

Eradicating Quack Grass.

This weed, which has given many farmers a great deal of trouble, goes under a variety of names. Its commoner names are couch, twitch and quack, and its scientific name is *Triticum repens*.

This weed, while seriously and universally condemned, has not been an unmixed evil to all whose farms have become more or less infested. Many farmers have found that the extra cultivation usually necessary for its eradication has paid well in the increased available fertility of the land, the result of killing the roots in the soil and the unlocking of lazy plant food.

I have had considerable experience with this plant, and have learned that it is an unequal fight with the weed when the ground is wet or the season showery. I have found that there are two methods more or less successful in its extermination, and commensurate with the amount of perseverance of the operator. We have learned much in studying the nature of the plant. Of course, it is a perennial, and is propagated by both seed and root, or, more correctly speaking, underground stem, as that is really what the root is. A portion of root with a joint carried to a moist soil, will start to grow, and produce other plants. We should avoid letting it go to seed, of course. Any hay containing much couch grass should be cut early—before the seed has formed sufficiently to reproduce itself, else there is danger of it being spread through the application of stable manure. The roots usually grow in the surface soil to the depth of three or four inches. The first method to adopt is surface cultivation, and use the sun and frost as much as possible to destroy the pest. Work at it, therefore, in the hottest and driest time of the year, which is usually after harvest, in August and September.

As soon as the crop is harvested plow the ground with a two-furrow gang, and turn the grass up to the depth which it grows, and then, with a spring-tooth cultivator and light harrow, work on the surface as many of the roots as possible, exposing them to the sun. If the roots are not too bad I like to kill them on the ground, as they furnish a lot of plant food for succeeding crops. If too bad to do this, rake up into winrows with the horse rake or weeder, and when dry enough to handle pile it in small piles and burn it, or cart it away to a stone heap or some place where it will die. There are some people who think it will grow from the ashes. I feel pretty safe, however, when it is reduced to ashes. I then plow, cultivate, and harrow again, and do as much work as I have time for in the fall in this way. Then, late in the fall, just before the ground freezes up solid, I rib the land, and let the frost help. If snow does not fall too soon and prevent the roots from freezing hard, the frost seems to freeze the moisture out of the roots, and thus kill all that are exposed. In the spring I prepare this for a crop of corn, and by planting it in hills, and cultivating both ways, the quack grass is pretty well subdued. In the spring preparation for corn, I would apply the manure and use a disk, as that chops up the roots more or less, and helps to smother the roots in the ground by the thorough cultivation afterwards.

The smothering process entails less work. One way of applying this principle is to let the quack get nearly headed out and then plow it down deep when the ground is quite dry, following with good cultivation, and this method has proven successful. However, it is pretty heavy work, and could only be used to advantage in some seasons and on the looser soils.

I find a satisfactory way is to plow shallow late in the fall, just before it freezes up for good, and leave the ground rough by cultivating it down so the roots stick up all over. The frost does a share of the work. Then, after the spring rains are sown, replot this ground; disk and thoroughly work the land until the soil is loose. In order for the quack roots to grow again they must have the soil packed close to them; then, we wish to prevent them getting air or light and thus storing up more vitality. After the danger of late spring frosts are over, sow with buckwheat, and when about a foot high plow it under in time that a seed-bed can be prepared on this for sowing buckwheat again by the 12th or 15th of July. This crop, sown at the rate of three pecks to the acre, I would harvest. The buckwheat sprouts quickly, grows rapidly, shades the ground perfectly, keeps the soil loose, and most effectually smothers the quack. There are some who apply the same principle by working the land as I have previously described until the middle of June or July 1st, and then sow millet (German millet preferred) quite thick, and this smothers the quack just as effectively.

The main principles I have observed in killing quack grass are, to use the sun when the soil is hottest, and the frost of early winter, thorough cultivation to get the soil loose, and then follow with a smothering crop. Thorough cultivation in a hoe crop is a smothering process.

T. G. RAYNOR.

The Meadow Lark.

This is a common bird in Ontario, but, unfortunately, its numbers are decreasing year by year. We do not need to seek far to find the cause of this. The enemies which are destroying this noble bird are crows, skunks, etc., and men with shotguns. We cannot keep the natural enemies altogether in check, but surely something can be done to prevent the wanton slaughter by the so-called sportsman—more correctly speaking, the ignoramus from town who thinks it is sport to hear a gun go off. The meadow lark does not fly high nor swiftly, and is therefore an easy mark. The farmer should order all of these shooters off his premises, and use every other effort to protect the bird which is one of the most useful to him.

