an' payin' oot my member-
' gaein' to anither funeral.
ate guaranteeing that this
e ony langer than the rest

's men like you that are
inging one of these 'bairns,'
It's like everything else,
istakes o' the past. The
ce is na proof that we canna
ever hear o' onything great
its ups an' doons? An'
yer name doon, Sandy,"
iscouraged juist as we are

want to be a quitter in
he only way to find the
,' an' that those that get
goin', sae here's to it, once

ike. But I ken I wouldna'
onything else. It's up to
e's ony push left in us, I

ot, I canna say I hae much
t looks noo as though the
an we counted on. We
nment machinery wi'oot
o' apprenticeship. But
uickest an' best way to
ine, for instance, was to
ed wi' her while she was
will wark oot the same
n they want to dae what's
ything else. Na danger,
nyway. I hae half a
mysel'.

nan that the reason she
in life was because she
But she says she took it
not to wait for the ither
for her. Which is no'
ent for me to start in to
"

I'd like to say to them,
t is, don't go back on the
eard a few hints to the
were not too enthusiastic
d cash on the proposed
st o' the Province, con-
e line; an' maybe they're
oon ony scheme for im-
where it is planned to
too much money to be
call a trans-provincial
ae the railroads. Some
nain line before ye can
truer o' a railroad than
nind o' bein pathmaster
the sideroad was going
the main road. "Whats
e if I canna get to it,"
ng in it. A concrete
' the Province wouldn't
t majority o' us, unless
It might be the means
connect wi' it. That's

this. Let us gie the
t we want improved
on as it is possible for
g through mud up tae
be a civilized country,
ain road and side road
at a chap can call them
nscience. It will cost
uid investment. Juist
ix per cent. And no'
ovement in oor moral
way some men will be
ey happen to get on
ae a blow-out or break

y to economize among
place, but which has,
far. And what I'm
vernment may get to
ury sae hard that the
tak' a back seat for

p to Toronto get to
Park on the cement
oads they hae there,
n-the-muds away oot
in for politics. But
rom them, for a year
h.

assed and Canadians
finish the job in the
n has been a success;
t his business to see
omically expended.

of all agricultural
rs the returns from
good. A steady,
l net farmers more
y with no objective.

THE HORSE.

Feeding Horses Grain and Roughage of Poor Quality.

On account of the high price of hay, even that of only fair quality, there will be a great tendency on the part of the stock owner to feed his idle or partly-idle horses on that of poor quality and straw in order to be able to market the hay. Hence, it may not be considered out of place to give a word of warning and make a few suggestions re the feeding problems that may confront the owner.

The feeding of large quantities of roughage of poor quality to horses is dangerous. Feed that can be consumed in large quantities with practical impunity by cattle, may cause serious trouble if given even in limited quantities to horses. This doubtless is largely due to the comparatively small size of the stomach of the horse. The feeding of hay that is over-ripe, dusty or musty, in considerable quantities, is very liable to cause digestive or respiratory diseases, or both. Some may ask, "How can the quality of the feed affect the respiratory organs?" This may be a reasonable question to ask, but when we understand that the stomach and lungs receive their nerve supply largely from the same pair of cranial nerves, we can more readily appreciate the fact that when, from any cause there is an often repeated or continuous irritation to the one, there is a strong liability of derangement of the other through nervous sympathy. Most horsemen know that the continued feeding of dusty or musty hay to horses, or an unlimited amount of hay of better quality to a greedy horse, is often followed by heaves. Some of us may remember that the haying and harvest seasons of 1912 and 1915 were very wet, and as a consequence a great deal of feed was of poor quality. During the fall and winter following these seasons the practicing veterinarians were kept more than ordinarily busy.

