

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

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an earnest of the rising spirit of the times. Incidentally, we hope to see some of its recommendations crystallized into Federal legislation at the next session of the Dominion Parliament.

FREE RURAL DELIVERY—WHEN?

Already, during the short regime of Hon. R. Lemieux, the Canadian Postal Department has required the United States authorities to raise the rates on second-class matter, such as newspapers and the like, coming into Canada from one to four cents per pound, and has induced the British authorities to reduce the rates on second-class matter destined for Canada from eight cents to two cents per pound—all of which is designed to restrict the circulation of an undesirable class of periodicals in this country and cultivate ties of sentiment and business with the motherland, by encouraging the circulation of British periodicals.

As another move in the direction of improving the Canadian postal service, a supplementary item of \$50,000 has been placed in the estimates to extend free delivery of mail matter to the smaller cities where the P. O. revenue exceeds \$10,000 and the population reaches 10,000 or 12,000. Several official tours are to be made this season, including the West, with a view to improving the service. Whether or not these will include an inquiry into the postal needs of the agricultural areas of the Dominion, including free rural-mail delivery, or a betterment of the service in other ways, no hint is given up to this time.

A WELCOME ARRIVAL.

I think your paper a very fine farm journal, and we all welcome it on its arrival each week. Every progressive farmer ought to read "The Farmer's Advocate." W. A. WALLACE,
Carleton Co., Ont.

DON'T LET THE CRUST FORM.

In the tillage of the land a vast amount of work is done to poor advantage for want of a clear idea of the objects of cultivation. It is well to regard the soil as a natural laboratory, where many complex changes are going on which result in the liberation of plant food. These changes are chemical and bacterial in their nature, and they take place only in the presence of heat, air and moisture. The supply of heat depends chiefly on nature's bounty, but the great objects of cultivation are to supply the other two favorable conditions, viz., air and moisture, and also to combat weeds. The control of weeds, however, should be brought about as an incidental effect of cultivation. Seldom need it be the primary object on a well-managed farm.

To provide air and moisture in the soil, the great essential is to preserve, under all possible conditions, a loose mulch of surface soil. This acts as a blanket to protect moisture below from the evaporating influences of sun, wind and air above. Investigations by the Department of Physics of the Ontario Agricultural College show that in the dry growing season of 1905 grain crops used two and a quarter times as much moisture as fell on them during their period of germination and growth. In the wet season of 1906 they required one and a half times as much as was supplied in the rain that fell. This extra moisture must have come from the subsoil, where it has been stored up chiefly in the dormant season. We can thus perceive the great importance of conserving moisture carefully. Much can be done in this direction by thorough pulverization of the soil to plow depth, thus increasing the water-holding capacity of the lower soil; but far more important it is to have the surface layer of two or three inches dry and loose—the drier and looser it is, the more effectually will it conserve the moisture below. Even a slight crust will impair its efficiency, tending to draw the soil moisture to the surface, where it is quickly evaporated. A harrowed or scuffed surface will preserve moisture very much better than a rolled one, or than one over which a crust has formed. To save soil moisture, therefore, never let a crust form when it can be avoided. If crust does form, break it up at the earliest possible moment. Every day's delay means serious loss of moisture, which, if the season should turn out to be dry, may be a very serious matter, and is regrettable in any case. By keeping the surface soil loose, we prevent the baking of clays, and thus insure a free range of root growth. Baking is caused by the sudden drying out of a moist, adhesive soil. It starts at the surface as a crust, and thickens as the soil dries out. The soil mulch prevents the rapid drying out, hence keeps the lower soil moist and mellow. Even in a prolonged period of drouth, this under soil will remain friable, and in case the dry weather lasted long enough that the lower soil actually did dry out, it would still be much less hard than if it had quickly dried out by thickening of a crust above. If the value of the soil mulch were better understood, there would be more general use of the harrows to run over clay spots in the spring, instead of waiting till the whole field was ready, and then trying by roller, harrows and disk, to break up the dry, caked furrows.

A soil mulch also provides for the aeration of the soil, which is just as indispensable as the ventilation of a stable, for the processes by which plant food is liberated will not take place without air in the soil, and there must be continued change of air, too. The conditions under which aeration or soil ventilation is accomplished most readily are a moderately mellow soil beneath and a loose, dry mulch above. A hard, caked or soggy, wet surface does not conduce to the free soil ventilation, and is very undesirable on every count. Nor will the cracks that form in a dried-up field help much to ventilate the soil, for, though they may let the air down, they do not distribute it through the soil body.

