

one side of the obstruction and rupture the gullet, which proves fatal.

The ordinary case of bloating, due to overeating of green feed or to change of diet, does not require so drastic measures. All that is necessary is to neutralize the excess of gas, and oil of turpentine is most effective. For cattle, the administration of from two to four ounces of oil of turpentine in a pint of raw linseed oil will usually give relief in about thirty minutes. For sheep, about half the quantity is required. Oil of turpentine is a stimulant, neutralizes gases, and prevents the formation of more gas. If linseed oil is not at hand, use melted butter or lard, and, in case no turpentine is on hand, give one-half a cup of baking soda. After recovery from the bloating, it is generally advisable to purge with from one to two pounds Epsom salts, and always feed lightly for some time to allow the digestive organs to regain their normal state. Prevention is always better than cure, so take the precaution of making gradual changes when new green food is to form the basis of the diet.

Milking Shorthorns for Ontario.

Arrangements are being made by the Minister of Agriculture for Ontario, Hon. Jas. S. Duff, whereby a large herd of milking Shorthorn cattle will be secured in Great Britain for the purpose of increasing the number of this very desirable class of dairy stock in the Province. Of the special Federal appropriation coming to Ontario, some \$12,500 will probably be expended in this way. The foundation herd will be almost entirely used as an addition to the live stock at the Ontario Agricultural College, and the purchases will presumably be made by Prof. G. E. Day, of the Animal Husbandry Department during the approaching season.

THE FARM.

Disk Plow and Couch Grass.

New methods or variations of old ones in dealing with weeds are occasionally cropping up as men put intelligence into their work. A new way to deal with couch or quack grass came to my notice recently, and it may be new to others.

It has been a practice, and a good one, for farmers in many localities to plow their timothy sod as soon as possible after they have removed the hay crop. It is plowed shallow, rolled down thoroughly, disked and worked awhile, and later sown with fall wheat, and in some cases rye.

The newer method is to plow the sod with a double-disk plow, which requires two teams. This throws the sod up very rough and loose. After levelling the sods down with an ordinary harrow, the disk harrow is used to cut up the sods and quack rootstocks, etc., as fine as possible. Many of the rootstocks may then be pulled out on the surface, where the sun dries up all the moisture in them, and they have to die. Then the ground is disked over again, and the soil is levelled down as before, and sown with fall wheat or rye. Judging from a piece badly infested and handled in this way, I would say that the method is one of the most effectual I have seen.

Besides all that, I saw where a timothy sod had been treated in that way last summer, where the timothy had been harvested for seed, and this year there was a wonderful catch of volunteer timothy again. That is quick re-seeding. This was on the farm of S. J. Gourlay, Diamond, Ont.

T. G. RAYNOR.

[Note.—How would this work if a prolonged rainy period interrupted operations after the disk-plowing were done? Would it produce satisfactorily thorough results under very many different conditions? We should like to hear of other cases where the method was tried.—Editor.]

Cultivating Corn.

The prime objects of inter-cultivating crops like corn and roots are four, namely, (a) to help conserve moisture by making and preserving a blanket of loose, dry earth over the firm, moist soil beneath; (b) to promote free aeration of the soil; (c) to loosen soil through which plant roots may afterwards permeate; (d) to keep down weeds. Many people say they cultivate to liberate plant food, but this is merely a general repetition of the first two points. It is by the conservation of moisture and the aeration of the soil that plant food is liberated. As a rule, the cultivation necessary to serve the first three purposes fully will be sufficient to accomplish the fourth one incidentally, though this is not to minimize the latter, which is probably, in many cases, almost as important as the first three put together. Without discussing scientific principles already known to every well-informed reader, it is sufficient to state that consensus of opinion among scientific and every-day practical men concerning the old-fashioned idea of "plowing" corn, and the new method of "cultivating" corn, is in favor of the latter, the principle of scuffling the surface of the soil at first, especially in the middle

of the space, but becoming gradually shallower, until, by the time the brace roots have spread across to meet each other, the cultivation is only an inch or so deep, but is still continued at intervals to prevent the formation of a crust; and in this connection let us say that the first two objects enumerated above will be largely accomplished, so long as one observes the simple rule, "Don't let the crust form."

