

four recovered, and the balance (four) did not take the disease.' The horses attacked are usually those that receive the minimum amount of care, but well-cared-for, greedy horses may contract the disease through eating their bedding, which often consists of bracken which has been left in their mangers." Hadwen also reports the poisoning of two horses from eating green bracken in a pasture where other vegetation was scarce. One of the horses died. Chesnut and Wilcox (1901) state that "Cases of poisoning of horses and cattle by this plant have been reported from England and from a few localities in the United States." Pott also refers to the poisoning of cattle by eating bracken in quantity. Stockman (1917) experimented with a bull-calf by feeding it freshly cut bracken for a period of twenty-nine days. The calf was found dead on the thirtieth day.

SYMPTOMS: The first general signs of poisoning as given by Hadwen are, an unsteady gait, good appetite, animal inclined to constipation, eye congested, flanks tucked up, nervousness. In the later stages if the head is raised the horse may fall. It stands with the legs spread, and has a distinctly intoxicated look. Greedy horses are most liable to attack.

Mueller, in reference to fatal poisoning among horses, gives the symptoms as timidity, slower movement or action, loss of balance, dilated pupils, reddening followed by yellowing of the conjunctivæ, and slowing of the pulse.

REMEDY AND MEANS OF CONTROL: In all cases of poisoning, professional advice should be obtained. The treatment recommended by Hadwen to the farmer who is unable to obtain such aid is as follows: First remove all ferny hay and bedding. Give a quart of raw linseed oil, taking especial care that none falls into the lungs. Give good clean hay, warm bran mashes, and roots. The horse should be kept as quiet as possible, owing to its nervous excitability. Warmth is of aid in combatting the affection, whilst a cold, draughty stable tends to lower the vitality.

Ploughing and manuring is one of the best methods of exterminating bracken. The deep-lying rootstocks will not all be destroyed the first year, but after two or three years of thorough cultivation, very few if any will be found.

On steep hill sides and pastures where tillage would be out of the question, cutting the green tops off will in time starve the rootstocks, particularly if a good dressing of lime is applied to the soil immediately after the cutting. The lime serves as a check to the bracken and also as an encouragement to the growth of grasses. In regard to the best time for cutting, Thomas Tusser wrote in 1557:—

"In June and in August, as well doth appeere
Is best to mowe Brakes of all times of the yeere."