

rifle on them, leaving some of the dead ones lying where they were shot, while others were hung up on stakes, fence posts, etc., as well as other scarecrows displayed in different shapes and forms. In spite of all this, we lost a large part of our corn crop every year.

I may add that it is important to heat the tar hot, and stir the corn thoroughly with a stick or corncob after being dipped in it, and the corn left in shallow lots, exposed to the sun or wind for a few hours to dry, otherwise the corn might stick together and not go through the seeder or corn-planter evenly.

W. A. OSWALD.
Two Mountains Co., Que.

TRY SOME "EMMER."

Editor "The Farmer's Advocate":

I notice that emmer is not generally grown throughout the country. This spring grain, we believe, should receive more attention. We have been growing it now for four years, and find it very desirable. Last year it yielded us sixty measured bushels to the acre. Mixed with oats or other rough grain, it makes an excellent chop either for cattle or hogs.

Emmer requires the same cultivation as our ordinary spring-grain crops. It, however, has the advantage that it does almost as well sown late as sown early. One bushel of seed per acre, we find, is plenty to obtain the best results and also give an ideal nurse crop for clover or grass seed. Remember that emmer is not speltz. It is superior in almost every respect. I trust, Mr. Editor, that you will advise the many readers of your valuable paper to give emmer a trial this spring.

Middlesex Co., Ont.

B. J. WATERS.

ALFALFA SEEDING IN JULY.

Editor "The Farmer's Advocate":

Quite a number of your subscribers are asking for information about alfalfa. I have been growing it for several years, and have tried many ways, seeding in spring with fall wheat, harrowing it in, sowing one bushel of barley as a nurse crop, and sowing it alone at various dates. My soil is a rich sandy loam, gravel subsoil, and I am firmly convinced that for me the best plan is to fall-plow and thoroughly cultivate until about first of July, then sow 20 lbs. per acre. This method thoroughly cleans soil of all grass and weeds, and conserves abundance of moisture, and the ground is very mellow. Under similar conditions, on the 4th of July last I sowed a patch, and just seven weeks after went to clip it with mower, and found it 14 to 16 inches in height, and had to cure it for hay. I tried some nitro-culture on part of a field, but got no benefit whatever; however, if anyone has any doubt it is not much expense nor trouble to try.

Select a small piece of ground where water will not stand, make it rich, have soil in good state of tilth when seed is sown, sow plenty, and you will get what you will want more of. It is not a plant for building up a poor piece of land, as our common red clover, but one that under conditions favorable to it will produce more nutritious food than any other that we are growing at this present time.

F. M. LEWIS.

[Note.—We are very glad indeed to receive this experience in sowing alfalfa in midsummer. In the United States a good deal has been said of recent years about sowing in August, and we have thought possibly summer seeding would be successful in Canada, but scarcely felt warranted in recommending it. Will others who have tried it kindly communicate their experience? As for the nitro-culture, it is plain that the land on this farm does not require it, being already inoculated. There are some cases, however, where nitro-culture produces striking results.—Editor.]

WHAT UNDERDRAINAGE WILL DO FOR ROADS.

We must not let our exploitation of the split-log-drag idea obscure the importance of other means of road-maintenance. The drag will do wonders, but it is not everything. There are many pieces of road that will never be good till they are underdrained, and many others that could be improved more economically in this way than in any other.

About a year ago (see "The Farmer's Advocate," May 31, 1906, page 885) an observant correspondent referred to a piece of highway called the Wellington Road, south of the City of London, which used to be almost impassable in spring when the frost was coming out of the ground. The bog-hole was done away with by a large tile drain up the center of the road, and that part has been good ever since. Inquiry revealed that the draining was done by the city corporation some six or seven years ago, and as there were municipal funds to use, no expense was spared. A large tile was laid some six feet below the surface, and the trench filled with gravel. A less

elaborate system would have sufficed, but there is no doubt the filling with gravel helped, perhaps almost as much as the tile. The results have been a matter of comment to everybody using that highway.

One day this spring, April 5th, by which time most roads in the vicinity had fairly well dried up, a member of "The Farmer's Advocate" staff took out his camera and photographed the underdrained piece, which is a gentle grade on the south side of a hollow. By way of contrast, the camera was then turned north, and a snap taken of the opposite slope. The results are indicated by the accompanying engravings, but the reader must bear in mind that it is impossible to show depth of mud with a camera. A road with a few shallow ruts looks nearly as bad in a picture as one that is badly cut up. Notwithstanding this, the difference is brought out fairly well. The



Cut 1.—An Underdrained Road in April.

underdrained road, we are told, has been fairly good at all times this spring, and on the day of our inspection was in excellent condition, except for one shallow, muddy spot, which would not have been there if there were any semblance of a crown. Crown there is not, the tough sod shoulders being as high as the center of the road.

