

Percolation as Applied to Manure.

Editor "The Farmer's Advocate":

Very few realize the loss that is annually accruing from not making the most of the manure. When to apply it so as to avoid this waste, has been ably set forth both by H. B. S., page 82, issue Jan. 18th, 1906, of "The Farmer's Advocate," and likewise by Mr. John Lawson, in issue of 22nd of Feb. I should say that the latter's system is about perfect. There is one thing that we should remember, which is: No matter how much loss there may be from either the escape of the gases or by percolation in the barnyard, the expense of hauling is practically the same. There are some losses it is very hard to estimate. It is so with manure when it is piled, or rather wheeled out into the barnyard, and exposed to the sun, rain and snow. We know that there is a loss; just how much we cannot say, but always some, and sometimes considerable. If we really knew how much loss there was, I am sure so many would not allow it to continue. For example, if, after two or three days of rain, you should find one side of your manure washed away, equal to one-tenth of the whole, it would surprise you, and if this occurred again, and every rain that came took another slice off, you would, I think, take immediate steps to prevent it. For the manure represents largely the profits of your winter's work, perhaps in some cases all, and no small profit is it, either. Now, if the loss occurred in the way I have mentioned it would be much better, for one would have that much less work hauling. It is for this reason that, if by giving away one-fourth of your manure, the remaining three-fourths contained as much strength as the whole, you would be money in pocket. Not many farmers would think of selling their manure, not even a part of it, who allow it to be lost in other ways. As I said before, it is difficult to estimate the loss, but am safe in saying all the way from 1-10 to possibly 1-3, from percolation alone. That you may better understand how this comes about, I will take you into the laboratory of any up-to-date drug store, that you may see how the medicinal strength is extracted from roots, herbs, etc. You will notice a glass affair resembling a funnel, only not so tapering, except near the bottom. The one in the bottle, we will suppose, contains ground aconite-root. Now, the medicinal properties of aconite are only soluble in alcohol, so this is poured on, sufficient to saturate it. If it were stable manure we wished to get the strength from, we would put on water instead, as kind Providence has made the available properties of manure plant-life soluble in water. Now, to get the strength out of this aconite we simply pour on more alcohol, which forces out the first alcohol put on, and that now contains the medicinal part of the root. Now, the

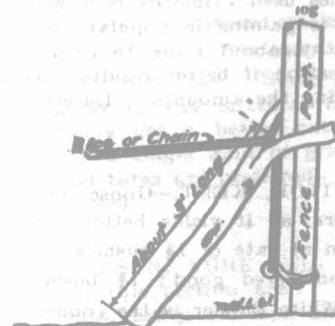
first that comes out is carefully preserved, as one drop of this is worth, maybe, twenty drops of what comes off a little later. Now, knowing this, you will better understand what is going on with the manure pile out there. It comes from the stable saturated with liquids (or should be), and is piled up in uncertain depths, depending on the room there is and the determination of the worker not to spread it too much. As it is not an easy matter wheeling up hill, the manure pile does not usually get very high. Now, this manure pile is one large percolator, and all we have to do to get the soluble strength from it is to pour on water, and this virtually happens every time it rains. Now, if your manure was saturated with liquids when taken from the stable, as it should be, then every drop of water that goes on top, after deducting what passes off in evaporation, forces out just that much soluble matter from that manure, and, as in the case of the aconite, the very best is that which comes off first. I have seen it, and so have you—a heavy, dark liquid, the very essence of that manure, and so little is this valued by many that a ditch, or what answers to that, is made to carry it away. Unless, however, you have a cement bottom under your manure pile, you will never know how much is lost in this way, so do not go away with the impression that all that is lost is what you see. In some cases you may see very little. You can only judge what is lost by what goes on top. If you want a pailful of that concentrated liquid manure, all you have to do is to put a pailful of water on top, and, whether you want it or not, this is what occurs after every rain that is more than sufficient to stimulate that portion on top that may be dry. You may ask am I sure that the water put on top does not get through without loss in this way? We will go back to the aconite once more, and find that when we cease pouring on liquids on top then it ceases to drip below, and when we pour more on it immediately begins again. That it is not the liquid we put on after it is once saturated that comes off, but that this is forcing the other before it, is easily proven. In case of the aconite, we saturate it with alcohol and pour on the prescribed quantity. Now, to get this alcohol all out, we have simply to pour on water. When we have reason to believe all the alcohol is out, we can easily tell by applying a lighted match, because water will not burn, you know. Now, there is something more about the rain and snow that may fall on your uncovered manure pile that you have probably never thought of; it is this: Except what passes off in evaporation, every ounce of it over and above what has been sufficient to go to the bottom of that pile has to be taken out along with the manure, making that much extra labor for more than nothing. That pail of water you thoughtlessly threw on that manure has not only to be taken to the field, but has forced out that much of the very best of it. If this percolation was allowed to continue, I would not go so far as to say that your manure would be of no value, but not for a time at any rate, and then

