

Agriculture.

THE STABLE AND ITS ATTENDANTS.

Our climate is so changeable, and the extremes are so far apart, that the importance of this question is undeniable. To be of genuine good, the stable, in summer, must be airy, cool, and open so that a continual flow of fresh air can pass through all day long; and in winter it should be warm, free from all draughts, except what is needed for ventilation.

The light should be perfect, since it is real cruelty to animals to keep them in the dark, depressing their spirits, injuring their health, and very often causing blindness. As horses are of a cheerful disposition, sociable in their manner, and full of joy when a known friend approaches it is a shame and a sin to hide the light of day from them; for the Maker of all made the light, not only for man alone, but for all living animals.

The best public stables, were eighty or one hundred horses are kept continually, I have ever seen, are in the city of Austin, Texas. The stable was built purposely for the health and comfort of the horses; and as the owner, Montee Miller, takes not only pride but interest in the dumb animals he owns, I take pleasure in recording the fact. His stable proper is 160 x 30, and every stall has its window over the horse's head, with a miniature awning, to lower when the sun reaches that side.

No stable, nor any part of one should be under ground; and it should have sufficient drainage, with a fall to every drain of an inch to every yard, to carry off the liquid filth of every stall.

When this is looked at in the right light the farmer or breeder can see at a glance how he can save money by looking after the comfort of his animals. A few hundred dollars expended in this way, would save thousands in time; for when stock is taken sick, the surgeon is called in, medicine is procured, the services of the sick horse are lost, and take it all in all, at the end of a few years it would cost the farmer or breeder more money in trying to keep his horses well than in would to build a proper stable, and keep his animals in good health.

The Agriculturist.

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE, LITERATURE, AND NEWS.

ANDREW LIPSETT, Publisher.

"AGRICULTURE THE TRUE BASIS OF A NATION'S WEALTH."

ANDREW ARCHER, Editor

VOL. 1.

FREDERICTON, N. B., OCTOBER 5, 1878.

NO. 26.

The air should be very dry, for any kind of moisture in the stable will hang around the horse like a mist; and when the animals are brought into the air they will shiver just as if they had a chill.

TREATING CLAY SOIL.

The greatest delicacy is required in manuring clay soil. In its original state it is cold, wet, and difficult to work. What it needs is to separate its particles so as to prevent it from adhering and give chance for air and warmth to penetrate—in other words to make it mellow; but more than all to keep it mellow, as there is a constant tendency to go back to nature.

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prevents more than any other the escape of fertility. It also is favourable to the protection of plant germs, holding for years the seeds of the grasses and the clovers native to it, which manure will develop, but without which they must wait for a favourable season of warmth and moisture, and droughts are the rule. In our river soils and sandy loams manure must be applied frequently, and in small quantities, on account of their semi-leuc character. Clay will admit of heavy manuring with little loss, and the heavier the application the better will be the texture of the soil (within reasonable bounds), and the larger the yields, lasting for years which in grass lands is of importance as it adds to their permanence. In this way a clay soil in a favourable season can be made to yield heavy crops of corn, rye, &c., as I have known, the river flats; and for the grasses, especially timothy, as to the clovers, it is hardly equalled by any other soil." Here winter wheat finds its best condition, both in the straw and the berry, with less danger from overgrowth. But all the grains give good returns. There is no better general soil, but it requires more labour and expense to put it in condition than does a limestone soil or river deposit, and more care and attention to keep it there properly exercised. And, let it be remembered, if it costs more to bring it up it has the reputation of being the longest.

HOUSING TENDER PLANTS ON THE APPROACH OF WINTER.

The classes of greenhouse plants which are put out of doors to make or mature their growth in summer, are chiefly shrubby, such as carnations, azaleas, epacis, &c. There are, however, also many soft wooded plants, such as chrysanthemums, salvia, hydrangeas, &c., which, while almost hardy enough to endure the cold of early winter, are liable to suffer more from over-saturation at the roots than from actual frost. All such should be housed as early as possible on the approach of cold wet weather, especially those which are to be used in the decoration of the greenhouse and conservatory throughout the winter.

