

reliable American agriculturist, writing to the *New England Farmer*, says, "Hay-caps do pay, and no mistake, and, on the whole, a farmer of moderate means who cuts much coarse hay cannot afford to be without some thirty or forty of them." For the guidance of such as are disposed to give hay-caps a trial, we copy the following directions from the *Country Gentleman*:—"Take four yards of yard-wide cotton sheeting; sew it together so as to make two yards square, hem the rough edges; turn up each corner two or three inches and sew it strongly. Tie in a short strong twine to form a loop, and you have a hay-cap ready for use. Four sharp wooden pins of hard wood, half an inch in diameter, eighteen inches long, to be thrust upwards into the hay, at the bottom of the cock complete the preparation."

HOW TO SHARPEN A SCYTHE.

"Mower" writes to the *American Agriculturist*.—"To properly grind and whet a scythe requires some little practical skill, in the attainment of which the beginner may be assisted by a few hints. The cutting edge of a scythe or similar instrument, when examined by a microscope, shows numerous fine projecting points or a series of minute wedges which are to be driven into the substance operated on, to separate the adjoining parts. In order that they may enter the more readily, these points should incline in the direction of the stroke given with the blade of the instrument. In cutting with the scythe, the edge strikes the grass at an angle of about forty-five degrees, and hence the grinding should be done so as to have the points set in that direction to the blade. This is done by keeping the blade firmly upon the stone, with the point drawn toward the body of the holder, at the above mentioned angle with the edge of the stone. Commence to grind at the heel and move it steadily along as the work progresses, until the point is reached, then grind the other side in the same manner. Never rub the scythe back and forth upon the stone as though endeavouring to whet it. The revolution of the stone will wear away the steel much better than rubbing it in this manner, by which the edge is likely to be made rounded, and to be set irregularly. It is preferable to hold the scythe so that the stone will revolve toward the edge. In this way the holder can see when the edge is reached, and the particles ground off are carried away clean. In the opposite method of grinding there is danger of making a "feather" edge which will readily crumble off, and leave the scythe almost or quite as dull as before. The blade should be ground equally on both sides. In whetting the scythe, lay the rifle or whetstone flat against the side of the blade, and give a light quick stroke downward and forward in the direction of the edge, so that the scratches it makes shall keep the points set in the same direction as was given them by grinding. By following these simple suggestions, a scythe may be made to hold its edge twice as long as when the rifle or whetstone is drawn along the edge almost at random. A few strokes carefully taken will enable the workman to keep the proper direction and whet rapidly."

CUTTING AND CURING CLOVER. Clover should be cut immediately after blossoming and before the seed is formed. It should be cured in such a manner as to lose as little of its foliage as possible and therefore cannot be treated exactly as the natural grasses are. It should not be long exposed to the scorching sun, but after being wilted and partially dried, it should be forked up into cocks and left to cure in this position. The fourth or fifth day, when the weather is fair and warm, open and air it an hour or two, and it will then be fit to cart to the barn. Clover cured in this way without loss of its foliage, is better for milch cows and for sheep than any other hay. It may also be fed to horses that are not hard worked, or to young stock, but it is most valuable for cows in milk. For other farm stock it is worth from two thirds to three-fourths as much as the best hay.—*Manual of Agriculture.*

The Graminae or Grasses.

In point of order, value, and usefulness to man the natural order graminee, or grasses, stand first in the vegetable world—furnishing as they do the staff of life to the human race. The principle of these are wheat, barley, oats, rye, rice, maize, millet, &c. of which there are numerous species and varieties—the sources from which, in every quarter of the world, mankind derives his chief means of existence. It is, however, of the less noble order of grasses we now intend to treat. As wheat, oats, and barley are of the utmost importance as the food of man, so is the lesser order of grasses the principal maintenance of herbivorous animals. It is, then, of the greatest importance that the agriculturist should be made acquainted with the different species and varieties of grasses, whether natural to his pastures or introductions to the same, so that he may be able to choose and cultivate those which are most conducive to the well-being of the animals he is rearing for the food of his fellow-creatures. That our grass lands are as susceptible of improvements as our tillage land, by suitable management and careful selection of seeds, must, in these times of dear beef and mutton, be apparent to every reflecting mind.

In selecting the different species and varieties of grasses for laying down meadows and pastures, the first and most important object to be kept in mind is to obtain such as yield the greatest bulk of good hay, and to mix those which may be cut at the same time; for it must ever be remembered that a greater quantity of good food can be procured by a variety of grasses on a given space than can be procured by any one sort alone. But the great difficulty the grazing farmer has to contend with is the deterioration of his meadows and pastures. This takes place from the better and more tender grasses dying out, and giving place to those of a coarser nature. This, in very many instances with which we are acquainted, is greatly produced by neglecting to keep the land well drained. The finer and most nutritious grasses thrive best in moist rather than wet soils; hence it is of the utmost importance to keep the land free from surface water by sufficient drains; and in many cases it is advisable on flat surfaces to lay the land in ridges at right angles with the drains. All meadows and pastures should be harrowed annually in autumn, to destroy the various species of mosses and other weeds; and harrowing also covers the seeds that may have fallen, or those which may have been sown. They should also be annually top-dressed in autumn with a mixture of well-decomposed cow-dung, soil, and lime; and in spring should have a sowing of guano, or the liquid manure from the yard, and be well bush-harrowed, and then rolled. This mode of procedure upon our meadows and pastures is as necessary as to manure for turnips, potatoes, &c. When the means above described fail to produce a good crop of hay or pasture, it is then high time to set the plough at work, and have a course of green crops, and then the field may be relaid.

