

must be permanent (lasting one year.) (2) Its composition must be such that it can be completely removed by ordinary scouring solutions.

Tests made at the Wyoming station to ascertain the comparative efficiency, durability, and scouring-out qualities of various sheep-branding paints showed that the paints remained longer on downs and fine wools, but the fineness of the wool had no effect upon the scouring-out qualities. Certain of the market paints gave good results, but paint made of Venetian red or lampblack mixed with linseed oil thinned to the right consistency with turpentine was much more durable than these, although it did not scour out well.

Care of the Litter.

Spring litters are now coming, and as with all young stock, the newly farrowed pigs need some special attention. True, less trouble is usually experienced with spring litters than with fall litters, the warmer weather permitting of more outdoor exercise and ensuring fewer chills making the difference. No feed should be supplied the sow for a day or two after farrowing, and then commence by giving a light laxative ration to tide the sow over the critical period and prevent an attack of indigestion, a trouble quite prevalent in sows which are fed heavily at this period.

As soon as the sow has recovered from farrowing increase her feed so that she will supply an abundance of milk for the youngsters. When the pigs are between three and four weeks of age arrange a small trough so that they have access to it, and from which the sow is debarred, and commence feeding. Be very careful at first not to overdo it. Never give more than they clean up at a feed, and keep the trough clean. Give feed in small quantities regularly. The best feed of course is skim milk. The feeder should be careful to feed it of uniform temperature and quality. It is not wise to feed it cold at one feed and warm at the next, neither is it good practice to feed sweet skim milk at one feed and follow this by sour milk. When accustomed to it, cold milk is just as good as warm, and sour milk just as valuable for the litter as sweet. The important factors in feeding young pigs are: regularity in feeding, feeding at frequent intervals and supplying feed of uniform quality, and in uniform quantity. This is even more important after the pigs are weaned than while they are on the sow. Weaning should be done when the litters are from six to eight weeks of age, according to conditions. If possible, feed the recently-weaned pigs on skim milk and shorts. Where skim milk is not available Prof. Grisdale, Director of experimental farms for the Dominion, recommends twenty pounds of shorts, twenty pounds of red dog flour, ten pounds of screened oats, five pounds of oil-cake meal, and five pounds of tankage or blood meal as a good mixture. Such a feed he says is easy to digest and supplies the necessary elements to produce rapid growth so essential in profitable pork-production. Digestive tankage, he believes, will almost take the place of skim milk. The main object is to keep the pigs healthy and growing. Give plenty of feed, but not more than they will clean up from one feed to another. Keep the pens well bedded and dry, and as the weather gets warmer let them out in a grass plot for exercise. Young pigs with a good paddock to run in invariably do better than those kept in close confinement.

One of the most important factors for the farmer to consider, says a South Carolina bulletin, is the value of the manure obtained from the cattle. Sixty head used in a Carolina experiment produced 172 tons of manure in 102 days. The fertilizing value of this manure was nearly three-fourths that of the feed consumed, and exceeded \$3 per ton. The high value of this manure shows the necessity and advantages of feeding the cattle under conditions that will prevent unnecessary loss.

It has generally been held, says a United States bulletin, that silage-fed cattle lose very materially in live weight when shipped long distances. In 1906-07 the Virginia Experiment Station found that cattle fed corn and cottonseed meal with silage as the principle form of roughage lost 41.2 pounds per head in being shipped to Jersey City and it is stated that practical shippers in Virginia figure the average shrinkage to Jersey City at from 60 to 70 pounds per head. This would seem to show the silage-fed cattle compare very favorably in this respect with those fed on other feed.

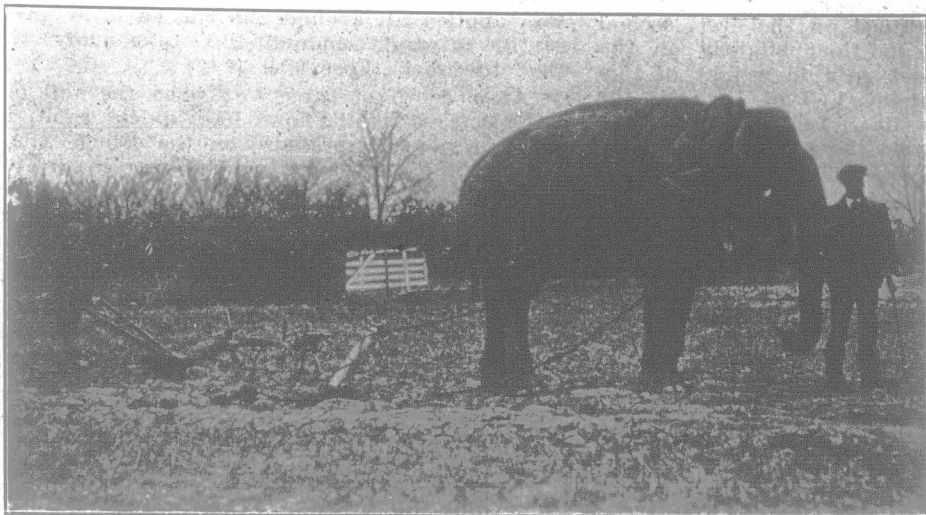
"Out in the meadow the young grass springs." All stockmen welcome the springing of the grass, but care should always be taken that the cattle are not turned on it while it is too young and tender, and more cattle than the pasture acreage will feed properly should never be allowed or compelled to feed off it. The practice of "turning two steers on one blade of grass" is to be condemned.

