

naturally only in small quantities during the winter. Insects form 44% of the total food in June, 46% in July and 66% in August. In June most of the insects taken are Beetles, among them being many injurious forms such as the June Beetle, Spotted Pelidnota, Click Beetles and Curculios, while in August most of the insect food of this species consists of Grasshoppers and Caterpillars. The vegetable food of this species consists of grain, mast and fruits. Of the grain, corn is the most important item, and in September it aggregates about 18% of the total food. Wheat, oats and buckwheat are rarely taken. Mast—acorns, beechnuts, chestnuts, etc.—makes up the largest part of the food, and aggregates more than 42% of the total food of the year. In October this makes up 64%, and in November 82%, of the total food. The fruit consists mainly of apples, blackberries, currants, mulberries, wild cherries, chokecherries, elderberries, wild grapes, service berries, blueberries and strawberries. The apples were taken in the winter and consisted of frozen ones left hanging on the trees. The only fruit found in the stomachs, which might have been cultivated consisted of currants, strawberries, blackberries and mulberries. Strawberries were found in three stomachs, currants in seven, mulberries in five and blackberries in twenty-two. Of the blackberries it is probable that most of those eaten were wild, so that the analysis shows that the Blue Jay is not an enemy of the horticulturist.

In the light of this careful investigation we are bound to believe that statements as to the amount of damage which the Blue Jay does in destroying eggs and young birds are decidedly exaggerated. It also shows that the Blue Jay gathers its fruit from nature's orchard and vineyard, not from man's; that corn is the only vegetable food taken by this species which causes any loss to the farmer and that here the damage is small. It shows, in fact, that the Blue Jay certainly does far more good than harm.

THE HORSE.

Uses Of Sulphur In Horse And Stock Treatment.

During recent months we have received at this office many enquires regarding the use of sulphur in keeping live stock healthy, and in the treatment of certain horse and live-stock troubles. We recently read in The Farmer and Stockbreeder an interesting article on this subject by an Old Country veterinarian, and we pass it on to our readers who are interested in this "old and useful remedy."

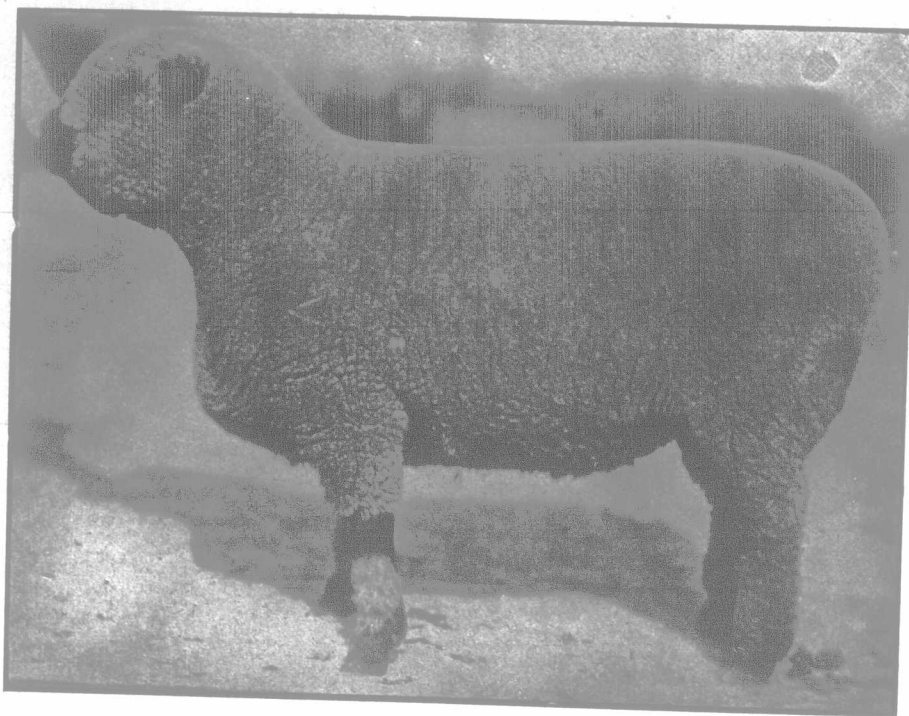
One of the oldest and most useful remedies in the world, and one of the few specifics, is sulphur. By the name of brimstone it is sold in brittle sticks, so brittle, indeed, as to break in the warm hand because so bad a conductor of heat. A roll of brimstone is often found in the dog's drinking water. A stone would do equally well for all that is dissolved and taken by the dog. The rolls are obtained from native sulphur, which is a volcanic product in the blue clay beds of Sicily and Italy. There are many other sources of sulphur, but these are the chief commercial centres from which it is obtained in a form that is most easily converted into the powder or "flowers" as we know it when re-sublimed and relatively pure, although traces of arsenic contaminate it more or less. This is why black sulphur, sulphur vivum, hosse sulphur, caballum, as it is variously called, is not to be preferred to the cleaner product. Black sulphur, which was originally preferred for pigs and as an alterative for other animals, may well have owed its virtue to the minute quantity of arsenic contained in it, but we have seen some recent samples of poisoning by it when recklessly employed under the impression that it is a perfectly harmless drug. The black portion which accumulates on the surface of the iron receiver in which sulphur is sublimed contains the arsenic practically of the whole sublimate, as arsenic volatilizes first. The black sulphur as usually sold by druggists is not the crust, discolored in the way above described, but has had a portion of animal charcoal added to it to produce the effect desired by the purchaser. This harmless form of adulteration may be almost desirable since there is no arsenic, and charcoal is a useful ant-acid and remedy for certain forms of indigestion. Sulphur is present in the bile and in albuminoids and in the order of plants known as the cruciferae, of which the brassica or cabbage tribe have the most abundant supply. The cabbage water which smells so unpleasantly is due to the sulphuretted hydrogen given off in the boiling.

