

EFFICIENT FARMING

PICA

During the winter period when the live stock is of necessity being maintained on the various feeds that were stored for winter maintenance, it is frequently noticed that some animals, either cattle, horses or pigs, are chewing at or eating substances that are quite unnatural from the animal food standpoint. The fence posts, rails, mangers, bits of leather, plaster, soil, and such like, for which healthy stock show no inclination, are attractive to those with depraved appetite, or Pica disease. Animals affected to a serious extent are restless, unthrifty, lose condition and become emaciated. Should spring and green grass come quickly enough, a recovery is made without any other treatment than access to good pasture.

The presence of the symptoms of depraved appetite indicates that there is something wrong with the feeding of the animals, that there is something lacking in the ration, and that something can generally be expressed as being lime salts. Well nourished animals getting a reasonable amount of good, clean, well kept food rarely show any tendency to eat unnatural objects. In those farm yards where a salt trough is at the service of the animals, and where clovers and other legumes are fed liberally, depraved appetite is unknown.

Should animals become affected with a desire to eat unnatural foods, steps should be taken at once to remedy the trouble and get the animals back to a condition of thrift. Blocks of charcoal and rock salt should be placed where the animals can get them at will. When animals are confined to stalls or pens, powdered charcoal may be given—one-half handful three times per day along with the feed. Advanced cases will generally respond to the following:

Bone flour, 1 pound; powdered gentian, 4 ounces; colmon salt, 8 ounces; carbonate of iron, 4 ounces; mixed well and given at the rate of one tablespoonful three times each day on feed.

Good feed, such as roots, silage and clovers, well preserved and free from fungus and bacterial growths, should be supplied, and don't forget such common things as rock salt, charcoal and bone meal do much to supply the usual winter deficiency in animal feeds as compared to the green pasture of summer on which all animals thrive.

BLOATING OR HOVEN IN CATTLE.

Nearly every cattle stable is the scene of a few experiences with bloat-

ing cattle during the winter and spring seasons. Bloating is characterized by swelling at the left flank. In severe cases the distention may be such as to cause great discomfort, and when tapped with the fingers will emit a sound. The animal has a distressed expression and moves uncomfortably, breathing becomes more difficult as the gas distention of the paunch progresses. If the gas is not liberated, or its formation checked in time, rupture of the stomach or death by suffocation may happen.

The causes of bloat, or hoven, can be attributed to any kind of food that will produce indigestion if given in unreasonable quantity. Hasty feeding by greedy animals frequently results in discomfort for the animals and trouble for the stableman. Frozen roots, mouldy feeds, overfeeding with middlings, barley or corn meal, cold, wet feeds, potatoes, cabbage, large quantities of green or frosted green feeds are common causes of this trouble. The digestion process being interfered with, fermentation quickly sets up in the paunch with serious gas distention.

In urgent cases speedy relief is very essential to the continued life of the animal. The quickest relief may be given by puncturing the rumen, using a trocar if such is at hand, or a clean, sharp knife blade will do. Select a point equally distant from hip bone to last rib, which is usually the point of greatest visible distention. In making the incision direct the knife or trocar point downward, inward and a little forward. The sheath of the trocar should remain in the opening to provide exit for the gas. When no trocar is at hand and a knife is used to puncture the paunch the opening may be kept open by a large wing feather from turkey or goose. The feather is prepared by making an opening at each end of the quill and then dipping in boiling water, apply carbonic tincture and insert. While the tube or cannula is in position it should be held by an attendant until sufficient gas has passed out to permit the flank to return to normal condition. It can then be removed.

When the bloating is not severe, as indicated by only moderate swelling at the flank, the trouble can best be relieved by the administration of internal medicines. Aromatic spirits of ammonia given every half hour, two ounces to one quart of water for an animal two years or over. After bloating is over give one pound of glauber salts in not less than 1 1/2 quarts of water. Repeat the physic if necessary.

The Days Between

BY R. D. BAILEY.

