

Useful Grasses.

At a recent meeting of the Institute of Science, Media, Pa., the question—"In addition to clover and timothy, what grasses are most useful to the farmer?" was answered as follows by Joel Sharpless:—

Good crops of grass are very desirable to all farmers who depend upon dairying or feeding cattle as a specialty, particularly the former, and the best and most desirable grass in addition to red clover and timothy is Kentucky blue grass. In order to have the latter in profusion, the ground, properly prepared and well manured and sown with wheat about the middle of September, should be sown with timothy at the rate of from six to ten quarts of seed per acre, and the following spring an addition of from four to six quarts of red clover seed per acre. The red clover is the greatest root fertilizer of any of our plants or grasses. What I mean by root fertilizers is the fertility given to the soil from its decaying roots, and it is the most valuable of all crops for the recuperation of the soil when sown for and properly used for that purpose. It is a biennial plant, and sown as a fertilizer, particularly for any crop, should be plowed down the second season after being sown. Some farmers in Ohio use it in this way for wheat, realizing over twenty bushels per acre, and putting their manure on their orchards. My reason for sowing more timothy than clover is that the following season after the wheat the clover is apt to smother out much of the timothy, and as the clover is so short lived, much of the ground is liable to be left vacant until the green grass and white clover come in and occupy the vacant places, which they will do in good soil, provided they are not pre-empted by the weeds. The latter grasses may be sown, but in most good soils nature provides them in due season. Although the clover is so short lived, where it has succeeded well it has left a great means of fertility in its decaying roots, on which the timothy and other grasses luxuriate, and in consequence produce more bountiful crops. The roots of a well set acre of clover contain 185 pounds of nitrogen, 240 pounds of lime, 45 magnesia, 75 potash, 19 soda, 24 sulphur, and 70 phosphoric acid, on which the timothy and other grasses are luxuriating. It would require a pretty good article of superphosphate to equal the above amount of ingredients of the same number of pounds.

The white clover and green grass often have much company, as a great number of grasses may sometimes be found occupying the same ground. In low, moist grounds herd grass or red top, in the absence of good drainage, may be sown to advantage, and in some rare places by very rich soil, orchard grass might meet with favor if thickly sown. In order to make up for a deficiency of the hay crop the Hungarian grass is a valuable substitute. This grass, if sown in good, well prepared soil, will in about fifty days make from two to three tons per acre of excellent hay, if properly cured without rain, that will be eaten greedily by horses and cattle; but should you be so unfortunate as to have it wet a time or two, while curing, its good qualities will be very much impaired—much more so than a crop of timothy or other grasses, yet all kinds are seriously injured by being wet while having the moisture evaporated.

Culture of Celery.

Celery must be kept growing. They never recover fully if they once receive a serious check. Avoid tearing or drying off the roots. Set them out in May or June, when in three or four leaves, in a small bed of very rich soil, about three or four inches apart, and keep well watered, without fail. Shelter carefully from drying wind and hot sun when set out, if cloudy, humid weather cannot be availed of. The final trenches should be prepared as soon as early pea or onion ground is clear in July. Let the soil in the trenches be very rich, and from a surface well exposed to air. Enrich it further with thoroughly well-aired and decayed manure. Raw manure is considered to be a chief cause of the flabbiness and pipiness so much in contrast with the crispness and almost deliquescent texture of well-grown stems. Lift the plants from the temporary beds with the ball of soil attached to the tuft of roots, and water promptly to prevent any check in growth. If shading is necessary don't continue it too long, nor cut off the essential light too completely.

The dwarfed sorts of celery are now most liked. They are easily grown, and have the most "nut-tiness" of flavor. The blanching of the stems is

effected by excluding light from them, while at the same time the heart of the plant and all the leaves must remain fully open. As the stems begin to spread, they are tied together just so much as to keep them nearly erect, and to prevent their breaking if earth is used to etiolate the stems, but a wrapping of paper, bark, or even a bottomless fruit-can may be used for this purpose. Charcoal braze or coal ashes answer well, as they exclude slugs and other insects. And celery keeps well lifted and set close together on a slightly damp cellar floor, and filled between up to the leaves (most of which may be removed) with perfectly dry, clean fresh coalashes. This is a safe and very convenient mode, and celery that has not been sufficiently blanched in the garden will be found beautifully white, tender and sweet after being stored this way for two or three months.—[Penn.]

The Wire-Worm.

Upwards of sixty different varieties of these insects have been discovered by naturalists, several of which feed on our valuable cultivated crops. They do not confine themselves to any particular kind of food, but attack indiscriminately the roots of the cereals and grasses as well as esculent roots of every kind in the field or garden. They are injurious to all plants of the *brassica*, or cabbage family, and also to garden flowers.

It is said that wherever grass will grow wire-worms will live. The eggs of the parent beetle are supposed to be deposited on the roots of grass and weeds, but this point has not been clearly determined. The eggs must be very small, for when first hatched the larvæ can scarcely be detected by the naked eye. They live five years in the larval state, casting their skins several times, and committing great ravages on nearly all kinds of plants. When fully grown, the wire-worm forms a cell in the earth, in which it becomes a pupa or chrysalis, generally in July or August. This pupa remains stationary, quiescent and harmless for about three weeks, and then changes to an elater or beetle, which is at first white and tender, but in a short time gains its proper color and hardness. These beetles run with their heads down, and drop when apprehended. They fly well and are perfectly harmless, feeding only on flowers. The extent of the damage done by the wire-worm during its five years of larval life may be estimated from the fact that a single worm has been observed to bite from fifteen to twenty plants in a short time.

