

head of poultry during the balance of the season. This spring it came up very thick, and on the clay soil grow to the height of from three to three and a half feet; on the poorer part from one to one and a half feet. The stalk was very fine, not thicker than medium timothy. I saved two-fifths of an acre for seed, the balance, about one-sixth of an acre, being some mixed with red clover and orchard grass, it was out for hay, and furnished one good load of excellent hay. From the two fifths of an acre saved for seed we hauled three large cart loads of hay, which, being threshed, yielded two and three-fourths bushels of marketable seed, or at the rate of about six bushels per acre. The orchard adjoined the buildings, and the poultry used it as a feeding ground, and trampled it down very much, thus preventing it from yielding better. The straw, after threshing, was all eaten by the horses and cattle. My attention was first called to the subject by reading an article in "How to make the farm pay," in which the following reasons were given for its cultivation: "Allow me to advise my bee-keeping friends who are farmers to cultivate the Alsike clover. For, while it is for pasture or hay far preferable to the red clover, it fully equals it in its secretion of honey and far surpasses the white. Its cultivation would therefore greatly increase the pasturage for bees, which is very desirable. I have ever contended that no plant can be cultivated with profit for bees alone; that bee keeping is profitable alone from the fact that the bees gather what would otherwise be wasted. Yet bee keepers may often cultivate a crop that, while it proves remunerative as a forage crop, will at the same time increase the pasturage for his bees. We find the Alsike clover a very superior grass in the following points:

1. For its value as a hay crop on a great variety of soils, growing from ten inches to three feet high, and yielding from one and a half to three tons per acre.
2. For fineness of stalk or haulm.
3. For its multitude of sweet flowers blooming three or four times as much as the red clover, making when in blossom a sea of flowers.
4. Its adaptation to heavy soils.

5. To farmers raising clover seed for market the Alsike clover would, in our opinion, be of great value, as it seeds enormously, and the seed threshes easily by machine, leaving a good quality of hay."

My object in sowing was to test its honey qualities, and while it blossomed, which was fully five weeks, it was covered with bees from earliest light till dark, not even minding stormy weather, from which I obtained upwards of two hundred pounds of honey. The blossoms are a little larger than the white clover, and partake of the color of both parents, the lower half being red and the top white. The seed is much smaller than the red, not more than half as much being required to seed the same land; which, combined with its evident superior feeding qualities, and being much more permanent than red clover—more like the white in this respect—not liable to heave out even in damp soils, make it a valuable crop for farmers to cultivate. The only objection that can be urged against it is that it does not produce as much aftermath as the red.

Grass Lands.

In a discussion on the above subject, so vital to the interests of agriculture in all north temperate climes, at a recent meeting of the Massachusetts State Board of Agriculture, Mr. Kilburn, of Lunenburg, said, in giving the results of his own experience:—

"I like the suggestion made by the last speaker, that in sowing grass seed, we should sow those kinds that ripen about the same time. We have a good deal of trouble with our different grass fields, by having the grass ripen at different times through the spring and summer. Some kinds will get ripe and shed their seeds before the main growth of the grass is fit to cut. Take for example, the sweet scented vernal grass, spear grass, or what is sometimes called Kentucky blue grass, and two or three other kinds, the *Danthonia spicata*, for instance, which is sometimes called white top, and sometimes has other names. That if cut early makes very good hay; but if it is cut late, it is not better than the straw of grain that has been threshed, and it frequently gets ripe before the later grasses are fit to cut; red top being one of the latest, timothy or herdsgrass being another, not fit to cut until a certain time; and those other grasses getting ripe first and shedding their seeds, as a good many of them do, before the later grasses are ready for the mower. The sweet scented vernal grass very frequently blossoms in May, and several of the other grasses, for instance, spear grass, or Kentucky blue grass, get ripe and are ready to cut before the other grasses which predominate in the field are fit to be cut. Therefore in sowing down our fields to grass,