In view of the preceding points, does it not seem the part of wisdom to follow a system which will stir the soil frequently? We often see men let a cornfield lie for weeks, and then go in to "rip it up" with the cultivator. Could they see the immense number of roots they cut off, and the still greater number of tiny feeding rootlets and root-hairs which they disturb, they would be a little less heroic and a little more prudent. We have known fields cultivated that way in a dry time to go back badly, shrivelling up and showing every sign of insufficient moisture, while others alongside, cultivated rationally, would make growth even through the drouth.

In our own practice last year, we cultivated sixteen acres of corn, at a cost of \$38.09 for men and horses, the time being 124 hours of men's time and 173 hours of horse time. In addition, there were several days spent hoeing thistles, mainly because they got a start before we could secure the wide points to use on the cultivator. This corn crop was harrowed one forenoon with a five-section harrow, just as it was peeping through the ground, and afterwards scuffled about once a week, though sometimes oftener, principally with the two-horse riding cultivator, covering two spaces every time across. By straddling one row one time, and the alternate one the next time, about as thorough work in weed eradication

method, using the machine at Redfield, Lemon, McIntosh, Ipswich, Eureka, and Big Stone. Plants were set with a plow at Faith, Sansarc and other points, favoring mainly the dry Western and north-western parts of the State. I believe this will be a way of doing away with dodder and injury from diskings. I see no need of injuring plants that should last several centuries by mutilating them with a disk and harrow, and 20 pounds per acre means 100 plants per square foot. Some of these Russian alfalfa plants had 500 shoots from one crown when given room in the garden.

"This machine transplanting I have had in mind for over a year, so I thought I would get at it this spring before anybody else would happen to think of it. I claim no originality for it, except that I have combined Oriental methods with an American machine, one of the machines commonly used for tobacco, cabbage, cauliflower and tomatoes. At present I am only speaking of it from the seed-raising standpoint, but believe it will work out, also, from the forage standpoint.

On a large area of this Western country, farmers have had no crop for two years, so they are looking anxiously for something of a perennial nature that will be independent of surface conditions. Farmers feel that it is uncertain to place their main dependence on annual plants like wheat."

Making Hay in Kansas.

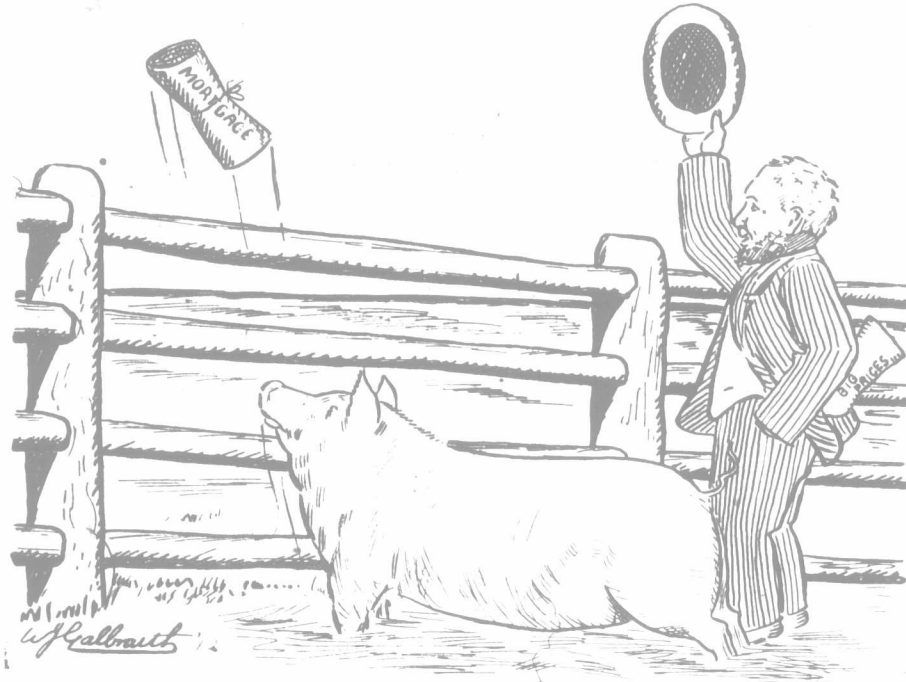
A. M. Ten Eyck, of the Kansas Experiment Station, points out that many farmers might afford to give more attention to the matter of quality in hay, and to this end it is important to know not only what hay plants are best adapted to a given locality, and the best method of seed-