possibly not worth the drawing. It very seldom reaches this stage, though sometimes it may. You must have noticed, when drawing out manure than has been exposed to rain and sun, that much of top is light and dry. Perhaps, like myself, you have consoled yourself with the thought that the strength from this will be down below. It has gone below, it is true, but in doing so has displaced some a little better, which in turn has done the same, until it has got down to the bottom and out. How much good manure has been lost by surface draining, and disappeared in soakage, in many a barnyard, will never be known. If it, say, averaged one-fifth of the manure thus exposed, what a sum it would be! In some cases it would pay the taxes. "The Farmer's Advocate," and a half a dozen more good papers, and still have some to the good; or, if it had been properly cared for, think of the extra hay and the bushels of grain and the pounds of butter there might have been. If you cannot keep the manure under cover or draw it out and spread it at once, at least pile up as you would build a stack, and the deeper the better, packing it by tramping of horses or other stock, to prevent fermentation and escape of ammonia.

G. A. DEADMAN.

Handy Fence-post Puller.

For a handy device to pull old fence posts out of the ground, find a crooked-tree limb or fork like the letter Y, about 8 feet long. Lean the



fork against the post; loop log chain around the post at the ground; then up the post, through the fork; hitch team to other end of chain, and you have a lifting power here that will pull any post as fast as you can hitch to it.—[N. W. Cook, in Practical Farmer.]

Byron Newman, Spencerville, Ont., writes: I am pleased to inform you that I highly appreciate the educational influences of the "Farmer's Advocate and Home Magazine." I believe every department to be doing noble work. I wish to thank the writer of the Quiet Hour Department for many helpful things written, but especially for "Coincidences: Are they accidental or Providential?"

Varieties and Kinds of Farm Crops.

The matter of kind and varieties of farm crops to sow is always an important one at this season. Selection of seed, to secure large, plump kernels from prolific parent stalks, may be still more important in the long run than choice of varieties, but variety plays a large part in yields, and the best results are secured by those who first get the best varieties possible, and then practice their selection on these. In choosing varieties, local adaptability must largely govern us. The Dominion and Provincial Experimental Farms and the Ontario Exp. Union are doing a great work, but their findings do not always accord perfectly with the results obtained by farmers. In this issue of "The Farmer's Advocate" will be found a symposium of the experience of practical farmers in various sections of the country, in reply to a circular letter asking the following questions:

1. Name the two or three varieties most favored in your section, of spring wheat, oats, barley, peas, corn, mangels or sugar beets, turnips, carrots and potatoes.
2. How much seed of each is used per acre?
3. What varieties of oats and barley are preferred for sowing together?
4. What other mixtures of grain, if any, give best satisfaction with you?
5. Does it pay better to sow mixtures of grain than to sow the various kinds singly?
6. Do you get as good catches of grass and clover seeds with mixed grains as with one variety alone?
7. What crops are sown for summer feeding?
8. What grasses and clovers are sown for seeding down?
9. What amount of seed is used per acre?
10. Is lucerne displacing clover to any extent in your section?