From March till November we see this feathered friend in our meadows and cultivated fields. It feeds exclusively on insects, and to a large extent on those which are our especial enemy, viz., cutworms, wireworms, etc. Never have I known or heard of a meadow lark eating fruit or grain, though he may be seen in an apple tree making a meal on caterpillars and the like. Although the wireworm and cutworm are both under the surface of the ground in the day time (night is the time for "deeds of darkness"), they cannot escape the long, sharp bill which instinct directs to their hiding-place. Later on in the season, beetles, caterpillars and grasshoppers form the food of both old and young. Even in winter (and I have known them to stay here all winter) they do not eat grain. I examined the stomach of one which was shot in January by a "hunter" (he won't come hunting here again in a hurry), and it contained insects and grubs,

low places, as a rule, has more humus or vegetable matter in its composition, and hence is in better physical condition to promote vigorous growth of crops, which may account for the greater production of straw. The rotting of turnips or potatoes in low ground is generally owing to insufficient drainage and an overplus of water in the land.—Ed.]

Making Hay.

There is every prospect that the hay crop in most sections of Canada this year will be heavy. If well handled this may prove a valuable asset to the farmers of this country, not so much from its sale in the raw state as from its judicious use in feeding stock, in the production of meat and milk and its products, and the growing of young animals. The value of hay for these purposes depends largely upon harvesting it at the right time and in the best condition. It is a mistake to delay the commencement of the harvest until the bulk of the crop is near the ripening stage, as the stalks then become woody and lose much of their palatability and nutritive value, and the crop is more easily and seriously damaged by dew or rain in the process of curing. Of course, one must be guided in the cutting of the crop by the condition of the weather, and a showery season may defeat the best of intention and effort. But if the weather be favorable, it is well to begin the harvest early, for the reason that if it is unduly prolonged by unfavorable weather, or delayed from lack of help, the last cutting is liable to become overripe, and to deteriorate in feeding value. Another important consideration in favor of early cutting of clover is that the aftermath is certain to be much more abundant, and this, in the event of a dry time after harvest, may prove a boon as pasture for stock, or may be harvested as a second crop of hay if not needed for pasture.

These remarks apply especially to the clovers, but also to a considerable extent to timothy and other grasses as well.

The less partially dried clover or hay of any kind is exposed to the influence of dew or rain the better will be the quality of the hay. It is, therefore, important that it should be dried quickly, by exposure to sun and air, by being turned and tossed repeatedly, either by fork or tedder, and gathered into coils the same day, or, if sufficiently dried, loaded from the winrow and stored before dew or rain falls upon it. The early-cut hay is more likely to be well and safely cured if left for two or three days in cocks to sweat before stored in larger quantities, while later in the harvest it may in bright weather be cut and stored

the same day or the second day. This is quite practicable where the tedder, the side-delivery rake and hay loader are used, as in that case the hay is not at any time packed tightly as with the old-style rake, but handled loosely, and is more exposed to wind and sun in the entire process.

The Forestry Building at the Lewis and Clark Exposition, at Portland, Ore., is an imposing structure. It required no carpentry, being built entirely of logs and cedar-bark shingles, framed together with tree nails and big, old-fashioned wooden pins. It occupies a space 102 by 206 feet. The base logs are 6 feet in diameter by 52 feet long. The logs above these, which make the walls, are not less than three feet in diameter, while the roof-supporting pillars are 6 feet in diameter and 48 feet high. The roof and upper part of the walls are of cedar shingles. The logs are all left in their original state, with the rough bark still clinging, and nothing has been done which would lend an air of civilization.

Two years' investigation of red clover at the Maine Experiment Station showed, among other things, that the European clovers were invariably smooth and free from hairs on stem and leaves, while American clovers were invariably more or less hairy. It is thought this may be an important fact in relation to the dustiness of hay.

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Moonrise.

Junior two-year-old Shorthorn bull. Winner of first prize at Birmingham and at the Royal Dublin Show, 1903.

which it evidently had eaten in some refuse piles in a nearby garden.

The nest is built on the ground in the hayfield. Often when the hay is cut the young birds are left unprotected from the heat of the sun and sometimes perish. It is very easy to bring a stick from a fence or tree "the next round," and by placing it upright in the ground and piling some hay round it, to construct a screen. Here I have known the old birds to feed and care for the young till they were able to fend for themselves and the few seconds occupied in building the structure were never missed from the day's work.

"Woodman, spare that tree."

Sportsman, spare that meadow lark! LOCHIEL.

Manuring for Uniform Production.

A well-respected retired farmer told me the other day that he believed hollows or lowing portions of fields required manuring as well as hills. I believe otherwise, for in a bad year in a wheat field (winter-killed) the hollows are the spots that grow little or nothing; or in the case of a good year, grain in the hollows is apt to lodge, and part of it stays lodged till plowed under. Again, if roots are grown in the field in a wet year the hollows are a mess of rotten turnips or potatoes. My idea is that this is due to too rich soil; consequently, I believe in manuring so as to bring an even crop over the field on ordinary rolling, loamy land. However, I ask the opinion of others on this subject.

J. H. J.

Brant Co., Ont.
[Note.—Where the surface of a field is rolling or hilly, the low places receive some benefit from leaching from manure applied to the high land, and the washing from rains of part of the best of the surface soil from the hills to the hollows, so that the low places do not need so much manure as the higher land. The soil in