

timothy it would be not much better than dry sticks. Orchard grass makes good hay when cut just before the flower scape opens, but if left till the seed matures it is not any better than rye straw for feeding animals. My limited experience, together with the observation of those who have sown the mixture, leads to this result, that timothy, Italian rye, meadow fescue, red top, meadow-oat grass, and red clover ripen well enough together to make capital hay, and are well adapted to our climate, which after all is the great desideratum. The English can raise in their mild climate sainfoin, saradell, parsley, and various legumes that will not winter here; so, too, with some of the tender grasses. By combining the grasses above named, good heavy hay will be produced, and the sward less liable to heave in winter, while the timothy will be held in the ground for many successive years, thus avoiding the extra expense and labor of constant re-seeding. I am permitted to name Mr. Morgan Butler, of New Hartford, who will bear me out in the assertion that the grasses I have named for meadow ripened well together on his lands, and produced increased crops of deliciously sweet hay. Scores of others have had the same experience as Mr. Butler. The selection and proportion is per acre as follows: timothy, 10 lbs.; Italian rye, 5 lbs.; meadow oat grass, 5 lbs.; meadow fescue, 5 lbs.; red top, 5 lbs.; vernal grass, 2 lbs.; red clover, 8 lbs.

This selection might be varied somewhat in the separate amounts, but if followed out to the letter will make a good permanent meadow if the land be in fair average condition. Harris Lewis says wisely that the best method of improving meadows is to sow a sufficient variety of grasses, and not rely on clover and timothy alone. The same may be said of pastures and lawns, only that the varieties ought to be different from the meadow mixture, and composed of early, medium and late grasses. Until more attention is paid to the improvement of pastures and meadows, in fertilizing and selection of herbage, a high position as agriculturists and dairy-men cannot be attained by the farmers of Central New York. All the improvements in machinery and implements, all the appliances of chemistry, and cleanliness in the dairy, indispensable though they be, will not give the best results in butter and cheese, if the pasture and meadow be full.

It was my intention to say something of the several pasture grasses, but will pass by saying that for our climate I know of nothing better than our native June and orchard grasses mixed with bent grass, crested dog's-tail and meadow fescue, for, after all, to repeat myself, it is the hardy grasses that we want, and none other. Of the artificial grasses, as those plants are called which are cultivated in England and used like the grasses, there are many kinds—annual, biennial, and perennial, legumes and brassica, some of which are not hardy enough for our climate. Lotus, sainfoin, parsley, sardella, and yarrow cannot be successfully grown here. Rape, mustard, lucerne, and vetches can be grown here as easily as clover. But at the head of all leguminous plants stands the alfalfa or lucerne, which is destined, I believe, to greater success in this country than the red clover, especially in the hot, dry soils of the west and southwest, as it will withstand drought and heat, look fresh all a green when all other forage plants are dry and drooping. Lucerne has been known to Old World agriculture for the last two thousand years, and perhaps longer than that. It is a hardy herbaceous perennial, and will send down its long roots into mellow subsoil to a depth of ten and twelve feet. It is very tenacious, and will take possession of the soil to the exclusion of all the grasses and herbaceous plants. Notwithstanding the large amount of food it produces, the lucerne does not exhaust, but improves the soil, for the leguminous draw almost their entire nutrition from the atmosphere, and the lucerne produces ten times more roots than any of the clovers. Vast masses of these roots decay in the soil every season, thereby enriching the land. The plant, too, is so dense that it shades the soil. That lucerne will flourish in this region is proved by the fact that Messrs. Walcott & Campbell have grown it for many seasons, and prefer it to any other forage plant.

I take the liberty, in conclusion, to say that no matter what seed is sown, unless the soil be kept in good heart both pasture and meadow will fail. Johnston shows that for every ton of hay carried off the farm, there goes with it not less than one hundred and forty pounds of silicates, phosphates and potash. Now, if these ingredients are not returned in some shape to the land the crops will fail, moss, sorrel and weeds will usurp the ground, and barrenness take the place of fertility.

NEW ZEALAND has 12,000,000 acres fit for agriculture, and 50,000,000 for pasturage.

Agricultural Implements.

The Doderick Perpetual Hay Press.

Hay pressing or baling is comparatively a new feature in most parts of the country, and even in the most flourishing hay sections we have not far to trace the past to find our markets filled with loose hay, and barges stowed with it in the same condition for transportation. To supply our large cities thus would be hardly practicable, if possible; nor is it difficult now to see the advantage of baling hay preparatory to marketing. For economy in room, cleanliness, neatness, and as precaution against fire, the advantages of baled hay are well known, and consumers also begin to recognize the fact that hay, after baling, loses that dusty, dry and harsh nature, and becomes soft and pliable, more like newly cured hay—hence sweeter and more nutritious, occasioned, no doubt, by the dampness the bales appear to absorb and return from the atmosphere.

Shipping hay as a business, says Mr. Rennie of the Agricultural Warehouse in this city, in the circular from which our present remarks are condensed, is growing largely, properly conducted, it has proved itself safe, remunerative, and requiring less capital than any other business affording the same margin.