Sulphur is insoluble in alcohol (cold) and in water, and is tasteless. Old folks who were dosed with "brimstone and treacle" in their childhood will find it difficult to believe this statement as to its tastelessness, but if they will put a dust of the powder on the tongue by itself they will find it so. Sulphur melts at a comparatively low heat (40 deg. Fahr.), and dissipates entirely with about twice that amount. Burning converts it into one of the most powerful and cheapest of aerial disinfectants. If buildings

of any kind can be closed and made practically airtight every living thing within will be destroyed by burning sulphur. The proportions needed are 50 ounces of sulphur to every thousand feet of air space. An old tin may be used as the container, placed on the floor, and wetted with methylated spirit in order to set it alight, and then the building can be closed. The fumes rise and search out every crack and crannie. This is cheaper than any form of liquid, and requires very little labor by way of preparation, although holes in old buildings are apt to be overlooked.

Sulphur is a specific for the itch. The itch of man corresponds to mange of quadrupeds. The acari which cause it are killed by contact with sulphur. Seed oils are the best vehicles for it; contact is necessary. It is because some mange parasites (the sarcoptes) make galleries under the skin and deposit their eggs at the ends of them, that a dressing will sometimes fail. Contact has not been made, and washing with soft soap or other lifters of the cuticle or surface skin may be necessary. It is always a good plan to wash with plain soap between the dressings in an obstinate case of mange. Sulphur is a slightly mechanical stimulant to the skin by itself, and its action varies in individuals, some skins favoring the formation of sulphides. The latter are developed by the addition of alkalies, and this is why many old recipes for mange dressings contain a portion of salt of tartar (carbonate, not bicarbonate of potash).

Sulphur given internally and in sufficient doses acts as an aperient, as a mechanical aperient chiefly, and most of it is passed out in the faeces. Some portion is decomposed into sulphided sulphurous acid and sulphuretted hydrogen. Probably the alterative action so well recognized when given in minute doses daily is due to this conversion. Proof of the gas is too evident in the bowel flatus, and is one of the chief reasons for its comparative disuse for children. As much sulphur as will lie upon a three-penny piece is a suitable dose in "condition" or alterative powders, and it is always difficult to get this point impressed upon the lay mind. Larger doses are only wasted. Alteratives should be given with as great regularity as food in order to produce their effects. The two-ounce dose of sulphur commonly prescribed with an ounce of nitre in a bran mash is only a mild laxative, and not an alterative, gradually affecting tissue change, and showing in the shining coat of the horse or beast.



A Shropshire Champion.

C. W. Gurney & Sons champion at Toronto and London, also champion American-bred ewe.

In giving the doses I would impress readers with the fact that sulphur can cause poisoning. Diarrhoea, inflammation of the mucus membrane, collapse, and death have resulted from giving a handful a day. Many amateurs give more than is prescribed by careful professional observers, and if they do not get bad results are misled into thinking that they knew better than the too cautious vet.