The first consideration that should engage the attention when making arrangements for housing, is to see that all the structures are in a fit condition to receive the plants. They should all be in good repair, and should be thoroughly clean. On the score of economy of labour and money alike, this should be attended to before the plants are stowed away. The next point is to have the plants in proper order, both root and top, before putting them in their winter quarters. Anything like shifting or potting into larger sized pots such as are not bound must not be attempted, especially in the case of hard wooded or shrubby plants; but every plant should be turned out of its pot and examined in order to make good any defects of drainage, and to remove worms which may have made their way into the pots. On the sound and perfect condition of the drainage of crices and azaleas will depend the success attending their being wintered safely and their flowering well and freely; therefore let it be well attended to. The same thing is equally important to the carnations, anything like stagnation at the roots will inevitably lead to the dropping of the flower buds prematurely. The leaves and branches of all plants that are being housed should be carefully examined and cleaned. Carnations leaves should be sponged to clean them from smut, and for this a bath of tobacco water should be made up for the purpose of dipping the smaller sized plants in. Dipping is more effectual than syringing when practicable, but in the case of large specimen plants, the syringe is the only practicable way of cleaning them

time, during a period of many years, the best English blood has been imported to these colonies, and the Australian horse is, in most respects, the equal of the parent stock at home. As hunters they bear a high character, and as timber jumpers they are equalled by no horses in the world. The prices obtained in Great Britain for first class, well-bred, made hunters should certainly stimulate some of our Australian breeders to try the home market with a first-class shipment. By the fast steamers that now run between here and Great Britain it would be easy to convey a dozen horses, and when conditioned at home and fit to go into the hunting field, the prices obtained would surely make the venture a profitable one. Three, four, five, and even six hundred guineas are frequently given for a weight carrying, well-bred hunter, and there are, moreover, always persons on the lookout there for horses that could win a hurdle or steeplechase.

A SHORT HORN PARADISE.

A correspondent signing himself "a Bow Park visitor," lately wrote an account of a visit to that famous establishment which will be found interesting.—The estate of Bow Park, five miles south from Brantford, Ontario, Upper Canada, a town on the line of the Grand Trunk railway leading from Buffalo to Detroit, is the property of the "Canada West Farm Stock Association."

The name is taken from its peculiar conformation of being the main part of a large peninsula formed by a remarkable bow or bend of the Grand River, containing about 1,200 acres, mainly in the shape of an ox-bow, between the two bends or curves of the river, so that it is almost enclosed in the remarkable sweep of the stream which nearly surrounds it.

The place is approached over a fine turnpike road leading from Brantford, which crosses the Grand river by a bridge near the town, and courses over a broad, fertile bottom of the river, finely cultivated in good farms for three or four miles, and then turns suddenly off for a couple of miles further on to the peninsula or bow, through the small farms, comprising altogether about 300 acres, until the boundary of the Bow Park Farm is reached, and separated by a substantial fence and a broad wagon gate, through which the transit to and from the farm is made. A mile or so of excellent road along the high bank of the river, clothed with noble trees of various kinds of the original forest growth, through which occasional glimpses of the river are seen, leads to the Short Horn city, which is composed of various extensive erections in the way of barns, stables and other necessary structures for stock and crops, and convenient dwellings near by them, for the accommodation of those having charge of them. Of these buildings, so ample in extent, and devoted to such various uses, it would be too laborious to attempt a description, and all that need be said of them is that they appear to be as perfect in plan, construction and convenience for the purposes as the ingenuity of a considerable experience could devise. Suffice it to say, they are a score or more in number, laid out on broad streets, with wide passages between them, and every way accessible, both from the fields and in any other way which necessity may demand. Wells, pumps and abundant water are at immediate command for all stock uses, as well as to supply the preparations for feeding them—in fact, everything requisite for the accommodation of the various horses,

