

ducts, but destroys many insects and quantities of weed-seed. During the spring and summer over half of its food consists of insects, those most frequently eaten being caterpillars, midges, leaf-bugs, spittle-insects, grasshoppers, crickets, ground-beetles, leaf-beetles, click-beetles and weevils. It has a great partiality for cut-worms and during May and June over one-quarter of its total food consists of these most troublesome and destructive pests. One would naturally expect that this species which feeds practically exclusively on the ground, would eat large numbers of the ground-beetles, which are beneficial because they feed upon other insects, but as a matter of fact it takes comparatively few of these insects and none of the larger species which are the most valuable.

During July the Song Sparrow eats some wild fruits such as raspberries, blackberries, blueberries, and wild black cherries. In the late summer and fall its main food is weed-seed, the species most frequently eaten being knot-grass, pig-weed, lamb's quarters, gromwell, plantain, purslane, spurge, dandelion, chickweed, wild sunflower and dock. It also picks up some waste grain left on the field after harvest.

The Song Sparrow leaves about October 20th and winters from Illinois and Massachusetts south to the Gulf States. Occasionally individuals remain over winter in Southern or Central Ontario.

THE HORSE.

Veterinary Prescriptions For Farm Use.

Astringents.

Astringents are agents that contract living tissue. For local application astringents are useful in cases of raw surfaces, as sore shoulders, sore backs, wounds, cracked heels, etc. For such purposes the "White Lotion," already noted in this series gives good results, as it is astringent, antiseptic, and cooling. For other cases, as thrush in horses' feet, foul in the feet of cattle, leaking navel in foals, etc., more active astringents are required. For such purposes formalin gives good results. This is a very active astringent and must not be used too freely, as it causes considerable distress if applied too freely. For ordinary astringent purposes it can be diluted with water in any proportions, hence can be weakened until it no longer irritates. Tannic acid is an active astringent. The action of astringents given internally is to check mucous discharges. These are indicated in cases of diarrhoea, dysentery, nasal gleet, etc. For diarrhoea or dysentery the following acts well:

Powdered Catechu $\frac{1}{2}$ ounce.
Prepared Chalk $\frac{1}{2}$ ounce.
Powdered Opium $1\frac{1}{2}$ drams.

This is a reasonable dose for an ordinary sized horse or cow; smaller or larger animals should be given less or more, according to size. The mixture is a combination of drugs of different actions. Catechu is a well marked astringent, hence tends to contract the tissues and prevent discharge from the mucous glands. Chalk is not astringent. It is called a "dessicant", which means an agent that causes a drying of the parts. Opium is neither astringent nor dessicant, but it checks secretions of all the glands of the body, except those of the skin. As all these actions tend to render the contents of the intestines less fluid, we can readily see that the combination of the drugs should give good results. The dose is mixed with about a pint of water and administered as a drench, and repeated every four or five hours until diarrhoea ceases. It is also excellent practice, in treating a case of diarrhoea, to add to the drinking water one part of lime water to three or four parts of water.

In cases of nasal discharge, due to nasal gleet or chronic catarrh, when the mucous discharge is from the cavities of the skull, sulphate of copper is considered a specific. It should be given in one to two-dram doses three times daily, until the desired results have been caused. Sulphate of iron, sulphate of zinc, acetate of lead, and many other drugs are also astringents, but the drugs mentioned are probably more effective for the purposes named.

Styptics.

Styptics are agents that arrest bleeding. Most styptics are also astringents and also have the action of coagulating albumen. They check bleeding by causing contraction of the tissues and the bleeding vessels and by coagulating the albumen of the blood, thereby causing a plugging of the open ends of the vessels. Bleeding can be checked in this way only when the severed vessels are not large; when large enough to allow a stream of blood of considerable size to escape, the force of the stream is so great that it prevents the local action of the astringents applied, hence hemorrhage must be checked by ligating the ends of the severed vessels or the application of pressure to them. Tincture of iron, sulphate of iron, acetate of lead, sulphate of zinc or alum act well as local styptics. These all have the advantage of being antiseptic as well as styptic. The same agents act as styptics when administered internally, but as for local application will be effective only when the hemorrhage is from quite small vessels, as in case of bloody urine, bloody milk, slight hemorrhage from the lungs, etc. For such purposes the tincture of iron gives better results than any of the others. For an ordinary horse, it is given in doses of one ounce in a pint of cold water two or three times daily until blood ceases to appear.

Stimulants.

Stimulants are agents that promptly but temporarily increase nervous energy, and thus exalt the heart's

action and other functions. They are serviceable in cases of exhaustion from over-exertion, loss of blood, or the ravages of long-continued disease, in cases of chill or weakness of the heart's action from any cause. Alcohol and the ethers are the principal diffusible stimulants used; of the latter, either sulphuric ether or nitrous ether (sweet spirits of nitre) is used in one to two-ounce doses in a little cold water, given as a drench, and repeated every two or three hours, as indicated by the condition of the patient, as long as needed. The different alcoholic liquors, as whiskey, brandy, rum and gin, are given in four to six-ounce doses, diluted with water, at about the same intervals. So soon as the heart regains tone, the administration of stimulants should be ceased. Digitalis is a heart stimulant and tonic. It is indicated in enfeebled action of the heart, especially when the pulse is intermittent. Of the powdered digitalis the dose is twenty to thirty grains, and as the action is long continued, full doses

should be given only once daily; smaller doses can be given with safety two or three times daily, as indicated.