It has been found that a large local retail trade always follows a baling establishment, as loose hay will not sell in competition, even at greatly reduced rates if the bales are honestly put up, and a flourishing business could be established in many of the smaller cities and towns by locating a press in them, and retaining baled hay.

The Doderick press is adapted for baling any loose material, and its operation is continuous so that a whole stack or mow can be baled with out stopping the bales are pressed in sections, the finished bale forming the head to press the succeeding one against, and is directed by the operation of the machine as fast as the forming bales are raised. Light rollers with revolving spindles in them, are slipped in without stopping when the proper length of bale is formed, and though the bale is tied while passing through the machine. The discharge end of the machine is easily acted a justable, so that by turning a nut the bale is impinged or released, thus forming heavy or light bales as desired, and requires no change after being adjusted to form the weight of bale required.

Care of Implements.

It is not a little surprising, but nevertheless quite true, notwithstanding all that has been said and written on the matter, that the very last thing which farmers as a rule consider it worth their while to put under cover and protection is their implements of husbandry. The hay is cut down, properly tossed and dried, and then carefully housed before night if possible, when rain clouds threaten, that it may be safe from the injurious effects of a wetting; but what about the mower that cut it? The turnips are taken up, stripped of their tops, and also carefully pitted or cellared to guard them against the night's sharp frost, but what about the hoe that stripped them? And thus might we go the entire rounds of the implement department. Frost and snow will very soon kill out the grain, fruit or root crops; but then frost and snow, of course, never hurt a reaping machine, a plough, a cultivator, &c., &c. Oh, dear, no! they have no effect upon them whatever! "Very good," we think we hear the manufacturer say; "just stick to that opinion, and follow it out practically, and we will lose nothing by it, depend upon it."

If farmers would go and candidly ask any honest implement-maker in the Dominion what his opinions are about the injurious effects of the climate upon those articles of husbandry which are, in nine cases out of ten, left out of doors, what would he tell them? Simply this: that the effects of weather, alternate rain and sunshine, frost and thaw, upon

almost any implement, are actually more injurious and wasting than the ordinary work it is designed to do. In other words, reapers and mowers, and other harvesting machines which are properly housed and sheltered when not in active use, will last more than twice as long as they would under the ordinary usage they receive. This has been repeatedly proved in the case of the western farmers of the United States, who systematically leave their implements exposed, and who, in consequence, as statistics show, pay annually nearly double as much for implements as an equal number of farmers in any other portion of the world.

If implement manufacturers followed this careless course with their shop and general manufacturing machinery, they would ruin their respective establishments in a single year.

The most ordinary excuse we hear offered for insufficient implement protection, is a want of building accommodation. It is no excuse at all. These shelters can be made in a dozen different, simple ways. For lack of a better, place wooden supports one or two feet from the ground, in a dry place, and cover with dry straw. On this place your implements, or as many of them as you can, having first thoroughly cleaned them and oiled the iron parts. If you have not boards sufficient to enclose it, then build your straw stack over the whole, carrying it up so as to shed the rain. This is one method, but we give it only as a sample of what even the most ordinary ingenuity may invent. Above all things see that your implements are properly cleaned and dried, and that the iron portions are coated either with kerosene oil, beeswax, or better than all, paraffine oil. The cost will be a mere nothing, whilst the results will be—all gain.

A Couple of Useful Hints.

Very often a screw hole gets so worn that the screw will not stay in. Where glue is handy the regular carpenter makes the hole larger and glues in a large plug, making a nest for an entirely new hole. But this is not always the case, and people without tools and in an emergency often have to fix the thing at once. Generally leather is used, but this is so hard that it does not hold well. The best of all things is to cut narrow strips of cork, and fill the hole completely. Then force the screw in. This will make as tight a job as if driven into an entirely new hole.

Another hint of a similar character may be useful. One often desires to put a staple into a block of stone. The hole is made, the staple inserted, and lead melted and run in. But unless the hole is made with the bottom larger than the top, the lead will in time work out, if there is much jar or side strain on the iron. Besides, the lead itself is liable to some compression, which admits of looseness, especially after being subjected to very hot fires. A much better article is sulphur. If this be melted and poured in around the staple instead of lead, it makes a much more durable job. Besides, it is often more easy to procure sulphur than lead, as every store keeps it that deals in general variety.—*American Builder.*

NEW CORN-HUSKERS.—A corn-husker invented by a working-man of Chatsworth, Ill., was recently tried by a farmer there who, upon arriving in the field, thought he would drive down a row that he had previously husked by hand, for the purpose of getting his team used to the machine before going into the corn. Upon reaching the other end of the row, a distance of eighty rods, he found about forty ears of corn of different sizes in the corn-box. As he was a man who considered himself a conscientious husker, he was the least bit surprised at the circumstance. We observe in the *Ambly, Ill., Journal* an account of a trial of another machine known as Mettler's Patent, which gathers the ears and husks and lets them fall on an apron whence they are carried to a wagon. It will harvest a row as fast as a team of horses can walk. The trial was considered a great success.—*Western Rural.*