"Well begun is half done." Show me the farmer who does not dislike to be bothered with repairs and "puttering," after field work with the team has begun; and, too, show me one for whom it is not too expensive to do odd jobs, though they are necessary, while the team stands idle.

Yet, there is a multitude of things that need to be done if the season's work is to progress smoothly. Many farmers, through lack of planning, foresight and timeliness, simply have to take valuable time to do it, in the midst of the season's work, that could have been done during the time less valuable.

During cold, raw days the farm shop is especially valuable. Here, comfortable with a fire made of cobs, bits of broken boards, trimmings from trees, and other rubbish, the farmer can sharpen his saws, planes, draw-shaves, bits, augers, axes, hatchets, and mowing machine knives, etc., so that they are ready for effective work at an instant's notice.

This is a good time to sharpen the butcher knives, paring knives, and shears for his wife. Repair black and oil harness. Potato crates should now be mended, and cupboards and shelves for the house, and other household conveniences built in the shop.

With the house warmed with its stoves, this is the best time of the year to make household repairs and interior alterations before the spring house-coming.

Test seed corn. It has been stated at the Agricultural College that, by testing his seed corn, a farmer can save fifty dollars a day, for the time consumed in testing, and thus put himself into the class with civil engineers, physicians and lawyers, as an earner. Where seed germination tests show a low per cent of good seeds, better seeds should be purchased, if possible, to secure them; if not, then the amount of seed sown or planted should be increased to insure a better stand.

As the weather becomes warmer, and the farmers can work bare-handed, the hay track, fork and rope can be inspected, and stalls and stable floors repaired. There will usually be planks worn thin in floors; manger fronts or partitions gnawed by horses; feed and salt boxes coming to pieces; or gnawed partitions partially kicked to pieces. That "a stitch in time saves nine" can be attested by thousands of farmers who failed to take that stitch. Take the hay rack and the wagon box into the shop and repair and paint them, or make new ones.

Put in window lights. Put a fender in the pen where the sow is to farrow, and save pigs and dollars. Make some gates in the shop if you do not buy them.

Take drags to blacksmith shop and have teeth sharpened. Take the cultivator teeth, too, if it is cheaper to have them sharpened than to buy new ones. Have the grub hoe sharpened, and a new point drawn on the crow-shop, while you are at it, and throw in all chains that need repairs. If it behind the same wagon.

Buzz up the pole wood. Split and pile all wood, so it will dry out in these spring winds. It is a mark of an improvident man to have to cut dribbles of wood morning and night, after field work has begun, and the feelings of the wife had better be imagined than expressed.

While fence posts are frozen in they can best be cut off neat and even. This improves the appearance of the field or farm like cutting a man's hair and giving him a shave.

Barbed wire and woven wire can be stretched while the ground is still frozen. Established fences, on which the wire has sagged, can be tightened. After the frost is out of the ground, but fields are too soft to be traveled, post holes can be dug and new fences built.

Build one or more portable hog-cots of the A-type. Build a stock-loading chute. Make some chicken coops. Repair the hen yard. Dig some shade trees in the woods. Clean chimneys and work soot in around rose bushes, the shrubs and perennials of the hardy border, and around the pieplant. Bring home some brick to top out old chimneys, and to build new ones. Hundred of houses in this province have been burned, and their owners reduced to distress, through shiplessness depending on a rusty stove pipe stuck through a roof. Don't go through another winter on a stove-pipe basis. "Do it now."

Sell surplus horses, for the demand is at its best at the approach of spring. Buy early if you have to buy.

Hot Beds—Their Construction and Management.

A well managed hot bed is an asset to every home garden. It not only ensures a crop of early tender vegetables, but also makes possible the beautifying of the home surroundings with annual flowers.

Hot beds may be classed as underground or surface types. For general use in the Maritime Provinces, the surface type is preferable. The hot bed site is an important feature in hot bed construction. It should be well-drained, on a southerly slope, protected by buildings, evergreen hedges or a board fence from cold north or west winds, and where all the possible sunshine will be obtained.

