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problem in country districts. Even consolidation has its own problems, such as transportation, a good road system, properly planned routes, and government assistance. These, however, can easily be overcome by persistent demand for their solution and this should be begun by the farmers and their natural leaders.

It should be remembered that every city school is a consolidated school, made easy by the nearness of the homes, because in many a city block there is a population sufficient to people a large-sized village. But no city dreams of building a one-room school-house for every group of thirty school children. City schools are consolidated without the transportation problem. Consolidated schools in the country have merely the transportation difficulty to overcome. This has been accomplished in hundreds and hundreds of cases. Idaho transports over five thousand children; Oklahoma eight thousand; Kansas nine thousand; Minnesota sixteen thousand; and in Rhode Island there are fewer than two hundred ungraded schools left. Yet there are some districts where the means of communication are so bad and the population so scattered that consolidation will hardly be practicable for many years. The old district school will still have a place in the less favored localities.—By Sinclair Laird, Dean of the School for Teachers, Macdonald College.

Nature's Diary.

A. B. KLUGH, M. A.

There is no sound more characteristic of early fall than the note of the Snowy Tree Cricket. It is one of the most persistent, if not the most persistent, musician to be found in our fields or woods. It begins its song in the late afternoon and keeps it up, without a moment's pause, until just before dawn. The best rendition of this song which we can give in syllables is "Re-teat—re-teat—re-teat—re-teat." There is to my ears a quality about it which suggests the rhythmic compression and relaxation of a slightly rusty spring. Burroughs calls it "a rhythmic beat;" Thoreau a "slumbrous breathing;" and Anna Botsford Comstock says "It is delightful, rhythmic and sleep-inspiring." Personally I think that the Snowy Tree Cricket overdoes it a little, and that his note is inclined to become monotonous and a trifle aggravating. Writing of this song Dr. Comstock says:

"So far as we know, this Snowy Tree Cricket is the only one of the insect musicians that seems conscious of the fact that he belongs to an orchestra. If you listen on a September evening, you will hear the first player begin; soon another will join, but not in harmony at first. For some time there may be a see-saw of accented and unaccented notes; but after a while the two will be in unison; perhaps not, however, until many more players have joined the concert. When the rhythmic beat is once established it is in as perfect time as if governed by the baton of a Damrosch or a Thomas. The throbbing of the cricket heart of September, it has been fitly named. Sometimes an injudicious player joins the chorus at the wrong beat and he soon discovers his error and rectifies it. Sometimes, also at night, one part of the orchestra in an orchard gets out of tune with the majority, and discord may continue for some moments, as if the players were too cold or too sleepy to pay good attention. This delectable concert begins in the late afternoon and continues without ceasing until just before dawn the next morning. Many times I have heard the close of the concert; with the wee sma' hours the rhythmic beat becomes slower; towards dawn there is a falling off in the number of players; the beat is still slower, and the notes are hoarse, as if the fiddlers were tired and cold; finally when only two or three are left the music stops abruptly."

There is a distinct relation between the temperature and the number of notes per minute in this species, and Professor Dolbear has reduced this relation to a mathematical formula. He says "Let T equal the temperature in degrees Fahrenheit and N equal the number of beats per minute. Then T equals 50 plus; N minus 40, divided by 4. Dr. Edes and Mr. Faxon have tested this formula in Massachusetts, and have found that it works with an extremely close approximation to absolute accuracy. Thus we have a sort of animated thermometer in the Snowy Tree Cricket: the higher the temperature the faster the time of his song.

This species is a slim, ghost-like cricket; pale green, almost white, in color and about three-quarters of an inch in length. It has slender, long hind legs, clear wings, and long antennae, pale gray in color, and the female has a long, sword-like ovipositor. It is with this latter instrument that she deposits her eggs in slits in raspberry and blackberry canes, in this way often doing a considerable amount of damage as the canes sometimes break off at the point of injury; the young Tree Crickets feed on plant-lice and the adults feed on the insects and on tender shoots of plants.

The floral procession of the year is now coming to an end, and it finishes with a glorious blaze of purple and gold—the purple of the Asters, the gold of the Golden-rods. Of Golden-rods we have in Canada a great many species, and in any one locality there are usually from ten to fifteen species to be found. The various species grow in all possible land habitats, in the fields, in clefts in the rocks, in thickets, woods, swamps and bogs. Some species are quite well-marked and easily distinguished, while others

can be told from their allies only by very careful botanical study. One of the very common species is the Canada Golden-rod (*Solidago canadensis*), which grows in fairly dry soil. It is from three to five feet in height, has a large, densely-flowered, spreading panicle, a rough stem and lance-shaped leaves which are very prominently three-veined. A species of much the same height and kind of panicle is the Early Golden-rod (*Solidago juncea*), but in this species the upper leaves are much smaller than the lower ones which are broadly elliptical and taper into broad petioles. In the woods and thickets is a pretty little species, the Blue-stemmed Golden-rod, (*S. caesia*), which has a stem with a bluish bloom on it, studded with pale golden clusters of tiny florets in the axils of lance-shaped, feather-veined leaves for nearly its entire length. In swamps and peat-bogs the Bog Golden-rod (*S. uliginosa*) sends up a stem three or four feet in height topped by a densely flowered, oblong spire, the branches of which are so appressed as to give the plant a wand-like appearance.

The Golden-rods attract a host of different kinds of insects, which come to gather pollen and nectar, and there are at least three kinds of galls made by insects on their stems, so that the insect population of a patch of Golden-rod furnishes an interesting entomological study.

THE HORSE.

Keep the Colt Growing.