we ought to use the seeds of those grasses which come to perfection about the same time. I mean for mowing lands; for pastures, I don't care how many kinds I have, but in mowing we want to take the grasses when they need to be cut. There is a particular time when our grass will be going back, or down hill, if we do not cut it, and if we can cut it at the right time we can save it. But when there is a range of four or five weeks in the ripening of the different species of grass, while one kind is gaining another kind is losing. That subject I think has been well presented by the gentleman who has spoken to us on that question, and I think it is one of great importance. Most of these grasses that I speak of will come in themselves without sowing them. The sweet scented vernal grass finds its way in. We have not found it on our land a profitable crop, it ripens too early for the other grasses. It is just so with spear grass, or Kentucky blue grass; it is ripe at a different time from the other grasses, and there is an insect that works upon the grass unfortunately, just above the upper joint, and eats the culm off close to the top. I suppose all farmers have noticed that fact."

The above observations are very common-sense and practical. In seeding down land, regard should always be had to the use it is intended to make of the crop. If it is to be cut for hay, mix only those kinds of grass seed which blossom at about the same time; either all early kinds, or all late kinds. If pasturage is wanted, use all the good sorts you can get; the more the better. In meadows it is a simultaneous ripening that is wanted so that the crop may be cut when at its best, but in pastures a succession of grasses is desirable, so that there may be a good bite of feed for stock from the beginning to the end of the growing season.

Orchard Grass.

At a recent meeting of the New York Farmers' Club, a communication was read from Dr. E. W. Sylvester, of Lyons, N. Y. on Orchard Grass, the substance of which we give as follows:—

This grass is common to almost every country of Europe, North of Africa, and Asia, having been introduced into England from Virginia in 1764; it soon, by its superior value, became a great favorite on the sea-girt isle, where it is much more widely known than in this country, another proof that any article "far-fetched and dear-bought" has the best chance of winning favor and renown. It is particularly as a pasture grass that it has won its laurels, experienced feeders asserting that it will make good pasturage after five days' rest, and its exceeding earliness makes it valuable for those short of hay in the spring. I have cut tufts of it in early spring, grown in a warm situation, which would average nine inches in length, while the remnants of snow-drifts were still in sight, and these specimens, four feet nine inches long, were cut early in June, before the seed had commenced forming, while timothy at the same time was not half grown. In many sections of our country it is common to sow timothy and clover upon the same piece of ground, but a difficulty in harvesting has been found when thus grown together, for the reason that the clover is in full bloom, and requires to be cut some time before the timothy is sufficiently mature for the mower. Now, if we substitute orchard grass for timothy, we shall find that the orchard grass and clover are in bloom at the same time, affording the best possible results.

Most of the members of the club will recollect the late Judge Buel, who labored so long, and with a good degree of success, to form a soil on the almost sterile sand between Albany and Schenectady; and he says of the orchard grass: "I should prefer it to almost every other grass, and cows are very fond of it." Mr. Sanders, a well-known practical farmer and cattle breeder of Kentucky, says: "My observation and experience have induced me to rely mainly on orchard grass and red clover; indeed, I now sow no other kind of grass seed." It will be well to recollect, in this connection, that Kentucky is the home of the blue grass which has so deservedly good a reputation. The late Col. Powell, of Pennsylvania, after growing the orchard grass for ten years, declares that "it produces more pasturage than any other grass he has seen in America." Mr. Geddes, the well-known farmer of Onondaga County, N. Y., gave his experience in raising orchard grass in the *New York Tribune* about a

year since, giving it a very well-deserved recommendation. But it would occupy too much time to quote more authorities here. It is sufficient to say that all agree that the orchard grass starts very early in the spring; stands drouth exceedingly well; grows very rapidly; must be cropped closely; is very nutritious; is very palatable to stock; it will make a continuous meadow. The writer has a strip of orchard grass, about six feet wide and thirty rods long, which serves as a border to a buck-thorn hedge. It was seeded fifteen years since, and is still very productive.

