depreciation of this act of vandalism, and in explanation of its injurious results. But, if we cannot stay the woodman's axe, we can, at least, so modify our system of farming as to preserve our arable lands from exhaustion. It can be done in this wise. Everybody knows that the poorest lands recover, at least a portion of their original fertility, if when they are turned out to commons, they grow up again to pines and bushes and black jack. The fallen leaves and pine needles and the shelter from the sun's rays effect this change after the lapse of a few years. The same result may be more quickly accomplished on our arable lands that are still in tolerable condition, by avoiding hoed crops as much as possible, and by seeding them down more frequently to grass and clover. It is shade and rest they require—shade which is itself a fertilizer, and rest which enables the soil to recuperate by its chemical action that is always going on within it. Shade and moisture are thus given to it; the land is kept cool even in the heat of summer: evaporation and waste are thus avoided, and by the occasional turning in of the sod thus formed, or of a clover crop as it advances toward maturity—the plant food that the cereals require is restored to it, and by a recurrence to the same system of management, with the simple addition of manures drawn from the barnyard or collected in the form of composts from the resources of the land, can be kept in good heart from generation to generation.—*Maryland Farmer*

Not a Bad Idea.—An agricultural show has just been held in Algeria. The prize list was pretty wide in its scope, as it extended to the best dunghill. Pierre Hubert brought his sample in fifteen carts, and said he had more at home; but the jury awarded him 200f., and assured him in their report that he might contemplate what he did bring "with legitimate pride."

PROLIFIC CLOVER ROOT.—Mr. M. C. Feck, of Benson, Vt., writes to the *Rural New Yorker*:—"I have just found a curiosity in a clover root—one root from which grows 42 stalks and 752 blossoms, all matured. When grown in the field the plant measured 4 feet 6 inches in diameter from the extremities of the branches as they spread out on the ground. Who can beat my clover?"

CARROTS—SOW SO AS TO MOW THE TOPS.—Lyman Harrington, of Bennington Co., Vt., writes to the *Agriculturist*:—"Many who raised carrots cut the tops off with a knife, which takes much time. To avoid this the ground should be made very smooth when sown, and kept so, and no stones left on it. When ready to dig, let a good mower cut one swath (say 4 to 6 rows), rake off the tops, bearing heavily on the rake. All remaining uncut will be drawn, or lean one way. Then having his scythe very sharp, he can easily cut what remains, by sliding the point of the scythe close to the ground by the side of each row. A skilful man, used to it, can cut and dig from 50 to 100 bushels per day. I have practised it for many years, with much saving of time."

TREES A PROTECTION AGAINST INSECTS.—In an article on this subject in a recent issue of the *Prairie Farmer* we find the following suggestive observations: "There is little new in the statement that injurious insects are rapidly increasing both in variety and number throughout the West. The cut-worms, potato-bugs, chinch-bugs, etc., etc., are becoming almost intolerable pests. While we are all casting about to find some security against their ravages, we should not forget that there is one means already known and easily brought to bear, that we do not, as a general thing, give sufficient force. It is the planting of trees. If all our farms were dotted over with screens, belts and groves of timber, the birds, among the most destructive natural enemies of noxious insects, would be lured to the prairies that are scarcely visited by them now, and in return they would prey upon our enemies, and greatly lessen their numbers. Certainly the advantages thus accruing are not among the least of those arising from a general planting of trees on the prairies."

FERTILITY.—From an article on this subject in the *Agricultural Gazette*, we cull the following:—"Does fertility depend on the consistence of the soil, we can marl light lands, we can burn clays, we can harden by the sheepfold and the roller, we can lighten by the scarifier and the plough. Does it depend on full opportunity being given to rain water to traverse soil and subsoil and feed the roots of plants, we can by underground channels which carry off the water as it sinks, preserve its continual circulation throughout both. Does it depend on the natural contents of the land being fitted for the food of plants, we can lighten by the scarifier and the plough. Does it depend on full opportunity being given to rain to traverse soil and subsoil and feed the roots of plants, we can by underground channels which carry off the water as it sinks, preserve its continual circulation throughout both. Does it depend on the natural contents of the land being fitted for the food of plants, we can lime, and burn, and till, introduce the natural agency of air and rain, and the artificial agency of lime and heat, and thus stimulate that chemical action within the soil on which the preparation of food for plants depends. Does it hinge on the supply of additional fertilizing matter, we can add these matters directly from the dung heap, the manure manufactory, and the guano ship, or we can add them indirectly by feeding sheep and cattle on the land upon imported food. Unquestionably, fertility is to a very great extent a work of art. This is not less true on natural and shallow soils, where no such extraordinary change has to be effected in the original character of the land before it will yield good crops, than it is in the fens of Lincolnshire and Cambridge, now laden with rich grain crops, and herds and flocks of cattle and of sheep, where the natural fertility yielded formerly but sedge and rush, and bog and seaside plants, with only wild fowl for the live stock."