The fall of the year is often the most critical time with the colt. Very often his dam is allowed to run with him in good pasture through the summer, but is taken in and compelled to do team work on the plow and other implements commonly used in fall cultivation. The colt is often allowed to run in the field where the mare is working, which is a mistake, and unless the mare is well fed and the youngster has a chance through getting a fair allowance of good oats and some bran he is likely to "go back." This is weaning season, too, for early colts, and the newly weaned colt requires a little extra care. Pastures are dry and browned, and whether or not the colt is weaned, it is necessary that he be fed a little extra. Fed in small quantities, cow's milk is valuable at this season, and be liberal with the grain. Keep the colt out of the flies during the day and let him out nights, provided the weather is not cold and wet. If the colt starts to fail now, it may take all winter of careful feeding to get him going right again.

Eczema in Horses.

I have a horse 6 years old which has an irritation in his skin. He rubs himself considerably, which causes the hair to come off and sore, scurvy spots to form. Could you prescribe a cure for him through your valuable paper as soon as possible?

A SUBSCRIBER.

Ans.—We have had several enquiries regarding this trouble of late. It is likely eczema, and, after again examining to make sure there are no lice on the animal, purge with 6 to 8 drams aloes and 2 drams ginger. Follow this up with 1½ ounces Fowler's Solution of Arsenic twice daily for a week. Give the horse a thorough washing with strong, warm soap-suds, well rubbed in with a scrubbing brush. After this, dress thoroughly twice every day until cured with a warm solution of corrosive sublimate, 30 grains to a quart of water. Heat this solution up to about 110 degrees F. before applying.

LIVE STOCK.

Diarrhoea or White Scours in Calves.

Diarrhoea, commonly called white scours, in calves appears in two forms. First, sporadic or accidental diarrhoea, second, infectious or germicidal diarrhoea.

The first form is usually due to unsanitary surroundings or wrong feeding, or both. It seldom

occurs in calves that nurse their dams, except in rare cases, where the dam's milk is abnormal. The first milk of the dam (called colostrum) has a laxative effect, hence tends to rid the calf of the contents of the intestines at birth (called meconium) often, if this milk is withheld, the intestine becomes irritated. Constipation often ensues, and is succeeded by a diarrhoea of a serious nature, caused by absorption of the toxic substance from the intestine. Changes in the dam's ration, excitement, unusual exercise and disease are liable to change the composition of the milk and cause diarrhoea. When the young are raised artificially, or by hand, and fed milk from different cows, or when changed from whole to skimmed milk, acute or chronic digestive disorders that are accompanied by diarrhoea are not uncommon. Feeding calves out of filthy pails, allowing them to drink too rapidly, and giving them fermented milk are common causes of the trouble.

Unsanitary surroundings, as dark, cold, damp, filthy quarters, lower the vitality of the young animals, and predispose them to diarrhoea as well as to other diseases.

Symptoms.—In many cases a more or less well marked constipation precedes the diarrhoea. Colicky pains are often noticed. When diarrhoea sets in, the symptoms, of course, are plain. There is a frequent discharge of semi-liquid or liquid faeces, usually of a pale-yellowish or whitish color. Hence the name "White Scours." There is usually a weakness and decrease of appetite. After a time the discharge has a foul, disagreeable odor. The faeces may be made up largely of undigested, decomposed milk, which adheres to the tail and hind quarters. If diarrhoea be severe, the patient refuses to nurse or drink, and rapidly loses flesh and strength, and lies a great part of the time.

In other cases the diarrhoea, while well marked, is not severe, and does not rapidly deplete the animal, becomes chronic. In such cases, while the patient retains a reasonable amount of vitality and strength, it has an unthrifty appearance, the abdomen becomes large, commonly called "Pot Bellied," and has a general unthrifty appearance.

Treatment should be largely preventive. The young animals should be provided with dry, clean, well-ventilated quarters, and allowed a reasonable amount of exercise. If the calf is to be raised by hand, the first milk of the dam should not be withheld, and warm, whole milk should be given in reasonable quantities, and often, for a reasonable length of time; and when a change is being made from whole to skimmed milk, or food of other nature, it should be made very gradually, and it is wise to reduce the amount given when a change is being made, and then gradually increase as the little animal becomes accustomed to the change. Pails or other vessels from which the animals are fed should be kept clean.

Curative Treatment.—When the symptoms are not severe and the patient is reasonably strong and has a fair appetite, all that is necessary in many cases is to change back to whole milk, and add to the milk, or other fluid taken, about quarter of its bulk of lime water. This is easily made by slacking a small lump of lime in a pail or other vessel, then filling the vessel with water and stirring it well with a stick. Then allow it to stand. The undissolved lime precipitates, and the clear liquid on top is "lime water."

In some cases it is wise to give the calf 4 to 6 ounces of raw linseed or castor oil, to remove undigested food from the stomach, but in many cases the lime water alone will correct the trouble.

In cases where diarrhoea is acute and the patient weak, it is necessary to take prompt measures of checking the trouble. In such cases 1 to 2 drams (60 to 120 drops) of laudanum, according to size of patient, should be given in about a pint of a mixture of 2 parts new milk and 1 part lime water, every 4 or 5 hours, until diarrhoea ceases.

The Infectious form of the disease is due to a specific germ that exists in the surroundings. This gains entrance to the circulation of the calf, generally through the navel opening, but may enter by the mouth, especially if the teats of the dam be infected.

Symptoms.—The symptoms appear from a few hours, or even less, to a few days or possibly longer, after birth, and are largely the same as those of ordinary diarrhoea, but usually more acute, and often terminate fatally in a short time.



Typical Shorthorn and Hereford Bulls Recently Sent from England to The Argentine.