ONTARIO.

W. A. ESMOND, HASTINGS.—In this section the varieties most favored are: Spring wheat, Red Fife and

Colorado; oats, Egyptian and Siberian; barley, common six-rowed and Mandcheuri; peas, Canadian Beauty and White Wonder; corn, White Cap Yellow Dent and Compton's Early; mangels, Evan's Mammoth Sawlog and Giant Yellow; turnips, Purple Top, Mammoth, Buckbee and Grand; carrots, Victoria Long Red and Sutton's Matchless White; potatoes, Rural New Yorker, American Wonder and Early Puritan. Seed used per acre: Wheat, 1½ bushels; oats, 1½ bushels; barley, 1½ bushels; peas, 2 bushels; corn, 1 peck; mangels, 2 lbs.; turnips, 2 lbs.; carrots, 1½ lbs.; potatoes, 10 bushels. Varieties of oats and barley sown mixed are common six-rowed barley and Siberian oats. Other mixtures are of wheat, oats and barley. Mixed grains give larger yields than single varieties. We do not get as good catches of grass seeds with mixed varieties as with a single kind of grain. Crops for summer feeding are peas and oats, clover and corn. Grasses for seeding down are red clover (small), timothy and alsike, sowing from 10 to 12 lbs. per acre. Lucerne is very little grown.

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ROBT. MCKAY, GLENGARRY.—Wheat, Red Fife and White Fife, 2 bushels per acre. Oats, Sent Action and Banner, 3 bush. Barley, chiefly Mandcheuri, 2 bush. Peas, a complete failure; farmers have quit trying to grow them. Corn, Compton's Early, Leaming and Yellow Dent, 25 pounds per acre. Owing to the scarcity of farm help, roots are not grown to any extent, and the farmers who do grow them mostly plant such varieties as the Improved Purple-top turnip, the Short White carrot, and the Long Red Mammoth Mangel. I am unable to give you the quantity of seed used per acre in the root class. Potatoes were a complete failure in this section in 1903 and 1904, owing to rot, so they had to be brought from other places in car lots, and it was not a case of getting varieties of choice, but taking what we could get. As this section is adapted for dairying, the farmers indulge more in the growing of

crops suitable for feeding purposes. Oats and barley are the two principal grain crops, and they are always sown singly. Lucerne is not grown at all, but clover is grown very extensively. The grasses and clovers used for seeding down are timothy, red clover and alsike, and the quantity used per acre is about 10 lbs., containing 5 parts timothy, 3 parts red clover, and 2 parts alsike. Summer feeding is rarely indulged in, and the few that do so feed meal until the corn crop is matured enough to use.

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C. R. GIES, WATERLOO.—In this section the favored varieties of oats are the Daubeney, the Siberian and the American Banner. There is no spring wheat grown. The chief varieties of barley grown are the common six-rowed, the Black Hulless and the Mandcheuri. Peas are rarely grown, and the only variety found in this section is the Golden Vine. Corn is grown only for ensilage; the chief varieties are the Leaming and the White Cap Yellow Dent. The Mammoth Long Red and the Yellow Intermediate are the two chief varieties of mangels. In turnips, the most favored varieties are the Improved Purple Top and Hartley's Bronze Top. Carrots are rarely grown, but when they are grown the Giant Short White carrot is the favored variety. The two most favored varieties of potatoes grown in this section are the Empire State and the Rural New Yorker. On an average the following amount of seed is sown to the acre: Oats, 60 lbs.; barley, 70 lbs.; peas, 90 lbs.; corn, 28 lbs.; mangels, 8 lbs.; potatoes, 800 lbs. The only mixture grown is that composed of Daubeney oats and Mandcheuri barley. It has been my experience that it is more profitable to sow mixtures of grain than it is to sow the various kinds singly. I get as good catches of clover and grass seeds with mixed grain as with one kind of grain alone. In this section there are no crops sown for summer feeding. The grasses and clover sown for seeding down with are timothy and the common red