The frame—Collapsible frames are recommended. They are easy to assemble and store, and with proper care will last indefinitely. Planned 2-inch spruce plank is generally used in their manufacture. The three-sash size is advocated. The sides for this size should be cut 9 feet, 6 inches long. This allows for a cleat 2 inches wide being fastened on the sides at each end to prevent the planks from splitting, and also for the end pieces to rest against for support. The back or north side should be 16 inches wide, while 10 inches is a good width for the front or south side. This gives a slope to the south which permits the water to run off and favors the passage of the sun's rays through the glass. The ends are 6 feet in length and taper from 16 to 10 inches in width to fit the side boards. Strips of 1-inch board, 6 feet long and 3 inches wide, are fastened 2 inches above the outside edge of these ends to prevent drafts of air going under the sashes. The ends are set in place against the cleats on the sides and fastened with 3/4-inch screws. As supports for the sashes and to hold the sides in place, cross strips of board 3 inches wide are sunk into the sides 3 feet from each end and another strip of 3/4-inch board 2 inches wide fastened on edge in the centre of the 3-inch supports. These strips prevent the loss of heat and drafts between the sashes. This frame is completed with three 3 feet by 6 feet hot bed sashes, which should be thoroughly painted before use.

The heating material—Horse manure makes the best heating material. It should be quite fresh, not fire fanged or rotten or already heated. A few days before starting the hot bed it should be hauled near to the site chosen and forked loosely into a pile. Within a few days it should be hot enough for use. It should be then built evenly into a rectangular pile 11 feet by 15 feet, ranging when thoroughly tramped from 24 inches to 12 inches in height according to whether it is started late in March or late in April. The frame is placed on top of this, levelled up and banked on the outside with manure and a thin layer tramped on the inside after the frame is in place. The sashes should be put on and the bed left until the temperature becomes constant at between 80 degrees and 90 degrees Fahrenheit, before planting.

The soil—This should be prepared the previous autumn and left in a pile over winter. It should be rich and of a character that will not bake. Good thick pasture sods, composted the previous summer with one-third their bulk of rotten manure, thoroughly mixed and riddled in the spring, make an excellent soil for hot bed purposes. There are two methods of managing the soil in the hot bed. It may be put directly in the frame to a depth of 6 inches and the seed sown therein, or it may be put in flats or boxes 12 inches by 18 inches by 4 inches, the seed sown in these and the flats placed in the hot bed on the surface of the manure. If flats are used, the bottoms should permit of drainage. Small holes bored in the bottoms of the flats answer this purpose. In filling the flats with soil the care should be placed in the bottom, being taken to press it gently into the corner and along the sides. The finer earth is placed on top and the seed sown therein. To the gardener who starts a number of vegetable and flowers in his hot bed, the latter method is advocated, owing to the plants being easier handled at pricking off time. The flats also permit of an easy rearrangement of the plants in the hot bed at any time.

Management—After the seeds are sown, the soil should be watered. When the young plants come up, the hot bed should be aired sufficiently on bright days to prevent the plants from getting spindly or weakly. This is accomplished by raising the back of the sash or by sliding it down, care being taken to prevent the plants being chilled. Later, when the days grow warmer, the sashes may be removed throughout the day. Water must be applied when necessary, preferably during the mornings of bright days. Too much water is injurious, causing "damping off" fungus to destroy the plants. After the young plants show their second leaves and have a good root development they should be transplanted into other flats where they remain until set out in the field or beds. Flowers, celery, lettuce, early cabbage, cauliflowers and onions should be started by April 1st, while tomatoes should be started about April 10th.

If you are making the narrow belts that are so much worn at present, after being sowed they may easily be turned by fastening a small safety-pin in one end and running it through to the other end.

The Sunday School Lesson

FEBRUARY 17

Joshua and the Conquest of Canaan, Josh. chs. 11-1, 23 and 24. Golden Text—Not one thing hath failed of all the good things which the Lord your God spake concerning you.—Josh. 23: 14.