When fields lie fallow the wire-worms feed on the grass and weeds, which are too frequently allowed to overrun them: whereas, if the soil was kept clean, they would either die for want of food or be compelled to move to some other place. As these larvæ invariably live beneath the surface of the soil, every plan suggested for their destruction must be founded on this consideration. Superficial applications have been frequently tried without effect. The most obvious remedy is to saturate the soil with some fluid that will destroy them, or to dress the surface with some substance that, when dissolved by rain and carried into the soil, will be destructive to them without damaging the plants. In a fallow field no precaution need be used, as the destruction of weeds and insects are indispensable. A farmer of the island of Guernsey, whose crops were entirely destroyed by wire-worms, used a top-dressing of salt, lime and soot, but it did not check their ravages. He was then advised to try guano; he did so, and found that it checked their progress as soon as applied, and banished them from his fields.

A farmer in England affirms that he has frequently freed fields entirely from wire-worms by sowing a crop of white mustard-seed. The experiment he tried so frequently and in circumstances so well calculated to demonstrate its effects, that he is perfectly satisfied the remedy is efficient. "Encouraged," he says, "by the results of my former trials, I sowed a whole field of 42 acres, which had never repaid me for nineteen years, in consequence of every crop being destroyed by the wire-worm, and I am warranted in saying that not a single wire-worm could be found the following year; and the succeeding crop of wheat was the best I had reaped for twenty-one years." It has been found by repeated experiments that soda-ash will destroy them when applied as a top-dressing at the rate of two hundred pounds per acre. Refuse gas-lime from gas-works will also banish the wire-worm from all places to which it is applied.—[G. M., in Germantown Telegraph.]

Fancy Farmers.

No class of men have been ridiculed so much, and none have done so much good, as those who are denominated fancy farmers. They have been in all times and countries the benefactors of the men who have treated them with derision. They have been to farmers what inventors have been to manufacturers. They have experimented for the good of the world, while others have simply worked for their own gain. They tested theories, while others have raised crops for market. They have given a dignity and glory to the occupation of farming it never had before.

Fancy farmers have changed the wild boar into the Suffolk and Berkshire; the wild bull of Britain into the Shorthorn; the mountain sheep, with its lean body and hair fleece, into the Southdown and Merino. They have brought up the milk of cows from pints to gallons. They have lengthened the sirloin of the bullock, deepened the udder of the cow, enlarged the ham of the hog, given strength to the shoulder of the ox, rendered fine the wool of the sheep, added fleetness to the speed of the horse, and made beautiful every animal that is kept in the service of man. They have improved and hastened the development of all domestic animals till they hardly resemble the creatures from which they sprang.

Fancy farmers introduced irrigation and under-draining, grinding and cooking food for stock. They brought guano from Peru, and nitrate of soda from Chili. They introduced and domesticated all the plants we have of foreign origin. They brought out the theory of rotation of crops as a natural means of keeping up and increasing the fertility of the soil. They first ground up gypsum and bones, and treated the latter with acid to make manures of peculiar value. They first analyzed the soils as a means of determining what was wanting to increase the fertility. They introduced the most approved methods of raising and distributing water.

Fancy farmers or fancy horticulturists have given us all our varieties of fruits, vegetables and flowers. A fancy farmer a few years ago introduced the Early Rose potato, which added millions of dollars to the wealth of the country, and proved to be a most important accession in every part of the world where it was introduced. Another of the fancy men originated the Wilson strawberry, and another the Concord grape.

At the Government plowing-match dinner given near Toronto last fall one of the directors of our Provincial Board of Agriculture and Arts is said to have made a speech to the following effect: "We want no book on scientific farming. The man who can take hold of the plow and go to work is the man who does most good for his country." We much doubt if the speaker can plow a furrow, or suggest the most advantageous way to raise a crop, or even handle a crop after it is raised.

What we want is more practical, energetic men who will attempt experiments and report to the *Advocate* any plans they have adopted that have been beneficial to them. Every one of our subscribers should be able to impart some useful information that might aid others, by having their plans, experiments and achievements recorded in this journal. Such records would show to future generations what has been done in the present stage of the development of our Dominion. Volumes of this journal are bound, and will be referred to by your successors. Any month's issue contains reports from many of the most useful and practical writers on this continent. Those desiring to direct or aid the farming interest should take pleasure in showing their plans publicly.

FAMINE PREDICTED IN RUSSIA.—A famine next year in Russia is predicted by Russian journals. Last year about one-third of the crop was destroyed by beetles and marmots, so that the seed has been deficient; and the cattle plague took off nearly ninety per cent. of the cattle in many places. To these things must be added the extraordinary drought of the past half year. Then in Russia there are too many holidays (about one hundred in a year). Most of the land in Russia is under mortgage to bankers, the proprietors are hardly able to pay their interest and the arrears are everywhere about twenty per cent. The grain, which is the chief article of export, and which furnishes taxes and all supplies, is devoured by parasites while growing, after being gathered and on railroads.