There is a diversity of opinion existing relative to the proper time of sowing grass seeds. Some prefer autumn and some spring. But autumn appears the most proper season for this operation. Nature teaches us this lesson—she commits all her seeds to the earth as soon as ripe. Therefore, we advise all grass seeds to be sown in August or September when necessary, and especially on strong, wet, and heavy soils, and well tilled in spring when the land is in good order; for should a dry spring set in, the young plants will suffer much from droughts and winds. Among the many uses to which the roller can be applied, none is more valuable than to roll all grass land, after it has been well bush-harrowed in spring, as the plants are liable to suffer from various causes in this our uncertain climate. Premature decay or death is thus brought on, which the yearly use of the roller at this season would in a great measure prevent.

To manage pasture lands advantageously, they should be well fenced in small fields—i.e., according to the size of the farm and the quantity of stock kept. It is folly to turn in all sorts of cattle promiscuously. Milch cows, fattening beasts, and oxen should have the first feeding; sheep and horses afterwards. When the field is fed off, it should be shut up, and the dung which has been dropped should be scattered, and bush-harrowed and rolled. All coarse herbage which has been rejected by the various animals should previously be mown and carried off; but this operation will not be necessary where the fields have been properly laid down. The second and third fields should be treated in the same manner. There is a considerable saving by allowing all grazing animals to take their turn, as all the herbage produced will be consumed, much of which would otherwise be trodden under foot.

The Pea-vine and Other Varieties of Clover.

The pea-vine or northern clover is a different variety from what is here known as western clover, and the more diminutive southern variety.

A few years since I procured from a brother of mine, residing in Illinois, a bushel of the real Simon-pure pea-vine clover seed, a part of which I sowed, and the balance was distributed among a few other farmers. My seed was sown in the spring—a part with spring wheat and a part with oats. The next season I had a prodigious growth of forage—estimated at three tons per acre. It was mown when in the blossom, cured in cock, and was freely eaten by horses, cattle and sheep. They, however, if kept upon it for several days in succession, would reject the large stem, causing some waste. To make the most of such coarse forage it should be run through the hay cutter. This variety of clover, tree-like, sends off from each stem numerous branches or limbs, each producing one or more heads, which I think is not the case with other kinds of clover. It ripens some weeks later than the western, and may be safely left till timothy or herd-grass is fit to cut. There was not much diminution in the amount of clover the third season it was cut. It retains its hold in the ground much longer than any of the other varieties cultivated here. It has a much longer and larger root than the western, giving a much larger yield of forage; therefore it is probably the better kind "for ploughing under as a grass crop to enrich the land than the smaller kinds of clover." The only difficulty would be in turning under such a crop as mine was. I saved samples which were over five feet in length, and now have some over four and a half feet high tied to a willow stick. I send you a few inches of one of the big stalks, by which you can judge something of its rankness of growth.

The variety of clover preferred by our farmers is known as western. This, on good land, grows sufficiently large for forage and in favourable seasons gives two good crops—the first for fodder, the second for fodder or seed. The large variety gives but a small after-growth; therefore if seed is wanted, it must be obtained from the first crop.

The southern variety of clover is short and fine, being a capital winter fodder for sheep, milch cows and young cattle; but the yield is light, and our farmers will not sow it, unless they get cheated into it, as is sometimes the case when they buy it, supposing it to be the western. The next season, however, tells the true story, by the short clover and tall scolding of the humbugged farmer.

I have experimented somewhat with the Luzerne or French clover, but it takes some three years before the plants get their full growth, and during the time the June and other tough-rooted grasses overpower the Luzerne and it becomes nearly exterminated. The only way it can be successfully grown here is to sow it on land that has been fallowed long enough to cause all seeds of grasses, &c., to be destroyed, and then sow the Luzerne seed and manure with super-phosphate, guano, or other manures containing no weed or grass seeds. For soiling and winter fodder it would prove of the best kinds of plants, if it could be grown entirely separate from other plants that have a tendency to over-run the Luzerne.

I have also experimented with the Alsike or Swedish clover. This seems to be a hybrid, between the common red and white clover or honeysuckle.—Several years ago I sowed a few rods of land with this kind of seed. I sowed it too thin, thereby giving room for the growth of other grasses. However, for about three years it did well, but eventually the other grasses nearly rooted it out. The stems are small, yielding a large amount of branches, leaves and blossoms, producing a large amount of honey for bees; and for winter feed for sheep, I think no better forage plant can be grown. This kind of clover has been largely grown by some Canadian farmers, and highly spoken of by them.

I have also grown a yellow variety of clover, quite different from any of the foregoing, but not in quantity sufficient to judge correctly of its merits.—L. V. BARTLETT, in *Genesee Farmer*.

NO WEEDS TO PULL.—Stir the ground often, and they will never get big enough to pull. A loose top-soil can be stirred up a half-dozen times with a hoe in the time required to go over it once in the pulling process. The growth of all plants will be greatly promoted by stirring the soil often.