We have, on many occasions, warned readers against making sudden changes in feed, especially to horses, and we wish to repeat the warning. The time will soon arrive when many horses that have been at regular work for several months will commence a period of semi or complete idleness, and there will be a tendency to change the roughage from hay to straw or hay of poor quality. Where this change is made suddenly a considerable percentage of the horses usually show signs of digestive derangement in from one to two weeks. Where the change is gradually made, by feeding less hay and a little straw at first and gradually increasing the amount of straw and reducing the amount of hay each day until in 8 or 10 days a full ration of straw can be given, we find that sickness seldom occurs.

When either hay or straw that is being fed is either dusty or musty, means should be taken as far as possible, to avoid evil results. This can be done to a greater extent by thoroughly shaking with a fork in order to remove all loose dust, and then dampening with lime water before feeding. Where large numbers of horses are being fed this may appear to be too much trouble, but we must remember that the loss of a horse of the more or less serious impairment of one or more horses is more expensive than the necessary trouble in order to avoid such would have been. Lime water is made by slacking a lump of quick lime in a vessel, pouring water into the vessel and stirring the fluid thoroughly, then allowing it to stand, when the undissolved lime will settle at the bottom and the clear water on top is "lime-water." It is simply a saturated solution of lime in water, i. e., all the lime that the water will hold in solution. It cannot be made too strong, as the undissolved lime precipitates. A lump of lime twice the size of a man's fist is sufficient to make a barrel of lime-water. It will remain pure for a long time, hence may be made in large quantities and kept ready for use in a place where it will not freeze. Lime-water should be used on all roughage that is of the nature under discussion.

Grain of poor quality also can be rendered less dangerous by treating with lime-water, but it is still safer to boil it or have it rolled or chopped, and treat with boiling water a few hours before feeding.

In order to winter idle horses cheaply there will be a great tendency to feed silage. Silage of good quality fed to horses in reasonable quantities, mixed with cut hay or straw or with chaff, gives excellent results, but we wish to emphasize the fact that in order that it may be safe for horse feed it must be of first-class quality. Silage that has not been properly made or has been frozen, or the surface of which has been exposed for considerable time, tends to mold quickly. Any feed that contains mold and feed or water that contains decaying animal or vegetable matter, as moldy silage, hay or straw, moldy corn stalks, partially decayed roots, water containing decaying animal or vegetable matter, etc., if fed to horses in even small quantities for any considerable length of time, will probably cause a disease known as "Cerebro-spinal-meningitis." Dusty or dirty feed will not cause this. It is no doubt due to a germ that exists in mold or decaying matters. It is a disease peculiar to equines. No successful treatment has been discovered for a well-established case. Some cases yield to treatment if given in the very early stages, but a very large percentage of cases end fatally. In rare cases the disease appears suddenly and the patient dies in a few hours, but in most cases the symptoms develop slowly and the patient lives for a few days after the first symptoms, which are usually an inability to swallow. When attempting to drink the animal apparently performs the normal acts, he keeps his lips in the water, and makes the normal sounds of a horse drinking, but the water does not disappear, nor is he able to quench his thirst. If the water be in a pail or other small vessel, it will be noticed that the quantity is not becoming less, though he appears to be drinking heartily. He will masticate his hay or other feed in a normal manner, and make regular and apparently normal but ineffectual efforts to swallow. The masticated feed will be either quidded or impacted between the molar teeth and cheeks. He cannot swallow. In a variable time, from one to several days, symptoms of general paralysis appear, he lies or falls down and probably is unable to rise, delirium ensues, and in from 1 to 3 days after the alarming symptoms appear he dies.

