

### Veterinary.

#### Chills in Stock.

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Too little attention is everywhere given to the approach of sickness. In man and beast alike the enemy disease, is usually allowed to secure the commanding outposts, where he can play with success on the most vital portions of the frame, before any apprehensions are aroused or any measures taken to defeat him. Many conditions of ill health, and even many diseases that show themselves suddenly and with extreme violence, have had the way paved for them by a continuous undermining of the health extending over weeks and months before the final onset of the malady. A constant breathing of impure air, loaded with organic emanations from the lungs and skins of a number of animals huddled together into a confined space, from accumulations of dung and urine, from filthy drains and the like, impairs respiration, blood formation, and nutrition, and lays the system open to disorders of all kinds. An unduly dry and fibrous food with a deficiency of water, leads to slight but increasing accumulations in the stomach or bowels which greatly impair digestion, prevent the animal from availing fully what it eats, and render it an easy victim to fever on the occurrence of any exciting cause. A comparatively insufficient supply of drinking water, and continuous dry feeding in winter leads to a concentration of the urine, to the deposit of crystals in the kidneys and bladder, to imperfect removal of the necessary vast matters from the body, and a liability to disease under any unusual disturbing cause. Heavy stimulating feedings, close buildings and a denial of all exercise induces a torpor of the liver, impairs the functions of blood-formation, urination and digestion, and strongly invites disease. So with all other unhealthy conditions of life. Their evil results are not usually seen at once, nor are they so manifestly connected with such conditions that any one can recognize them as their causes, but they are nevertheless the primary and potential, though distant causes of disease, without which the immediate and apparently exciting causes would mostly remain inoperative. But our object is not so much to write a paper or hygiene as to draw attention to the first step on disease itself, and suggest in general terms what should be done to arrest its progress. An animal weakened or rendered specially susceptible by faults in feeding, ventilation, cleanliness, work, previous disease &c., is allowed to stand in a draught between doors or windows, is caught in a storm of rain or snow, is over-heated or fatigued and allowed or compelled to stand in the cold, and very soon it is attacked with a *chill*. The surface is cold, the hair stands erect, the skin clings to the ribs, the limbs, tail and ears are cold to the touch, also the horns and muzzle, though a thermometer inserted in the rectum shows a higher internal temperature than in a healthy subject; the victim is stiff and unwilling to move, and slight tremors or violent shiverings run over the body. There may be any grade of severity from a simple chilliness of the surface and rising of the hair along the back, to a most violent rigor which will make a loose wooden building shake and rattle. The duration too, may vary from a few minutes to as many hours. In proportion to the violence of the rigor or shivering, will usually be the severity of the disease which it ushers in. If the chill can be arrested, and the functions restored to their natural course and rhythm, such disease will usually be either warded off, or at least very largely moderated in its severity. Hence the great importance

of facing such disorders at the very outset, and warding off a disease which it might be impossible at a late stage to guide to a successful termination.

We must bear in mind the true nature of the malady; that we are not dealing with a simple chilling of the body; for the great mass of the body—the interior—is unnaturally warm; it is the surface only that is cold, and this is due to nervous disorder rather than exposure. The bloodvessels of the surface have contracted driving the blood inward on the vital organs and especially throwing an undue work of elimination on the mucous membranes of the lungs, bowels and kidneys with consequent general disorder. Our first object therefore must be to restore the deranged nervous functions, and this may be sought in various ways. A common practice is to give nerve sedatives, and as a familiar remedy aconite is largely in use. The tincture of aconite root should not be given in doses exceeding forty drops to horses or cattle, to be repeated once only, at the end of an hour. It is a very potent poison and if given to excess or too frequently repeated, and if employed in a case such as we are considering it must be used so as to have a prompt and full effect on the system, to cut short the chill and induce a free circulation in the skin. Other allied sedatives, such as veratrum, lobelia, and even tobacco are occasionally employed to fulfill the same object, but all alike are violent poisons and should be used with becoming caution.