For the horse, as a laxative or mild aperient, one to four ounces; cattle, three to six ounces; sheep and pigs, half to one ounce. Finlay Dun gives the alterative dose as one-fourth of the above, and his dictum therefore entirely disagrees with what has been said in this article on alterative doses. The reader can choose which he will.

Some men find fault with the Agricultural College because certain of its graduates are failures on the farm. You cannot build a good wall from poor material; you cannot grow a good crop from bad seed on infertile soil; neither can an agricultural college make a good farmer out of some men. It does, however, help a great many to be better farmers. Remember, when prone to criticize, that no one man knows it all.

LIVE STOCK.

Croup in Calves

Young cattle, varying in age from a few weeks to a few months, are subject, especially those kept in low, damp pastures and more especially those pasturing near streams of water, and during the fall of the year, to a form of inflammation of the throat, characterized by the formation of a fibrinous exudate or false membrane, usually of a greyish-white color but sometimes brown or yellow, extending over the mucous membrane of the larynx and wind pipe, sometimes over the posterior portion of the mouth and in some cases the bronchial tubes are enlarged.

This condition is generally called croup. It differs from ordinary catarrhal laryngitis in a well-marked manner. In laryngitis there is always an increased section of mucus, which is discharged as quickly as it is formed. In croup an exudative process attends the inflammation of the larynx and wind-pipe, which induces the formation of false membranes which vary in thickness and consistency, some of which are quite thick and opaque, while others are quite thin and transparent so that the mucous membrane can be seen through them. Some are so firm in consistence that they can be detached for a considerable length without tearing, while others have little consistency. They vary in color from a dirty greyish-white to a yellow or yellowish-brown. If an animal be examined post-mortem, after the disease had existed for four or five days, the wind-pipe and larynx will be found to be lined for a considerable distance, in some cases only partially, while in others the whole circumference will be covered by the false membrane, forming a complete tube or cylinder.

Symptoms.—The first symptoms generally noticed are a hoarse cough and discharge of frothy saliva from the mouth, and of mucus from the nostrils; the animal is unthrifty, has some difficulty in swallowing; sometimes swellings appear just behind the jaw bone on one or both sides, also in the space between the jaw bones (the sub-maxillary space). These symptoms are usually succeeded by increased difficulty in breathing, respiration being accompanied by a crowing noise and by spasm of the muscles of the larynx, causing violent paroxysms. In other cases the spasmodic affection of the larynx and difficult breathing occur without

any premonitory symptoms. The pulse, hard and frequent at the commencement, becomes more frequent, feeble and indistinct as the disease advances; the fits of coughing grow more and more troublesome and violent paroxysms frequently occur, especially if the animal be subjected to any sudden exertion or excitement. In the course of two or three days flakes of false membrane are coughed up; expectoration becomes more profuse; the false membrane, which never becomes organized or vascular, is loosened and detached by a fluid poured from the mucous membrane, until it is finally separated and cast off. If the case progresses favorably this membrane is not again formed, the suppuration process terminating in the inflammatory action.

Treatment.—Of course preventive treatment should be observed. This consists in providing good shelter and sanitary quarters for the calves at night and during wet, cold weather, in addition to seeing that the lots in which they are kept are not damp. When the disease is noticed, if the symptoms are very alarming, the breathing very difficult, and the noise loud, there is immediate danger from suffocation and an operation known as Tracheotomy, which consists in inserting a tube into the larynx, and can be performed only by a veterinarian, is necessary. Hence the services of a veterinarian should be promptly procured. It is essential in every severe case that air be admitted early, as, should the operation be delayed, the animal will soon succumb to suffocation, or a condition of blood poisoning caused by an overloading of the blood with carbon and effete material. When the symptoms are not so severe, the nostrils should be steamed for several hours consecutively, by holding the head over a pot of steaming water or other device, and it is well to add to the water a little carbolic acid or iodine. A solution of nitrate of silver, one-half dram to one ounce of distilled water, should be applied directly to the diseased mucous membrane. This can be done by holding the patient's mouth open by the use of a speculum, a clevis, or other device, and applying the solution with a feather, care being taken to not apply it to a greater surface than that upon which its action is required. This should be repeated once or at most

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