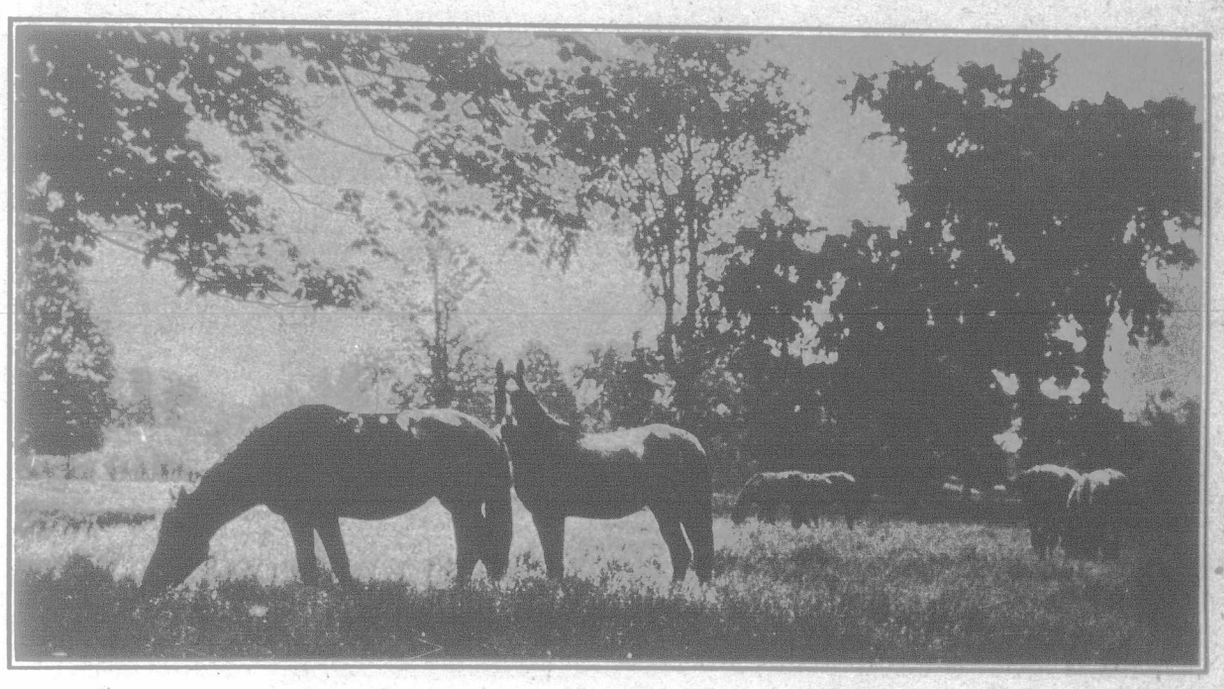
When a case of this nature is observed, the cause must be sought for and removed. If due to the water, and pure water cannot be procured, that used must be thoroughly boiled. If due to feed, its consumption must be ceased. All horses that have been kept under the same conditions should be given brisk purgatives, followed by 4 to 6 drams of hyposulphite of soda, or 40 to 60 drops of carbolic acid well diluted, three times daily, and, of course, given feed and water of good quality.

WHIP.

The Horse an Efficient Power Plant.

The horse is—next to man himself—the most efficient power unit in existence, delivering more effective motive energy in proportion to energy consumed than any other type of motive power unit, when the work done as a self-reproducing, self-repairing organism, is taken into account. Millions of horses have worked from the time they were 3 till they were 12 years old, without the expenditure of a dollar for repairs; and this factor of long life must be taken into account in reckoning the efficiency of a power unit, for one which wears longest and with least expense for repairs has an appreciable advantage. From the economic standpoint, therefore, the horse requires a minimum of human labor in his production, and has the merit of long life and low repair cost,—factors important to low cost of production in any enterprise in which power in the form of horses may be used.

Wherever power is needed to move loads over



Some Light Horses on Pasture in Oxford County.

fields or roads, emergencies arise where the power required to move the load becomes three or four times normal. Horses excel in such emergencies, for they can, in a pinch, exert a tractive pull equal to more than three-fifths of their live weight, or can, for a short time, pull an overload of 300% to 400%. In this the horse is unequalled, for no other type of motive power can handle more than a 100% overload. This capacity to sustain an overload is of incalculable value in field work, especially in the spring season, when fields may be in perfect condition for work, save for occasional irregularly distributed soft spots. Horses go through these with ease, because of their reserve power, and this gives a reliability possessed by no other power unit used in field work. In city work, also, particularly on cobble-stone paving, a pair of big drafters can handle an 8-ton load on a 2-ton truck solely because of the overload capacity they possess, which enables them to start the load, 10 tons in all, which, once started, can be drawn without difficulty. This ability to exert 3 or 4 times the pull usually required is therefore a distinct economic advantage.