attle, sheep and swine which compose the animal wealth of the estate. Seven or eight hundred acres of the arable land—indeed it is nearly all arable—are devoted to crops of various kinds of grain, hay, roots and green Indian corn, and the soiling plan is mainly adopted for feeding the stock, and what is not immediately fed in its green condition is cured and stored away for late autumn, winter and spring forage. All these are grown in broad fields, easily accessible from the buildings, and to which the abundant supplies of manure made from the stables and yards are carried at all times and seasons when ready for its reception. It may also be added that a full supply of all the necessary implements, teams and machinery necessary for the perfect management of the farm and stock are at hand and in constant daily use, with a force of about 40 laborers including three superintendents. So much for the locality and its appliances.

SUCCESSFUL REMOVAL OF A NEEDLE FROM THE HEART OF A COW.

The Echo Veterinaire Belge contains an account of a surgical operation in a by no means unfrequent condition, which, by its boldness, serves to astonish us. It is by M. E. Bastin. He says, after introductory remarks: "On the 9th June 1876, Mr. Louis Russel, of Lamontzee, called me in to attend a much cow aged five years. For some days this animal had not fed well, rumination had been irregular, and a frequent cough was noticeable. Pulse accelerated, jugulars distended, and the heat often stretched on the chest in a position which denoted much pain. I diagnosed traumatic peritonitis. The cow being poor, I proposed to the owner to try an operation, severe it is true, but which, in case of success would save the animal from imminent death. I also drew attention to the fact that even if an accident happened during the operation, it would still be possible to slaughter the patient. The batches, after some hesitation he consented, and I commenced the operation. An assistant held the left fore limb much advanced, to expose as much as possible of the costal surface corresponding to the heart. I drew the skin

HARVEST SCENE IN CALIFORNIA.

The first machines to enter the grain are the "headers," or reapers, which are at once set in motion, and a large circle is cut and cleared in order to make room for the other machinery and horses employed in the work which immediately follows. After a circle of 30 or 60 acres has been cleared off, the separator and engine are drawn into position, and the work of harvesting commences in earnest. The whole of the working force on this occasion consisted of 56 men, 7 headers, 23 header-wagons and 96 horses and mules. 1,700 sacks, containing 2 1/2 bushels each, is about the average rate of this machine per day, while its utmost capacity is 3,000 sacks, or 6,750 bushels per day. The

harvesting force cut and thresh simultaneously, and in fifteen minutes from the time the headers begin, the grain is running through the thrasher into the sacks. The header is a large and somewhat cumbersome machine, with knives and reels not unlike the Canadian reapers of ancient date, and cuts a strip 12 feet in width. Instead of the horses preceding it, however, it precedes the horses, the driver at the extreme hind end and guiding the machine by means of a rudder-like fixture which he holds in one hand, while he drives the team with the other. It is an awkward looking outfit, to be sure, and would give a person who had never seen one at work or heard the thing described, the impression that the man who had hitched in the mules that morning had been on a drunk the day previous, and had got things a trifle mixed, turning the machine wrong end to the work and then hitching the traces to the neck yoke, and attaching the fixtures on the other end to the whiffletrees, and finally setting the mules to work, on each side of the tongue, to push the machine through the grain. This cuts any length of stubble desired, but is usually run just sufficiently low to take in all the heads of grain. A header wagon, drawn by two horses or mules accompanies the header, into which an elevator attached to the latter throws the grain as it is cut. This wagon is relieved by another so soon as full, and this second by a third, by which time the first has had time to empty its great box of headings and return for another load. Three header wagons are needed to accompany each header in an ordinary day of grain.