The opposite slope, shown in the contrast picture, used to be considered quite good by comparison, but this spring was at times well-nigh impassable. Even the day we saw it water was standing in the holes and ruts, some of which



Cut 2.—Underdrainage Needed. The photo from which this engraving was made was taken the same day as that reproduced in Cut 1. This piece of road is just north of the other, and until the other was underdrained this was much the better of the two.

were nearly a foot deep, while the whole surface was spongy, and in such condition that few men would trot a buggy horse over it. In the center, just in front of where the horse is shown in the illustration, two or three loads of cinders had been used to fill a bog hole, and the general condition was such as to afford a most striking contrast with the underdrained stretch.

A \$1.00 KNIFE.

I received the premium knife March 29th, and am well satisfied with it. It is fine, just as good as you advertised it to be, and exactly the thing on the farm. Every farmer and farmer's son should have one. They are worth \$1.00. I hope I may be able to favor you with a few more new subscribers soon, and obtain some more of your valuable premiums.

St. Catharines, Ont.

LOUIS A. MARTIN

THE DAIRY.

GARGET AND CAKED UDDERS.

There appears to be a growing belief that caked udders, diseased teats and affected quarters are on the increase among cows. These troubles condemn many good milkers to the butcher's block. Lately we sent to a number of dairy breeders a letter containing the subjoined catechism. A few replies appear below, but the subject deserves fuller discussion, and we shall be pleased to hear from any commercial dairymen or breeders of registered stock who have had helpful experience. We are particularly anxious to obtain the experience of any who have tried the air or oxygen treatment, which is now recognized as the only treatment worth while for milk fever, and is also recommended by Dr. A. T. Peters, Veterinarian of the Nebraska Experiment Station, for the cure of garget and caked udder.

QUESTIONS FOR READERS.

1. According to your experience and observation, are cases of garget and caked udder on the increase?
2. If so, to what causes do you attribute the fact?
3. What preventive or remedial measures have you found most effective?
4. Have you tried, or have you any knowledge of the treatment advised by the Veterinarian of the Nebraska Experiment Station, viz., pump-in air with a hand bicycle pump through a teat siphon, and massaging the udder?

G. W. CLEMONS, Brant Co., Ont.—I am inclined to believe that these troubles are on the increase, partly, I believe, through carelessness in drying cows; i. e., neglecting to care for them properly, often from press of other work; partly through epidemics of contagious mastitis, which seem to be general in the last two or three years; also from colds, resulting in inflammation (in hind quarters particularly), from cows lying on the wet ground after prolonged cold rains, particularly so in 1904 and 1905.

I would recommend greater care when drying up cows, stabling cows at night during heavy rains, and the free use of disinfectants. I have never tried the air treatment, but a well-known breeder informed me last summer that he had tried it, with complete success, on a case of mastitis, the treatment acting like magic.

I may add that, for inflamed quarters, which are so common in wet summers, the best remedy I have found is a liniment composed of 4 ounces sweet oil, 4 ounces laudanum and 3 ounces extract of belladonna, well rubbed in after milking.

GEO. RICE, Oxford Co., Ont.—Caked udder—so called—I consider to be the normal condition of good cows when in good condition at freshening. It is to be hoped that large udders are on the increase, as it means better cows. I have had people come to the stable when the cow is freshening, and, consequently, having a very large udder, and think there is something wrong with them, and want to know what I would do for it, while that same udder was just what I was working for. Poor cows are not troubled with caked udder, and good cows in poor condition are not so troubled. A good large udder, which is necessarily somewhat caked, does not alarm the man who keeps good cows. Of course, in reaching this desirable end, trouble may come to the inexperienced; and if the udder should appear to be rather hard, or if the cow is in a very flush condition, there is nothing better to soften up the cow's udder before freshening than to put a halter on her and give her a mile or so of exercise—slow walk. Then, of course, she must be put in a fairly warm place after exercising, else she will catch cold after the warming up.

A cow's udder is really a complicated piece of machinery, and if there has been any trouble with her udder before, it is likely to be aggravated when freshening again. In this case, besides exercising, it would be well to give a cow a good dose of salts—1½ pounds to the dose—followed up by a tablespoonful of saltpetre once or twice a day, as the case may seem to call for, in her feed. Saltpetre is a mild purge, and cooling to the blood. Udder trouble is nearly always caused by a poor condition of the blood. It is for this reason that a good dose of salts, given promptly upon any appearance of trouble, so quickly relieves the soreness of the udder.

Another prolific cause of udder trouble or garget is often carelessness in milking—not milking clean. Take a poor milker in a stable, and he will be having trouble all the time, while a good, thorough milker will not have any trouble, when the cows are otherwise all under the same conditions. If, however, garget strikes in, from neglect or any other cause, it should be attended to at once by purging the cow with a good dose of salts. If allowed to go even one day, it may result in a partial loss of that quarter of the udder.

There is considerable trouble from cow pox.