The great flexibility of power in horses is especially valuable on the farm. One eight-horse team on a double disc with a harrow behind, may later be broken into two four-horse teams for seeding or into one pair for planting and a four for harrowing, and an extra pair for general work; or a little later into four separate teams for cultivating. No other source of power in actual use on the farm has this flexibility; and the same applies to hauling for, when six-horse teams are needed on heavy loads, they can be used readily, but can be broken into three teams and put on three separate jobs when necessity requires.—Wayne Dinsmore, Secretary Percheron Society of America.

LIVE STOCK.

Progress in breeding is made according to the judgment used in securing herd and flock headers.

Some well-bred animals have proved a failure because their owner evidently thought that the pedigree would carry them along without much feed or attention.

Our English correspondent writes that for the year the value of pedigreed live stock exported from England totals £2,013,388, or 67 per cent. more than for a similar period last year.

A live-stock breeder is not developed in a day or a week; a life-time is all too short. Take up the work where others have left off, and carry your chosen breed on towards perfection.

International Live Stock Show, Chicago, Nov. 29 to Dec. 6. Ontario Provincial Winter Fair, Guelph, December 5 to 11. Toronto Fat Stock Show, Toronto, December 11 and 12.

A. A. Armstrong's sale of Oxfords, held at his farm near Fergus, did not bring as high prices as was expected. The highest price for a shearling ewe was $70; for a shearling ram and ram lamb, $50; and the highest for a ewe lamb was $42.50. The flock of 100 head averaged $31.

In Tenn. 54 Angus cattle made an average of $1,049. The three-year-old bull, Black Balatum, brought $7,500. Andrew's Shorthorns, of Ind., averaged $1,345. A son of Lord Avondale sold for $5,000. Ten head of Shorthorns from Lespedeza Farm went under the hammer for a total of $30,300, while 30 head averaged $1,610. F. R. Edwards' 51 Shorthorns realized $56,550.

Does docking and castrating pay? On Wednesday, Nov. 5, Mr. Wallace, of the Paris District, shipped 77 grade lambs to the Union Stock Yards, Toronto. There was a particularly heavy run of lambs that day on the market and trade was dull. Up to the time of the arrival of this load, a few lots had sold for $13.75 per hundred, but in the main the run of lambs was going at $13.00 to $13.50 per hundred pounds. To make a long story short, Mr. Wallace topped the market with his load, because each one was properly docked and castrated. They were sold for $14.25 per hundred pounds—a good 75 cents more per hundred than the average price for that day. The lambs averaged 82 pounds in weight,—were well fitted, and it was claimed by the sheep buyers on the Stock Yards that it was the first carload of lambs arriving at the Yards this year that did not contain a percentage of ram lambs.

T. HETHERINGTON.

Tuberculosis.

Figures are not available to enable one to reckon the number of animals affected with tuberculosis or T. B. as the disease is commonly called. Nor is the annual loss to the live stock industry, from this scourge, known. However, it is a fact that the loss is enormous, and that the disease is to be found in most unsuspecting places. The germs are by no means confined to poorly lighted, damp places, but abound in up-to-date stables. Registered animals are as susceptible to the plague as are grades, and the loss is heavier with the fromer. From a physical examination alone it is impossible to definitely detect the presence of the disease, unless symptoms are very marked as in the last stages of the trouble, consequently affected animals may remain for years in a herd, spreading the deadly germs without the owner becoming aware of the fact. The most definite way of detecting the trouble is to apply the tuberculin test. Many breeders test their herds and eliminate reacters so as to avoid danger of spreading the trouble