CONTINUATION OF THE STORY—After the disastrous failure at Kadesh, the people of Israel remained in the wilderness south of Palestine for many years. They lived like the Arabs, a wandering life, seeking the wells and springs of water, and the best pasture lands. Eventually they passed south and east of the Dead Sea, through the lands of Edom and Moab, to the territory of the Amorites east of Jordan, whose cities they captured, though strongly fortified, and whose people they destroyed. Here, in the fortieth year of the Exodus, Moses died, and the leadership of Israel passed to his friend and loyal helper, Joshua. Joshua inherited the spirit of his great master. He had the task of conquest, and his fame is that of a conqueror, and his fame is that of a leader. But like Moses, he was loyal to Jehovah and exalted Jehovah as Israel's true King and Lord. Like Moses, he had the confidence and the assurance of the presence of God. See Deut. 31:1-9 and 34:9.

Ch. 1:1. Joshua . . . Moses' Minister. Joshua is called the minister or servant of Moses also in Exod. 24:13 and 33:11. Compare Deut. 1:38. He appears first as commander of Israel's fighting force in the battle with the Amalekites in the first year of the Exodus (Exod. 17:8-16). He was then a young man (Exod. 17:9-10) and through all the years that followed, was a faithful and courageous supporter of Moses. He "was full of the spirit of wisdom; for Moses had laid his hands upon him; and the children of Israel hearkened unto him."

V. 2. Go over this Jordan. The Israelite people were still on the east side of the river. They had taken possession of all of eastern Palestine from the Moabite country northward. See Num. 21:21 to 22:2.

V. 3. As I said unto Moses. See the promise to Moses in Deut. 11:22-25.

V. 4. From the wilderness. Compare the description given of the boundaries of the promised land in Gen. 15:18 and Exod. 23:31. The wilderness was the wild, sparsely populated country given to the mountain range in the north. The river Euphrates is the ideal northeastern boundary, which was reached only for a brief period in the reigns of David and Solomon. The Hittites were, in the time of Moses and Joshua, a powerful people, living in the northern part of Syria, with Kadesh on the river Orontes, and Carchemish on the Euphrates, as their chief cities. A Hittite community was found as far south as Hebron, in the time of Abraham (see Gen. 23:3 and 25:9). The great sea is, of course, the Mediterranean, "toward the going down of the sun."

V. 5. Not any man. A similar promise to Moses appears in Deut. 7:24. The comforting assurance, "I will be with thee," recalls the promise to

Moses when he received his call at Horeb, Exod. 3:12. We find the same assurance of God's presence with his servants who are called to perform great tasks, often repeated in Bible history. Compare vs. 9 and 17, 3:7, 6:27, and Deut. 31:8 and 28. And with this goes the declaration of God's unfailing help: "I will not fail thee, nor forsake thee."

Vs. 6, 7. Be strong. Human strength and courage respond to the divine promise. God's servant must be strong and courageous in reliance upon him, and in obedience to his law. Compare vs. 9 and 18. It is well that the man charged with the leadership in the nation should be strong, courageous and steadfast in his adherence to the right. Such a man is sure to be greatly tempted, but he must hold unwavering allegiance to God's law, and "turn not from it to the right hand or to the left." And so doing, he shall "deal wisely" whithersoever he goes.

Vs. 8, 9. This book of the law. The reference seems clearly to be to the first written law, referred to in Deut. 31:9, as having been delivered to the priests and the elders to be preserved by them and taught to the people. It was probably some such law as we find in Deut. chs. 12 to 26. Prosperity and good success for Joshua and for Israel will depend upon its observance.

Ch. 23:1-3 contains the opening sentences of an address delivered by Joshua to the people when he "was old and well stricken in years." (Rev. Ver.) He reminds them of the goodness of God and the great things which he had done for them, and exhorts them to steadfast courage, purity and faithfulness. It is a very noble valedictory, and its keynote is the exhortation of 1. 11,—"Take good heed therefore unto yourselves, that ye love the Lord your God."

