

returns from a number of large factories, where the cost of drawing ranges from 3 to 5 cents. There are also a number ranging from 10 to 15 cents.

#### THE BABCOCK TEST.

Some interesting facts have been received regarding the working of the Babcock Tester, and paying for milk according to quality. But as we have already transgressed in taking up time and space, particulars regarding them had better be deferred for another occasion. Suffice it to say that the Babcock system is giving pretty general satisfaction, with one or two exceptions. Reports from one or two factories where winter dairying has been carried on are very satisfactory concerning this new feature of dairying. These, however, will be considered more fully at another time.

#### Summer Feed for Cows.

I like the way the ADVOCATE has been hammering away at those who neglect to provide soiling crops to feed in summer. We can tell the farmers who have a good supply just now by meeting them on the way to the cheese factory—they are wearing a well-satisfied sort of smile on their faces. I find vetches and oats the best. A change for a few days to corn lowered the quality of the butter we make. I am losing confidence in immature corn for soiling. We can easily grow two crops of vetches the same season on the same ground. I have a second crop (the first was sown on May 19th) well up and looking splendidly, on ground from which I already have taken a large crop. Wishing the ADVOCATE all success, I remain, etc.,

JAMES H. ESDON.

### VETERINARY.

#### Dentition and Dental Diseases of Farm Animals.

BY DR. MOLE, M. R. C. V. S., TORONTO.

(Continued from Page 303)

Dental diseases of animals have received very great attention during the past few years by veterinary surgeons, so that we only propose to give a few of the many derangements due to irregularities of the growth of teeth or disease. The lips and teeth are the organs of prehension and mastication. The food is first grasped by the lips and passed backward by a peculiar formation in the horse's tongue to the level of the molar teeth, then pulverized and ground previous to swallowing. The teeth are liable to at least three forms of derangement—irregularities of growth, injuries of a direct nature, or a disease.

**Irregularities of Growth.**—We mentioned that at two years and a-half the fifth molar tooth should appear, and it is at this period of the animal's life when most attention should be paid to his teeth. The horse at three years old not only casts twelve temporary teeth, but at the same time gets sixteen permanent teeth, viz., four central incisors, first and second molars on each side, above and below, and the fifth molars. About this time the animal is brought in from pasture and put to work. What with the dental irritation at this time, and his new mode of living, is there any wonder that some animals suffer, and need we be at all surprised to notice at this period the commencement of certain nervous disorders in horses. Having had ample opportunities of attending shows and inspecting animals, from foals upwards, as exhibited, we have never seen any instance of chorea, shivering, stringhalt or clickleg until the animal is three years old. Therefore, we may say that, when a horse is rising three years old, it is the most critical period of his life, as we are inclined to the opinion that "strangles" in young animals will many times be induced by this sudden change of diet, stables and dentition. Should you find an animal not doing well at this period, examine the mouth, and, if necessary, remove the shells of the temporary teeth. The lower ones, as a rule, are shed sooner than the upper. The upper molar teeth in horses and cattle are much larger than the lower ones, the upper being a fixture to give a broader surface for the side rotatory movement of the lower jaw, thereby causing, in some instances, uneven wear and overgrowths, which have to be removed by the rasp or shears. Sometimes the tooth will be split from a piece of stone being mixed with the grain, or a piece of iron, in the shape of a nail. Here, removal of the loose portions will effect relief, but the opposite tooth becomes elongated, and should be cut off or rasped periodically.

Parrot mouth animals have to be closely watched, and teeth dressed when necessary. These malformations are due to mal-position of the condyle of the lower jaw allowing a too free movement backwards and overlapping of the upper incisors. In cattle, the incisor teeth are shovel-shaped and loose in the sockets. The crowns or

wearing surface of the molar teeth are not flat, as in the horse, but have sharp elevations, fitting into depressions, for the purpose of cutting or tearing down the rough fibrous grass. The constitutional disturbances cause a good deal of trouble, particularly from one year and nine months to two years and three months, by the temporary shells not being cast, often setting up dentition fever, with dribbling of large quantities of saliva, and, in many instances, diarrhoea. When suffering from this cause unthrifty conditions are generally manifest—dirty skin, watery and gummy eyes, appetite capricious, drinking large quantities of water. In all cases, at this age the mouth and teeth should be examined.

