

THE CANADA FARMER

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NEW SERIES.

The Field.

Hay Making.

In this country, owing to the hot weather that usually prevails about the time that hay-making commences, the drying of grass is an easy matter: but to make good, sweet, well-cured hay, is only accomplished by proper care and treatment. To such an extent, indeed, does the proper curing of grass affect its value as fodder, that considerable judgment needs to be expended upon this operation.

There is a time to cut grass, and if that opportunity be not seized, the hay cannot be cured as number one. There is in all grass, and more especially in clover, during their entire growth, a constant secretion of saccharine matter in their stems. As the seeds approach ripeness, this secretion decreases, and when perfectly matured, nature having obtained her object, the whole plant begins to decay. Now, it is this saccharine secretion which forms the chief fattening quality in the grasses, and more especially in clovers, and therefore our object must be to retain in the hay the maximum amount of this sugar.

It has been found by many carefully conducted experiments that grasses, when cut in their full vigour, contain nearly double the amount of nutritive matter that they possess when allowed to attain their growth and make some progress towards decay.

The grasses have attained their full vigour when they are in full flower, and then is the right and proper time to commence cutting. Indeed, with clover, it is better to cut before the flower begins to show any individual signs of decay, and thus save the whole crop when in its most vigorous state, and when most full of sap. Moreover, if some hay be lost by early cutting of the first crop, the increased after-math will give us full compensation. Fortunately, in Canada, we are seldom troubled with very "catchy" seasons at

hay-making time, and yet annually many acres of hay are almost ruined by bad management in curing.

The great advantage of having our meadows well rolled in the spring is perceived when we come to cut, for the mowing-machine should be made to cut as near the ground as possible, as one inch of the bottom of grass weighs more than two at the top. If turning be required, it should follow the cutting as early as possible, as the more rapidly the hay is cured upon both sides the more effectually will the essential juices be retained, and the less browned will be the colour.

The chief points to be ever borne in mind in curing hay, especially clover, are to preserve the hay as much as possible from all rain and dew; therefore to bring it into winrows, and if possible to cock it each night and each wet day; never to open it in the morning until the dew has entirely disappeared, and not to allow it to remain too long in the scorching heat of the sun. Clover hay is better cured when thrown into large cocks and left some time before drawing home.

We are apt to forget in this country that our hot sun apparently dries the outside of the hay long before the juices are fairly fixed in the stems.

The chief points to be considered in storing hay in the barn are: Mowing away in such a manner that it may be easily moved again. When the hay is inclined to be damp, salt sprinkled upon successive layers is very useful to correct any mustiness which might arise from heating. Indeed, it is perhaps always advantageous to sprinkle hay with coarse salt, for it seems to keep it fresh and green, imparting a cool dampness to the bulk, and certainly makes it more palatable to the stock.

In stacking hay, more care should be exercised than is usual in securing the bottom from wet. We believe that a regular stand upon some stone pillars or wooden posts would pay well; for such would not only

keep the stack perfectly dry, but would also allow of a current of fresh air passing constantly below the hay.

When hay is very damp, a ventilator is most useful. This is simply made by keeping a bag filled with chaff, or some light but bulky substance, always standing in the centre, building round this bag, and then drawing it up each time that the layers of hay rise to the mouth of the bag.

This plan of ventilation need not, however, be resorted to unless the hay be very damp, for a moderate sweating of the hay renders it far more palatable to the cattle.

The grand principles of a well built stack are that the centre be all the time kept higher than the sides, and that the whole be kept well trodden down.

Beet Root and Beet Root Sugar.

NO. XIX.

CARBONATION.

When the juice has been boiled with lime, and thus defecated, the scum removed from the surface, and the clear drawn off from the dregs, or, what is better, the whole juice after being scummed is filtered, it is (although clear and bright) very caustic, and tastes very badly from the presence of caustic lime in it. This lime must be rendered harmless, and then removed; and the best way of doing this is by rearing to the lime carbonic acid, which was the element driven off by the fire at the time the stone was made into lime, and the absence of which makes it caustic. As soon as the caustic lime comes again into contact with carbonic acid fumes, it attracts the carbonic acid and unites with it, and again becomes (although in a soft state) limestone, or chalk, or whatever the lime was made from, quite inert and tasteless, and with no more power in it than so much powdered stone. This is the effect which is produced when the fumes of burning charcoal, or from clear burning hard coal, or from any other substance which contains carbonic acid, are blown into it. The plan of