Another Pig-Feeder's Methods.

Editor "The Farmer's Advocate,"

As I have noticed several articles in your valuable paper respecting the feeding and gains of hogs, I will give my experience.

I prefer giving three feeds per day. The first one consists of all the water they will drink (if in winter warm water) and then dry chop put in trough and wet with water, not sloppy. At noon the chop is prepared in the same manner with a few whole mangels. The evening feed is the same as the morning. Last fall I had five hogs which weighed 1,130 pounds at five months and five days old, which speaks well for this



Back to the Land.

It costs something to feed a circus elephant. To help pay for this, the elephants during the circus' off season, are made to draw plows. This illustration, and that of the camel, reproduced from photographs taken in England, where the circus spent the winter.

method of feeding. Two weeks before they were sold I got one hundredweight of barley and buckwheat chop, two parts of barley to one of buckwheat. They were fed on this until finished, and made remarkable gains.

We have had pigs weigh 250 pounds before they were six months old. We do not keep pigs over six months of age, except the brood sows. Huron Co., Ont. E. G. JAMIESON.

Results of experiments in cattle feeding have shown that it is not a judicious practice to use costly commercial feeds to replace corn silage and corn stover, which can be produced on every farm.



A Factor in Production.

During the winter months the circus business is at a standstill, so the camel is used to roll the pastures.

THE FARM.

Investigations re Cement Tile.

Text of an address by Prof. Wm. H. Day, O. A. C., Guelph, before the Ontario Corn-growers' Convention, 1913.

When cement tile first began to be talked of, a few years ago, I personally had no doubt as to their proving durable, however, it was only a short time until I received some literature upon the subject which claimed that cement was soluble in water, and that, therefore, the cement tile, when subjected to water passing through them continually, would soon become so weak, owing to the cement dissolving, that they would crumble and thus become useless. This attack on cement was made by Messrs. Wheat Bros., clay tile makers of Emmetsburg, Ia. Coming from this source the attack was open to the suspicion that it might be biased, although their conclusions were based upon what at first

appeared to be fair tests. First, small pieces of cement tile were placed in distilled water for a period of three days, and again for a period of four days, and they lost considerably in weight during each trial. The water was then analyzed, and it was found to contain silica, iron, aluminum, calcium and sulphur, substances originally contained in the cement, and so it was proved that cement in these small pieces did dissolve in water. Similar tests were made with city water and solution also took place, though at a slower rate. In view of these facts we came to the conclusion that there was sufficient uncertainty as to the durability of cement tile

for drainage purposes, to warrant us in advising the people to go rather slowly in the matter of adopting cement tile. At the same time, however, we began experiments of our own, which have now been going on for three or four years, and have enabled us at last to satisfy ourselves upon this subject.

We first took some small pieces of cement tile similar to those used in the Wheat experiments just referred to, and placed them in distilled water. Some samples were left in distilled water seventy-three days and some one hundred and forty-three days, being taken out, dried and weighed from time to time during the test so that the loss or gain could be determined. Some of these same samples were placed in well water for a period of forty-seven days. We found the result quite irregular in both distilled and well water. Some samples lost continuously, some would loose for a while and then gain, and in those that lost continuously, sometimes there would be a loss that was inexplicably large. From the irregularities we came to the conclusion that some factor not being measured, possibly a change in temperature or possibly the frequent drying out to constant weight, was exerting an influence.

At the same time that these pieces of cement were being tested, a piece of clay tile of about average quality was placed in distilled water for forty-eight days and in well water for forty-seven days, in both cases the sample lost in weight. In the distilled water it dissolved more rapidly than any piece of cement tile tested, and in well water at about the same rate as some of the pieces of cement.

If the rates of solution in distilled water were to continue uniform, that piece of clay tile

would have completely dissolved in four years, and in well water it would have dissolved in 58.3 years, but the rate of solution dropped in both the distilled water and the well water, and besides we know from long experience that clay tile in the ground will not dissolve in fifty-eight years.

With the pieces of cement there was also a drop in the rate of solubility the longer the pieces remained in the water, and so from the irregularity of the solution and from the check pieces of clay tile which were used, we came to the conclusion that the conditions under which these tests were made were so far from the actual soil conditions in which the tile would be placed that it was dangerous to draw from them conclusions as to the durability of cement tile.

Our next step was to take three cement tile made on the two-piece machine (since taken off the market) and place them in running well water. The first sample was made by the dry process, the second sample also by the dry process, but considerably wetter than the first, and the third sample was made so wet that the tile stuck to the moulds, and would not retain its