

TOBACCO CULTURE.

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(Continued from last issue.)

BULKING.

After the tobacco is stripped it is packed down each day where it will be secure from drying winds or wet. The "hands" are placed with butts out and the leaves overlapping at the tips for about one-third of their length, laying one row of butts one way, then another on the opposite, keeping them straight and even to prevent the air from drying the material. The "hands" are pressed together by kneeling on them while packing, and when the piles have reached a convenient height, say three to four feet, they are weighted with heavy planks on top so as to press the material down as compact as possible. The pile is then covered with some fabric or material such as blankets or sacking to prevent the drying of the exposed parts, and in this condition it is allowed to remain about a month during which time the curing or "sweating" process goes on, by which when properly attended to the leaves acquire a uniform color. The bulking is followed by an increase of temperature in the pile, which should be watched, and when a thermometer placed in the centre of the heap indicates a temperature of 100 to 110 Fahr., or when the heat is uncomfortable to the hand when introduced, the "bulk" should be opened and rearranged so that the outer and upper tiers may be brought to the centre. In this way the heat is lessened and the curing process proceeds evenly and uniformly throughout the pile. When the tobacco is thoroughly cured the "bulk" is opened and the material arranged more loosely and gradually cooled, when the tobacco will be ready for the market. When disposed of, it is usually packed in bales of about 100 lbs. each, firmly pressed together and enclosed in sacking.

VARIETIES.

Among the earliest and best yielding varieties tested at the Experimental Farm are: White Burley, Connecticut Seed Leaf, Pennsylvania Seed Leaf, Pryor Yellow, Climax, Yellow Mammoth, Oronoko Yellow, Safrano, Brazilian and Canadian. In 1896 the White Burley grown at the Experimental Farm was matured and partly harvested when a sharp frost occurred in September, which greatly injured the later sorts. The White Burley is much grown in the Province of Quebec, and is also the variety most extensively cultivated in Western Ontario. The Connecticut Seed Leaf stands probably next in public favor, and is well spoken of generally. Messrs. Walker Sons have found the White Burley and Connecticut Seed Leaf the most profitable varieties to grow, and think that a fair average of the yield of these varieties, taking one season with another, would be about 1,800 lbs. of cured tobacco per acre. Dr. G. LaRoque, late M.P. for Chambly County, Quebec, in his excellent little book on "Culture et Préparation du Tabac" gives the crop of the different varieties grown in Quebec as ranging from 900 to 1,500 lbs. per acre, while Mr. M. G. Bruner, of Olinda, Ontario, estimates the crop about Leamington at from 1,000 to 1,100 lbs. per acre. Where the same varieties are grown the yield in every

case will depend much on the quality of the land and the quantity of manure which has been used. In the small experimental plots at the Central Experimental Farm the weight of crop has been estimated in different seasons from about 1,500 to 2,500 lbs. or more per acre.

TOBACCO AN EXHAUSTING CROP.

From the reports which have been published of chemical analyses of the leaves and stalks of the tobacco plant it is evident that this crop draws heavily on the potash in the soil. It is also a considerable consumer of nitrogen and of lime. On such land as is frequently used for this crop, the ploughing under of clover to enrich the soil, large applications of barn-yard manure, liberal dressings of wood ashes or of salts of potash, and an occasional application of lime, will all be found beneficial. As the stalks take from the soil about the same proportion of the fertilizing constituents as the leaves, the exhausting effect of this crop on the land may be lessened by allowing the stalks to remain on the ground to decay and then ploughing them under.

In the preparation of this bulletin the writer has been aided by valued information from Walker Sons, of Walkerville, Ont., from John McNutt, Ruthven, Ont., and other practical tobacco growers both in Quebec and Ontario. Free use has also been made of the information gained by the comparative test of varieties carried on for several years by the horticulturist at the Central Experimental Farm.

FEEDING FODDER PLANTS.

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Feeding cattle for milk and butter, and feeding young stock bred for the dairy, is an important branch of dairying at which very few in the business excel. In fact it may be said that the great majority fail in this connection. It is quite common to see cows that have made excellent records with one dairyman utterly fail when transferred to the charge of another feeder. The buyer of such animals never thinks of questioning his own feeding, he accuses the seller of deception. Even when a farmer sells an animal which afterwards turns out a record maker in the hands of a capable feeder, he simply says he always knew the heifer would develop something uncommon. Dr. Stewart in his excellent work on feeding has done much to improve herds by teaching farmers much of the value for various purposes of the grains and fodders, based on analysis. But there is something deeper than the mere analysis of ordinary crops, and the combining of them in such quantities as to make a ration for milk, butter, or beef. The value of the fodders and grains on farms differs very materially, and this great difference is caused by another kind of feeding, the feeding of the soil. As by well-balanced rations and good fodders we improve the quality of the produce of the stock, so by proper rational attention to the requirements of the plants to be fed in the soil, we improve the quality of the produce of the land as food for the animal in performing its functions. During recent years it has been quite clearly demonstrated that the feeding

quality of the grasses and all fodders and grains can be more than doubled in flesh and fat-producing constituents, as well as in bone and muscle-forming elements. This is tremendously important and should engage the earnest thought of every feeder of cattle, as it opens the way to more economical feeding by reducing the feed bill, and possibly confining the ration to home-grown stuff, on which he has the full profit of a producer. And this is of equal importance to the hog raiser and breeder of horses.