Crib biting in horses may be termed a dental disease, inasmuch as it affects the front teeth. Having fixed the jaws, a sudden, and more or less involuntary, contraction of the muscles of the lower part of the neck takes place, a clucking or belching sound is heard. The horse performs the act alone and undisturbed in a cool, deliberate way, as if he enjoyed it, and by imitation the other horses will learn the same trick. Support on a fixed point is essential for the performance of this act. The height of the manger is important; if it is too high, or even low, the act cannot be performed; on the ground it cannot be done, nor yet when the horse is lying down. There is some variety in the manner in which it is carried out by different horses, but the appearance of the incisor teeth affords good reliable evidence of its existence. Feeding from a nose-bag will prevent it, or the use of a throat strap or muzzle. If seen in the early stages, before the habit is confirmed, passing a fine tooth saw between the incisors will often cure this objectionable vice.

**Caries of the teeth.**—In our experience we have met with very few cases of caries of the teeth, but in some parts of the country animals were called "rotten," from the foetid smell of imprisoned decomposing food becoming entangled in the teeth. Many hundreds of young cattle have been sacrificed from this cause. They have actually died of starvation, although in the midst of plenty, and death has been said to be due to caries, but we are inclined to think it is due to the unshed temporary teeth. Horses do not seem to suffer to the same extent. The grain that they are fed on causes the loosened crown to come away and fall into the manger in a natural manner; this, no doubt, owing to the method of growth; the teeth growing from below meet at the apex, forming a complete table, preventing the food from passing down between them. There is no doubt in my mind that this is one of the particular methods of conservation to prevent accumulation of food between them, for we always see that when teeth decay it is between each other, and not from the crown or surface of the table.

Veterinary dental surgery has of late years excited deep interest with the veterinary profession, although our opinion is that a good deal of unnecessary detail has been imported into this particular study. Still, there are many cases where a knowledge of the derangements and diseases is absolutely indispensable. A number of ingenious instruments have been invented to facilitate the work of the operator. We were not acquainted with half the number until very recently. The saw tooth chisel, Thompson's tooth shears, with one or two chisels, rasps and forceps, comprised the whole of the outfit of an ordinary veterinary surgeon's dental equipment in the Old Country. The modern horse dentist travels with a complete armory of chisels, forceps, gouges, speculums, and many instruments that we have no knowledge of the use, and doubt very much if there can be. However, we are informed that they find plenty of employment, and make some good use of their instruments, so that we must not traduce the characters of those whom we cannot refute, and for all we know, they may perform very useful services when required. Conditions which give rise to a certain amount of trouble are often due to kicks received at pasture. As a result of such an accident, paralysis of the lips often occurs. Examine the teeth, and often it will be found due to the upper portion of the tooth being fractured, more commonly the fourth than any other. In the earlier stages the discharge is from one nostril only, occasionally foetid and often tinged with blood. These symptoms are followed by a bulging of the bones of the face, dullness on percussion; "an increased discharge from feeding the animal on the ground is diagnostic;" a certain amount of glandular enlargement, due to the irritation.

All of these symptoms have been mistaken for glanders, a specific contagious disease, but there is no foetid smell, and the discharge is constant. The submaxillary gland is adherent to the jaw, and not movable, as when due to injuries to the teeth. Now, as to diagnosis. When a horse has a discharge from the nostrils, due to the teeth, the only method on which reliance can be placed is by the exploring needle, after a small hole has been bored by a gimlet. If placed in healthy tissue and withdrawn a little blood may be seen. On the other hand, if we find pus, our diagnosis is complete and treatment perfectly clear.

Having made your diagnosis, the sooner you let out the pus the better. We know pretty well the distribution of the sinuses, so all that we have to do is to boldly saw out the piece of bone, punch out the tooth, and practically cure our patients in the majority of cases.

### QUESTIONS AND ANSWERS.

[In order to make this department as useful as possible, parties enclosing stamped envelopes will receive answers by mail, in cases where early replies appear to us advisable; all enquiries, when of general interest, will be published in next succeeding issue, if received at this office in sufficient time. Enquirers must in all cases attach their name and address in full, though not necessarily for publication.]