Finally, the cultivation which aims to prevent crust from forming, or destroy it promptly if it does, will also kill germinating weed seeds, with no particular pains or effort at all. A weeder used in this way will do more to keep down weeds than a broad-share cultivator can accomplish in destroying them.

In fact, about nine-tenths of the gospel of soil cultivation may be summed up in the simple injunction, "Don't let the crust form."

HORSES.

FOALING TIME.

Occasionally one hears of early foals, and, in the hands of thorough horsemen, satisfactory results being obtained, but the rank and file of those breeding mares prefer to have the foals come the latter end of seeding, or after the rush is over. In a country where seasons are so short and the spring rush so marked, and where the mares are of necessity worked, it would appear as if the May foal would be most acceptable. This point will need to be considered by farmers when returning mares this season, as some catch the ninth day after foaling, and thus gain three weeks on the previous year.

Almost invariably better results are obtained from working the mares right up to foaling time. The udder is thus kept from becoming hard and inflamed, and thus mares are less likely to be irritable with the foal, and the foals are rarely constipated. The writer has taken mares out of the harrows to foal, and the offspring were invariably strong and lively. Many people are puzzled as to the signs of immediate foaling, as the record kept from the service is frequently inaccurate. In addition to the increasing pendulousness of the body, two signs are pretty reliable, viz., the waxing of the teats, usually appearing within two or three days of the act, and the drooping over the rump, due to the relaxation of the ligaments, one of nature's provisions for the safe outward passage of a large body as the result of expulsive effort on the part of the mare. Some mares run milk for days before foaling, a sign not at all welcome by horse breeders, who claim that such usually portends bowel trouble in the foal. If the mare has been fed a laxative diet, a little boiled flaxseed and bran, and limited amounts of hard grain, as well as being worked, little trouble need be feared regarding constipation in the foal. When it does occur, it needs very careful attention. A homely practice on a stud farm, well known to the writer, was the giving of a teaspoonful of unsalted fresh butter to the foal as soon after foaling as possible. Whether that has a beneficial influence or not, we are not prepared to say, only constipation troubles in foals were never experienced. The foaling box needs to be roomy, and should be dry and well bedded. As a precautionary measure, it is wise to be prepared with a disinfectant solution to treat the navel string, for the prevention of navel or joint-ill and diarrhoea, causing the loss of hundreds of foals every year.

The act of parturition in a mare comes on very suddenly, and, all being well, is soon over. One may leave a box for a quarter of an hour, the mare seeming as quiet as possible, and come back to find her up and licking the foal. Usually there is a little more sign, the mare often chewing a few mouthfuls of hay, then dozing for a few minutes, and waking with a slight jerk. These little signs of uneasiness are very familiar to those who have spent long night watches. A mare is the cleanest of all females, and, in ordinary cases, one cannot soil the hands. Slight matters may be put right by anyone at all familiar with the work. It is a great relief to see the fore feet and the nose, and know that all is straight. If there is any doubt, one should feel at once, and if there is any work to be done, one should strip to the waist. In malpresentations, a veterinarian should be secured as soon as possible, as the work is extremely hard, and oftentimes requires the use of instruments. The intervention of professional aid is for the purpose of saving the mare. Foals, unless delivered quickly and easily, are usually dead on arrival. A sequel of difficult foaling is inflammation of the womb, which also may be caused by the afterbirth being retained. Retention of the membranes (afterbirth) in mares is very dangerous, blood-poisoning and death oftentimes resulting in a couple of days. In normal foalings the afterbirth should come away in half an hour or so, and if not expelled then, should be removed, care being taken that no portion of it is left to cause straining or blood-poisoning. Unless present at the foaling, the navel cord will likely have been broken, but in case it is not, it should be tied about an inch and a half from the foal's body and dressed twice daily with a strong carbolic solution; even the acid, as procured at the average drug store, may be used, or formalin. Many people, especially novices, are worried because the foal seems to lack control in the use of its limbs, or is crooked on its legs. Draft foals, especially out of underbred mares, are frequently this way, but in time (a month) straighten up all right, although the foal may have walked right on its joints at the start.

There is often trouble to get the foal to suck. An overfond mare will keep turning round to touch the foal with her nose, and give him no chance to get to the teat. With a bridle on, she can be held to give him a chance. Providing the