The horseman aims at producing perfect bone and developing the muscle of his animals. This can be done more economically and perfectly by the production of fodder containing a high percentage of bone and muscle-forming elements. In this connection the pastures should be more carefully attended to, so that the quality of the grazing may be improved, as a great saving is effected by having pasture grasses of full feeding value instead of the poor run out herbage on which animals usually graze. If we depend upon the silo for our winter fodder, we should aim to have ensilage of the highest possible feeding value. It is this feeding value of fodders and pastures which often turns the scale for or against the farmer, while he is puzzled by the comparatively poor yields of his stock.

The effect of feeding better fodder is also marked in the quality of the butter, milk or cheese obtained, for even with the use of the best methods of manipulation of the milk the very finest quality of milk or cheese is not produced from poor feeding stuff. There is a field in Connecticut which is noted for the quality and quantity of milk and butter produced from cows fed from it. It has also been noticed that cows changed to other fields very soon show a deterioration in the quality of their milk.

It is then an important part of the dairyman's work that he should give great care to the feeding of the plants he grows for fodder.

CURING TIMOTHY HAY.

This valuable fodder crop is much more easily cured than clover. Less time is required in the curing process, and also less labor. But in the ease in which it can be cured lies one of the greatest dangers, viz., that of over-curing it. This mistake is committed to a grievous extent in all parts of the country, but nowhere is it so often made as in the prairie sections of the West and Northwest. When allowed to lie in the sun before being housed or stacked until it is so dried that it breaks off easily on being twisted, its feeding value is but little better than that of straw. Timothy should be cut before the bloom has left it. Authorities are not quite agreed as to the best time for cutting it. Some argue in favor of the season of early bloom, others favor cutting when in the full bloom, and a third class claim that it should be cut when in the "second bloom." When the blossoms come out on the timothy head they do not show themselves so quickly at the top of the head as on the other portions of the same. Soon they fall to the ground, but since they appear last on the upper end of the spike they also

remain there for a short time after the blossoms have fallen from the other portions of the same. The period is usually referred to as the period of the "second bloom." Storer would seem to favor cutting at a still later stage, when the greatest weight and nutriment are to be obtained. But weight and nutrition in a fodder will not avail when it has lost its palatability, and timothy is certainly less palatable after it has passed the period of second bloom. The only objection of weight brought against cutting timothy when in full bloom is found in what is termed "dust" arising from the dried blossoms, which shower out when the hay is being fed. But timothy should not be allowed to stand longer than the period of second bloom. When the timothy and clover grow together the time to cut must be decided by the dominance of one crop or the other. The first season clover will dominate the crop, and the time for cutting should be fixed to save the clover when at its best. The second year the timothy will be more abundant, and the period of cutting should be fixed to cure the timothy when at its best. And when a very large area is to be harvested the cutting of the crop should commence when it is under-ripe, otherwise much of it will be overripe before it has all been cut. The loss from cutting under-ripe hay is always less than that from cutting it overripe, the weather being equally favorable to the curing in both instances. When cut under-ripe the fodder is very palatable, hence there will be no waste when feeding it, and the residue of energy still left in the plant produces a good growth of aftermath. And the caution should be given here that in the time of dry weather, more especially on the spongy soils of the prairie, it may be well to cut timothy before it has reached the blossoming stage, for it may cure in a sense while standing without even coming into blossom. Notably may this prove true when there has been rapid growth early in the season, followed by a succession of dry, hot waves from the Western plains. When indications of such stagnation occur, the crop should at once be cut, even though it should not have passed the period of coming into the head.

Timothy cures so much more easily than clover that it is frequently not necessary to put it into cocks at all. When it has lain long enough in the sun to admit of its being readily raked it should be drawn into windrows, and in these it may remain in settled weather until cured. But when the weather is broken it should always be put in cocks. The exact mode of management will be dependent upon conditions, such as the succulence of the grass and the nature of the weather. One or the other of the following methods of curing timothy will probably be found applicable: First, when the grass has much of succulence cut in the afternoon, use the tedder next morning when the dew is gone and rake the same day. If necessary, put into cocks the same night, but if not, the hay may be drawn from the windrow the day following. Second, cut in the afternoon, use the tedder the following morning and rake and store away in the same day. This method will usually be found applicable when