#### Veterinary.

##### HENS DYING OFF.

R. L. A., Treherne, Man.:—"My hens have a peculiar sickness. They seem well one day and the next are stupid and dull, and in a few hours are dead. The only form of disease I notice is dysentery, the discharge a yellowish green. Can you give me any cure?"

[Damp and improper food is most likely the cause of the disease. Change the diet. Give a teaspoonful of castor oil. This will tend to clear the intestines of irritating matter, and afterwards give twice a day: Chalk mixture, two teaspoonfuls; tincture of opium, three drops.

W. A. DUNBAR, V. S.]

##### LEUCORRHOEA.

SUBSCRIBER, Napinka:—"I have a driving mare, about fifteen years old, which urinates very frequently when driving, and also passes a white discharge, as if 'in season.' This weakness is not continuous, and perhaps for two or three days at a time these symptoms are not present, at least very slightly. When going a moderate gait the swaying in and out of the rectum and its surroundings endanger the driver to a spatter of urine or discharge. There is less danger when under high speed. I may add that after driving a good distance it ceases to a great extent, but is produced at once by a big feed or heavy draught of water on the days when the symptoms are plain. Please prescribe."

[The symptoms are those of leucorrhœa, "whites" in a mild form, accompanied by an irritated condition of the vagina and urethra. Give morning and evening in food for ten or twelve days: Iodide of potassium, one drachm, and pulverized cinchona, two drachms. Inject with a syringe four ounces of the following lotion into the vagina once a day until the symptoms disappear: Zinc sulphate, half an ounce; soft water, one pint; give moderate rations of easily digested food.

W. A. DUNBAR, V. S.]

##### INDIGESTION.

FARMER, Florenta, Man.:—"I have a big, heavy horse, six years old; does plenty of work and gets plenty of good feed, both hard and soft; but he seems to be troubled very much with his water in the spring and fall of the year, but not in winter. Symptoms: When he takes sick he will lie down any place and groan as if in pain, and will not touch water or food of any kind. When I see him like this I give him a dose of saltpetre or sweet nitre, and in about an hour he will make his water and is apparently all right, and will take to his feed again. Please give me cause and cure?"

[The few symptoms you have mentioned would indicate some disorder of the digestive organs, rather than an ailment of the urinary apparatus. Prepare the horse for a purgative by feeding exclusively on small bran mash for sixteen hours, and then give the following: Barbadoes aloes, seven drachms; calomel, one drachm; ginger, two drachms; soft soap, sufficient to form a ball. Continue the bran mash diet until the physic has ceased to operate. After this give morning and evening, in food, for ten days: Bicarbonate of soda, gentian and nitrate of potash, of each two drachms; pulverized nux vomica, half a drachm.

W. A. DUNBAR, V. S., Winnipeg.]

#### DISEASE OF THE OMASUM, OR THIRD STOMACH OF THE OX.

HENRY MARCH, Cowichan Lake, B. C.:—"A five-year-old cow was discovered to be unwell, and I gave her a pint of linseed oil, and repeated the dose on the fourth day. She evacuated sparingly each day. About the fifth day she began to grind her teeth almost incessantly until the eighth day, when she began to purge badly. On the ninth I found her delirious, banging about in a dangerous manner. I let her go out into the yard, when she began to turn round in a circle, knocking into anything that was in the way. When she repeated the movement twice, I shot her. When I opened her the paunch was full of grass; the other stomachs had each something in them. The lining of the paunch had a reddish tinge; the inside coat easily pulled off. She fed in the bush, and on a piece of burnt chopping sown to timothy."

[The post mortem should have revealed a large quantity of food, dry and very hard. The masses of food lying between the leaves of the omasum resemble bruised cake, and will often break and crumble between the fingers; the lining membrane is inflamed; a numerous quantity of patches, worn like holes, together with considerable inflamed tissue, will be found in various parts of the intestines. For treatment, a veterinary surgeon should be called as early as possible, as only the first stages of the disease are amenable to treatment, when it may be relieved by administering repeated doses of purgative medicine. Epsom salts in combination with Barbadoes aloes, which, by its special action on the third stomach, will often prove successful. This disease more often ends fatally. It is often caused by cattle eating tough, wirey grass which has been subjected to a winter's weathering on the ground.

DR. W. MOLE, M. R. C. V. S., Toronto.