As the grain is threshed it is put into sacks, and there being no danger of rain at this season, piled up in rows in the field till it is shipped to market. Those sacks cost from 15 to 20 cents and go to the purchaser or the grain. Poor things they are, and can seldom be used a second time. The straw or chaff which comes through the thrasher is usually saved, in stacks or great heaps, for fodder, while the long stubble, left after the header, is set fire to and burned off so soon as the field is completely cleared. This is a most imprudent practice, and is the cause, in seasons of drought like the last, of heavy losses of stock from starvation.

After all, however, farming, at best, is conducted on most loose and slovenly principles in California. An Old Country farmer could make an excellent living of what is actually wasted on one of these large ranches in this State. For instance, great quantities of leading grain are passed over by the header and left to be burned with the stubble; if a rock or larger stone is encountered, the header cuts as close to the obstruction as it conveniently can, and the balance is left to share the fate of the leading grain; large quantities of headings are lost from the header wagons when they are relieving each other, and while on their way to the threshing machine; and, worse than any of the others, bushels of shelled and threshed grain was wasted amongst the sand and stubble about the thrasher and under the feet of men, mules and horses—all in such contrast to the low, clean-cut stubble, the well-bound sheaves and the neatly put-up stacks to be seen on any well conducted California farm. And yet some of them are vain enough, or ignorant enough, I know not which, to tell you that California leads the world in agriculture enterprise!

THE LONG AND SHORT OF THISTLES.

My father was a greater lover of Canada thistles. He used to pull them up. Every patch in the pastures had to be cut down close and not one was allowed to go to seed if he could help it. Sometimes he would plant corn two years in succession on the same field, so as to root out the thistles. He used to threaten to summer fallow the fields where the thistles were the thickest, but generally could not spare the lot to do it. After all his fighting and painstaking, my father did not rid the old farm of thistles. His son, when he "went for himself," did not have a half dozen (that was the number of boys) to help him, and being in debt, he thought he could not afford to contend against such persistent enemies, so he let the sheep and cattle do the mowing in the pasture fields, and very few went to seed, as they were very fond of the thistle blossoms, they being full of honey.

rapidly to one side, and made an incision from above downwards in the intercostal space, at the level where I most clearly felt the heart's beats. Wrapping my hand in a cloth on which cold water continually played, I introduced the finger into the wound, and on reaching the perna I made an opening with the finger nail, and immediately introduced the finger. I tore this membrane from above downwards, so that I could introduce the whole hand. Then I plainly felt the beats of the heart on the other side of the pericardium; there was no need to open the membrane, for, after some manipulation, I felt the point of a foreign body. I immediately introduced forceps with great care, and so removed a long needle from the heart of the cow. Immediately I withdrew the hand, together with the cloth around it, which served to cover up the wound as soon as it had been removed. The skin returning to its position covered the opening in the pleura. A suture introduced served to completely close it. During the operation, which was done suddenly, the cow only showed spasmodic movements of the head, movements above all evident during the time when I had the fingers in contact with the heart. The animal remained for some days indisposed, an oedematous swelling formed at the seat of operation. I had cold water continually applied on the affected part, and at the end of ten to twelve days of an appropriate treatment the animal no longer showed signs of the disease. The owner sold her three months afterwards the cow to a butcher." This experiment seems worthy of repetition, and we congratulate M. Bastin on the success his skill deserved. We may remark the prominence he gives to the application of cold water to the parts during, and subsequent to, the operation.—Veterinarian for September. (Translation by Mr. J. H. STREET, Royal Veterinary College.)

SENSIBLE ADVICE.—In a recent speech at an agricultural fair, Vice-President Wadsworth said:—"The fact, hard as it is, remains that we can never regain our old-time prosperity without a return to old paths. We must have soberer views of life. We cannot retain this prosperity until, a far larger portion of our people become willing, through prudence and mainly toil in the useful and reproductive arts of life, to earn every dollar they receive. Our young men must learn that they cannot with impunity ignore the lower routes of the ladder on which their fathers climbed with patient, toiling steps, and come to property and reputation with a bound. In many occupations and many independence alone can be laid the foundation of honorable permanent prosperity."