A much safer course is to resort to the use of diffusible stimulants, and other warm drinks, and to the application of warmth to the system of the body. In this purpose the alcoholic stimulants—whiskey, brandy, gin—may be used in doses of six or eight ounces for the larger animals; or  $\frac{1}{2}$  oz. carbonate of ammonia; two drachms sulphuric ether; one oz. sweet spirits of nitre; or even one oz. ground ginger may be administered. Whatever is given should be associated with several quarts of warm water or gruel (100°F.), and a similar amount of the latter may be thrown into the rectum as an injection. Such stimulants, warm drinks and injections may be repeated with impunity at the end of half an hour unless they shall have secured a free circulation in the skin and perspiration before this time.

Meanwhile the free action of the skin should be further sought by applications made directly to the surface. Warm woolen clothing for the body, and loose flannel bandages for the limbs will do much to solicit a free flow of blood to the surface. Active rubbing of the back and limbs with wisps of straw is of great value, the parts being temporarily uncovered for the purpose, and wrapped up again as warmth is restored. But in all severe cases the direct application of heat should never be neglected. Bags loosely filled with hot sand, bran, grain or chaff may be laid across the back and loins, while the feet may be placed in buckets of hot water for ten or fifteen minutes each, being afterwards rubbed dry and loosely bandaged. Even mustard, pepper and other stimulants may be rubbed on the limbs to advantage, if an attendant with sufficiently dull nose and eyes can be secured.

The patient ought to have, a comfortable warm building, but not at the expense of impurity in the air, which is one of the causes most conducive to such attacks, and which cannot be continued with impunity after the attack has commenced.

By such simple measures as above referred to many serious inflammations of important organs may be checked in the initial stage, and the expensive course of nursing and medicine avoided, together with a considerable deterioration in the value of stock. When the immediate danger has been dismissed, there still remains the remote cause to be removed, and to the discovery of this the judicious

stockowner will give his earnest attention so as to avoid similar occurrences in the future.

[Thanks to Mr. Law for his valuable contribution on chills in stock. This clear method of tracing the disease to its cause, and the remedies prescribed, and the preventatives are well worthy the attention of stockfeeders, and the whole article will repay the careful study of it by all.]

### Agriculture.

#### Good Work for Winter.

BY H. IVES, BATAVIA, N. Y.

There is no time of the year when farm-yard manure can be drawn out on to the farm so readily as in winter, with runners on the snow, or even with wheels on frozen ground. If the manure has accumulated under shelter or in basements where it does not get too much frozen to be handled, and especially if it needs to be drawn, for men and teams at that time of the year generally have plenty of time to do such work, and there is no time of year when it can be drawn so quickly and easily, and with less damage from driving over the fields.

By doing this work in the winter not only facilitates the spring work, but allows the farmer to use the manure to much better advantage than if it was delayed until plowing time before drawing, for if it is too coarse, it can be put into large piles, near to where it is to be used, where it can be pitched over and into fine quality before using. But what I consider the greatest advantage, and most economical way of using, if it is only fine enough when it is drawn, (mine is for I chaff every thing used, even to the bedding), to spread as thrown from the sleigh or waggon, to be a surface manuring, and mulching of the fields. If spread on the wheat it not only feeds the roots with the liquid, leaking from the manure, but the mulch will act as a great protection to it through the most trying spring weather, it will also aid very much in getting a good catch of clover when seeding to it, though a slight dragging or brushing should be given the wheat before seeding. The principle use that I make of manure drawn out in the winter, is to spread on any or all grass land; especially a turf lot that is to be broke for planting ground in the spring. I believe it to be the very best way that manure can be applied to land for that purpose.

By making a similar application of manure as a top-dressing to the meadow, late in the fall, or in the winter, often gives better results than from any other way of applying, when this is done, a man should pass over the ground in the spring to knock in pieces the lumps of manure, and then the meadow should be slightly dragged once or twice to work fine, and in to where it will do the most good. I have found it to be of so much advantage and economy to use manure in this way, that I believe it to fully pay for cutting all fodder, (with power machine), that goes to make manure, and to keep it so protected that it can be drawn and used at any time, even without taking into account any advantage of the feeding of it in that condition, or of keeping the stock in so warm a place that the accumulation of manure from them will not freeze.

Soils are improved by mixing. The admixture of clay with sandy or peaty soils, however, produces both a physical and a chemical alternation. The clay not only consolidates and gives body to the sand or peat, but it also mixes with them certain earthy and saline substances, useful or necessary to the plant, which neither the sand nor peat might originally contain in sufficient abundance. It thus alters its chemical composition and fits it for nourishing new races of plants.