APPLICATION. The keyword of Joshua's character and of his commission is a master word, one to conjure with,—courage. And the tap-root of courage is knowledge of and obedience to the moral law. "Conscience doth make cowards of us all." That is, wrong-doing is the greatest enemy of courage. Thus oft it happens that, when within Thy shrink at sense of secret sin A feather daunts the brave.

But courage comes when we have God's promises and his presence, when we have the assurance that we are on the side of right and truth, when we are conscious, though humble, of fitness for the task, when we are vigorous in our desire to do God's will. It is for this that we must, like Joshua, be diligent in our study of "this book of the law." Here we see how God dealt with his people, how he kept his promises, how he revealed his principles and plans.

Sheep Notes

Blindness from conjunctivitis is, as a rule, temporary when caused by strong winds blowing over snow into a sheep's eyes. That is also true of "snow blindness" which probably is associated with the cold wind as a cause of irritation. We have had many complaints of such blindness this season.

Affected sheep should at once be moved into a darkened pen. Bathe the eyes frequently with a saturated solution of boric acid, and if there is a heavy discharge from the eyes, put a few drops of 15 per cent. solution of argyrol in the eyes two or three times daily. If there is no heavy discharge put a little bit of 1 per cent. yellow oxide of mercury ointment in the eyes each evening.

Our Ice Ring.

It is a rare treat to work on a farm in the Fairlane neighborhood during the hot summer months. When you go to the shade for water, you find a chunk of ice in the bucket. At meal-time iced drinks are served; the food is crisp and fresh; ice cream is to be had twice a week.

I wondered how these farmers did this. I learned from Mr. Stanton, my employer, that ice is not a luxury with them. Instead, with scarcely any expense, they were making money by using it in their farming business.

"Down on the Smith place, said Stanton, "is an old barn which serves as our community icehouse. From it we farmers get what we need, each farmer weighing out his own ice, whenever he wants it, leaving a memorandum of what he gets. No money changes hands.

"When winter comes, and other work is slack, Smith goes out among the farmers of the neighborhood. Each one who wants ice agrees to give a few days of his time. When the time comes the men gather at the creek with ice saws and hooks, and the cutting begins. Afterwards they bring teams for hauling the ice and sawdust for the packing.

"There are about eight farmers in the ring. At the end of the season we estimate the number of tons put up. It often happens that one man will require more ice than others; that is remedied by his putting in extra time. We don't figure too closely, because one never knows just the amount he will need. If a man is unable to give his time, he hires a substitute.

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Horse Sense

Many good horses die every winter, killed by well meaning people who do not know. On many farms if an animal shows any symptoms of ill health the first thing done is to give a physic drench or ball. If it is a cow, sheep or pig, an unnecessary physic is not likely to do any harm, but with the horse it is different. Purge a horse when there is fever present and you will in all probability kill him. If you do not succeed in killing him, he will likely be greatly handicapped for the rest of his life by founder. Never physic a horse that has a fever. Use mild laxatives only.

Fevers come on suddenly. Severe cases show coldness of the extremities, surface of the body, nose and ears, shivering, breathing increases in frequency. Time to call a qualified veterinary if there is one to be had. If not, the following treatment is suggested: blanket the horse well and put him in a warm, comfortable stable, and give two ounces of the following every fifteen minutes, or until the horse begins to sweat: Aconite, one drachm; spirits of wine, four ounces; water to make a pint. With sweating started give the following fever mixture at the rate of two ounces every two hours: Fluid extract aconite, 1 drachm; fluid extract belladonna, 2 drachms; fluid extract gentian, 1 oz.; potassium nitrate, 1 1/2 oz.; water to make a pint. Keep a bucket of clean water in which a small quantity of potassium nitrate has been dissolved in front of the horse at all times. Feed soft feeds, as boiled oats and bran. Do not move the horse out of the stable until the temperature has been normal for at least 48 hours.

"The future of a great nation depends upon a progressive agriculture and the majority of the rural leaders of the future must be men and women with a scientific training in the problems of the farm, and home."—New Zealand Dairy Farmer.

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