According to the analyses of twenty-three varieties of grasses, made by Prof. Way, Chemist of the Royal Agricultural Society, orchard grass exceeded all, except two, in albuminous or flesh-forming principles, and these two exceeded orchard grass only by a small fraction of one per cent.

This is not the grass for the lazy farmer or the always-behind-hand stock-grower. Orchard grass pastures must be cropped by the stock, with only intermissions of five or ten days, or what is better, perhaps, kept constantly short. Orchard grass must be cut for hay very early; for, if left to form seed, the stem becomes woody and the leaves very rough, and although at this stage of growth it contains, according to Prof. Way, over ten per cent of albuminous or flesh-forming principle, yet I think the average stock would grow poor with the labor of extracting the nutrition. In conclusion, will you allow me to advise every thrifty, go-ahead farmer to try a small area of orchard grass; but if you are a slow boat, slip-shod, always behind-hand farmer, let it alone severely.

Hay and Other Crops.

A question widely discussed involves the relative value of the wheat, cotton, tea and hay crops of the world. Which of these products employs the greatest amount of the world's capital? It is said that hay leads the rest, and the items that enter into the account as stated are somewhat startling. Cotton and tea are local crops, while hay is produced everywhere the world over, and thus the hay crop outweighs either of the two. The aggregate reported value of all farm products for 1870 was \$2,447,538,658; but as this includes additions to stocks, "betterments," etc., it is probably too high. Now, the hay crop for that year—that is, the grass dried and cured for use or sold—is reported at over 27,000,000 tons. This, at half the selling price in the large cities, would amount to \$405,000,000, and is far greater than the aggregate home-value of the cotton crop or any other crop. But the "cured hay" is but a portion of the grass crop. The other portion is used on the ground, and it requires considerable calculation to get at the value so used, even in the roughest way.

In the first place, live stock, including horned cattle, horses, sheep, swine, etc., to the value of \$1,525,000,000 were fed from it that year. Averaging the lives of these at five years, we have one-fifth of that sum as representing the grass fed to them in 1870, namely: \$305,000,000; next, we find the value of the animals slaughtered for food in that year to be \$300,000,000, and as this is an annual product, the whole of it will, for the present, be credited to the grass crop; next, we find that the butter crop of 1870 was 514,000,000 pounds, which, at the low average of twenty-five cents, amounts to \$127,000,000, and this goes to the credit of the grass; next we have 235,000,000 gallons of milk, which, averaged at the low estimate of ten cents per gallon, adds \$23,500,000 more to the credit of the grass crop; then we have 100,000,000 pounds of wool, at twenty-five cents a pound, adding \$25,000,000 more; and, finally, 53,000,000 pounds of cheese, at ten cents, adding over \$5,300,000 to the total of these credits to the grass crop of 1870, which aggregates \$877,000,000.

Now let us add the value of the "hay" crop as given above, viz. \$450,000,000, and we have a grand total for "hay" and the products of the grass consumed on the ground amounting to \$1,292,000,000! This is, of course, subject to deduction, as the meat, butter, cheese and wool producing animals consume other food besides grass and hay. To make ample allowance for this, we deduct the entire value of the corn and oat crops for 1870, estimated at \$280,090,000, and this leaves a remainder of \$1,012,000,000 to be credited to the hay and grass crop of that year, when the aggregate of all farm products was \$2,447,538,658. If our estimates make even the roughest approach to accuracy, the value of that crop was two-fifths of the aggregate value of all farm products, and hence we may infer that two-fifths of the capital then invested in agricultural pursuits was devoted to the grass crop, and this in the United States equals (in round numbers) \$4,575,000,000. From these figures the deduction is palpable that King Cotton is uncrowned and dethroned, and we may be forced to admit that all "flesh," and all else, is hay, if not "grass."—*Pacific Rural Press*.