Sedatives.

Sedatives are agents that depress both the nervous and circulatory systems, hence should be administered only in cases where the heart's action is both full and frequent; a condition that seldom exists except in the early stages of the acute inflammations. It is unsafe to administer sedatives in any other cases, as they decrease both the number and force of the heart's beats, except in cases of a full, strong, frequent pulse they are strongly contra-indicated, hence should be used only by those who are well versed in the normal conditions of the circulation. Blood-letting is the most rapid acting sedative. Aconite is the most active medicinal sedative, and as it is given in very small doses, and should be administered only by those who have had special training, we consider it unsafe for use by the amateur. **WHIP.**

The Foot and How to Shoe It

The old adage, "No foot, no horse," grows more significant with the passing of the years. If these four words were more generally understood, it would mean thousands of dollars to the horse industry of this country.

The Perfect Foot.

The perfect foot is not often seen. It is wide at the heel and of medium depth. The depth at the heel should be about one-half the length down the toe when the foot is in normal shape. The coronet should be round on the front feet and as nearly that shape as possible behind. A big round foot indicates that the sensitive tissues covered by the hoof wall are healthy. The contracted foot, narrow at the heel, always means just the opposite. A full frog is a great asset to a big horse. It is the cushion which takes off the jars. Horses with extremely low heels are likely to go prematurely lame because of a lack of frog. The inner part of the foot is not well enough protected from the wear and tear to which a draft-horse foot is subjected to remain free from soreness long. However, there is less trouble with a thin-heeled horse going lame than a high-heeled one. Some people have an idea that a Percheron foot doesn't look well unless it is high in the heel. They forget how a foot must be shaped to last well. Boxy feet, high at the heels, are sure to result in lameness sooner or later. They cause a horse to stand up on his pasterns too much and they always contract and sometimes pretty quickly. High heels and poor frogs always go together, for with such a shaped foot the weight of the horse comes on the hoof wall instead of on the frog. A frog is much like muscle tissue in that it never develops well without constant use. If one wants to grow a good frog, he has to take off the heel and let the frog down to the ground. Then the foot will widen out and grow a good, springy frog. The slope of the hoof in front should be about 45 degrees, the same as the set of the pastern. If kept at more than that angle, a horse cannot set down properly on his pastern. To give a horse a good elastic step his pasterns must set at such an angle that they will move up and down freely. There must not be a stilted step which comes with short, stubby pasterns and upright hoofwalls.

How to Avoid Foot Troubles.

The majority of all foot troubles are due to negligence. Few horses have bad feet from inheritance. Thirty minutes a week will keep the average farm horse's feet in perfect order. What farmer is there who does anything to his horses' feet unless they become so long that his

horse can't walk easily, or unless they break off badly and cause lameness? Many good pure-breds are permanently ruined by letting their feet grow without attention. The foot is like a sponge, very porous and sensitive to water. It will not stay in perfect order without moisture. Keep a horse in a stall and his feet will dry up and contract. Never put oil on the feet, as that prevents water from entering the hoof wall. Pack damp clay in the bottom of the foot to hold moisture. If I can get it, I prefer white rock clay. This can be secured at most drug stores. Get the horse in the mud occasionally, so as to soften up his feet. Where it is impossible to get a stallion out into a paddock, he should be walked out of doors and especially when the ground is wet. Riding a stallion through meadows or pastures when heavy dew is on is excellent for the hoofs.

Always keep the foot as nearly level as possible. This rule applies to horses of all ages, and particularly to the young, growing colt. Side-bones are frequently caused by allowing one side of the hoof to wear off short. Then the weight is shifted to the short side, which almost invariably sets up inflammation, causing a sidebone sooner or later. Use a rasp and pinchers to trim a horse's feet, but not a chisel. One cannot use the latter and be certain that he is trimming the foot level.

Growing a Hoof Prior to Shoeing.

Use the rasp sparingly on the hoof walls of a show horse, for if one wears away the glossy appearance, the hoof texture soon becomes dry and brittle and the feet go to pieces. There is no danger, however, from rasping the feet of the ordinary farm horse, if it is done only when he is shod, for usually he is not shod more than twice a year. Better keep very light plates on the show horse all the time to protect the hoof wall and allow it to grow. I always take a very light plate shoe and hammer it out until it is extremely thin at the heel. Then when one gets ready to shoe for show, he has a foot to work on. Too many people think that if they get a good horse-shoer a few days before starting out to the fairs that he can fix up the feet. That oftentimes proves a sad mistake. In many cases it takes months of careful work to get feet in the proper shape, and sometimes a year. Nobody can shoe a draft horse perfectly unless there is plenty of toe, and if not, it takes time to grow it. A heel that is too high cannot be cut down as it should be all at once. The work must be gradual or else soreness will result. It usually takes two or three trimmings to correct a high heel. If the quarter is lacking, keep the toe short, and that will throw more wear on the toe, less on the heel, and con-



The Spring Drive.

Following his faithful favorites across the furrowed field.