ing them, but it is equally important to harvest and save the hay in such a manner as to secure the largest amount and best quality of product. "Good quality, as indicated by the bright-green color of well-preserved hay, will readily add a dollar or two per ton to the selling price," he says, and he might with equal truth have added, "to the feeding value, as well." The following excerpts have been compiled for the U. S. Experiment Station Review from Kansas Station Bulletins 155 and 175. They contain many good suggestions:

CUTTING THE HAY.

The common hay grasses and legumes differ somewhat in the stage of maturity at which each should be cut to make the best quality of hay, and farmers and feeders are learning that this difference in quality means not only a difference in market value, but also a difference in feeding value. The stage of maturity at which grass should be harvested, in order to make hay of best quality, varies somewhat with the different grasses and the use to which the hay is put. A safe rule, applicable to all common grasses, is to cut the grass just as it is beginning to bloom, or just after the bloom has fallen. For cattle and sheep, hay from the early cutting is best, but for horses the later cutting is preferable. When cut in the early stage, grass is sure to make good clean hay of prime quality, if the hay is cured well. Often, a larger weight may be secured by cutting the grass after it becomes more mature, but the quality of the hay is not apt to be so good. If grass is cut when in full bloom, the hay is sure to be more or less dusty. The over-mature hay is less palatable to stock, and its feeding value per hundred pounds is usually less than the value of that cut at an early stage of maturity. Timothy should be cut just as it is coming into bloom. When timothy is grown in combination with common red clover, it is necessary to cut the crop early in order to secure the clover before it has become too ripe to make good hay. The hay cut at this stage is best for feeding cattle and sheep. Timothy should not be allowed to stand until in full bloom, since, if cut at this stage, the hay will be dusty and especially objectionable for feeding to horses.

To secure the best quality of hay for horses, timothy should be cut just as it is in its second bloom, which is usually about the time the grass has about ceased to grow, and the blossoms have fallen. When cut at this stage, the



The Hog as a Mortgage-tosser.
Stick-to-the-hog Farmer—"Well done. Three cheers for the rooter."

was done as if the same amount of time had been spent cultivating just half as often, but straddling each row at every cultivation. The advantage consisted in the fact that we broke most of the crust nearly twice as often as we could have done by the other plan. On one or two occasions the sixteen acres were cultivated by one man and a team in ten hours, but it takes a good driver and a fast-walking team to do it.

This corn crop, though planted late on spring-plowed sod, unmanured, made headway from the start, and never ceased growing through all the blistering drouth. It made a fine crop of strong, well-eared, well-matured corn, and the land, though a regular thistle-bed to commence with, was left almost perfectly clean by fall. Of course, some thistles are still coming up in the oats, but very few, comparatively speaking. We do not say our method is unimprovable, but we think it rational, and commend it to the consideration of corn-growing farmers. The subject, however, is important, and not to be exhausted in one article. Suggestions are invited, and the experience of others especially requested.

Setting Alfalfa Plants with a Machine.

Prof. N. E. Hansen, of Brookings, South Dakota, who has brought in so many hardy plants from Siberia for the United States Department of Agriculture, sends to Secretary Wilson an interesting letter with regard to his new idea of transplanting alfalfa by machinery, instead of sowing the seed. He plants them at the rate of 6,000 plants per hour. Prof. Hansen says: "I took a three weeks' tour this spring with two assistants, and transplanted a number of acres by this new