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OSTEOMALACIA, OR CREEPS, IN CATTLE.^a

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[Revised in 1904 by John R. Mohler, V. M. D.]

This is a condition of bone brittleness or softening of bone found usually in adult life. It consists of the decalcification of mature bone, with the advancing diminution of the compact portion of bone by absorption. The periosteum strips very easily from the bone. This disease is seen in milch cows during the period of heavy lactation or in the later stages of pregnancy, and the greater the yield of milk the more rapid the progress of the disease. Heifers with their first calf are frequently affected, as these animals require a considerable quantity of animal salts for their own growth and for the nourishment of their calves.

Symptoms.—In marked cases there is a gradual emaciation and symptoms of gastrointestinal catarrh, with depraved appetite, the animal eating manure, decayed wood, dirt, leather, etc. Muscular weakness is prominent, together with muscle tremors, which simulate chills, but are not accompanied by any rise of temperature. The animal has a stiff, laborious gait, there is pain and swelling of the joints, and constant shifting of the weight from one leg to another. The restricted movements of the joints are frequently accompanied by a crackling sound, which has caused the name of "creeps" to be applied to the disease. The coat is dull and rough and the skin dry and hidebound. The animal is subject to frequent sprains or fracture of bones without apparent cause, as in lying down or turning around, and when such fractures occur they are difficult to unite. The bones principally involved are the upper bones of the legs, the haunchbone, and the middle bones of the spinal column. The disease in this

^a Reprint from Special Report on the Diseases of Cattle. 1904.

country is confined to localized areas in the Southwest, known as the "alkali districts," and in the old dairy sections of New York. The cause of this affection is the insufficiency or total absence of lime salts in the food; also to feeding hay of low, damp pastures, kitchen slops, and potatoes, or to overstocking lands. It occurs on old, worn-out soil devoid of lime salts, and has also been observed to follow a dry season.

Treatment.—This should consist in a change of food and the artificial feeding of lime salts, such as magnesium and sodium phosphate. Foods containing mineral salts may be given, such as beans, cowpeas, oats, cotton-seed meal, or wheat bran. Cotton-seed meal is one of the best foods for this purpose, but it should be fed carefully, as too large quantities are injurious to cows. Phosphorus may also be given in one-fourth grain doses twice daily, together with a tablespoonful of powdered bone meal or crude calcium phosphate at each meal. Ordinary lime dissolved in drinking water (limewater) will also be found efficacious in combating this disease, and can be provided at slight expense. A change of pasture to a locality where the disease is unknown and a free supply of common salt and bone meal will be the most convenient method of treating range cattle.