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## The Pictou Cattle Disease

About the middle of the nineteenth century, an undesirable vegetable immigrant came to the shores of Nova Scotia. Hidden in the ballast dumped from timber ships in Pictou or Merigomish, its seeds soon established a foothold on shore. No doubt recent British immigrants soon identified the evil-smelling yellow weed, common in their homeland. Its scientific name is *Senecio Jacobaea*, but it was known as "Ragwort" or "St. James's Wort" in England, as "Baughlan" in Ireland, and in Scotland as "Stinking Willie."<sup>1</sup> Naturally the Pictou County Scots called it by the name familiar to them. According to tradition, the Highlanders had christened it "Stinking Willie" to keep alive the hatred and disgust they felt toward "Billie the Butcher," the Duke of Cumberland, blamed for the savage reprisals carried out in Jacobite areas after the 1745 rebellion. By an ironic twist of fate, Cumberland's namesake, a fairly harmless, if nasty, weed in Britain, brought hardship and frustration to the people of New Scotland where it became a killer of livestock.

During the 1850's Pictou County farmers began to blame "Stinking Willie" for causing a new disease among their cattle. Animals wasted away though they continued to eat. Their milk became bitter and bad — smelling; black diarrhoea, swollen bellies, bulging eyes, and mania became evident as the disease progressed. A sick animal's eyes "stood out so bright and clear that you might snare them." Animals lived from three days to two months after the apparent onset of the disease. In the end they became paralyzed or ran madly about, bellowing and boring their horns into the ground.<sup>2</sup> Although

1 A description of the plant may be found in A.E. Roland and E.E. Smith, *Flora of Nova Scotia* (Halifax, 1969), p. 698.

2 Nova Scotia, *Journals of the House of Assembly* (hereafter *J.H.A.*), 1888, Appendix 8 — Agriculture, p. 59. Like the Gadarene swine, some afflicted horses and cattle threw themselves into the ocean and drowned. See Vincent J. MacDonald's article in the *Port Hawkesbury Sun*, 3 April, 1969, also H.A. Smith and T.C. Jones, *Veterinary Pathology* (Philadelphia, 1968), p. 698, for descriptions of the symptoms.

many people blamed the new weed, it was not known to poison animals in Great Britain, and some farmers lost no beasts, even though their land was yellow with "Stinking Willie's" blossoms. The disease seemed to be contagious, or else caused by bad drinking water and improper feeding. All remedies — superstitious and otherwise — proved useless against the plague, and professional help and advice were not available.<sup>3</sup> Some farmers lost all their cattle, bought new stock in distant parts, and saw their byres empty again within two years.<sup>4</sup>

Apparently the only action taken on the matter by government before 1880 was the Pictou County Council's appointment of a committee to find ways of controlling the disease.<sup>5</sup> But reports of the increase in numbers of afflicted cattle must have reached Washington in 1880, for the United States government sent Dr. E.F. Thayer, a cattle commissioner of the United States Treasury Department, to Nova Scotia to determine whether limitations should be imposed on the import of Nova Scotian livestock and hides to American soil. Dr. Thayer's opinion was that the disease was not contagious and he mentioned in his report that many local people claimed that a weed called "Stinking Willie" caused it.<sup>6</sup> A lengthier investigation than his was carried out in Pictou County by Dr. D.M. McEachran, Chief Inspector of Livestock for the Dominion of Canada, Scottish-born Dr. McEachran cast doubts on the theory that "Stinking Willie" was the villain:

The most remarkable plant in the district is a European weed that has become naturalized around the town of Pictou and, in some cases, fills whole fields to the exclusion of useful herbage . . . Its botanical name is *Senecio Jacobaea* . . . The range of this plant is to some extent coincident with the prevalence of the cattle disease, and many persons in the district believe that it is either the cause of the disease or is in some

3 The Central Board of Agriculture declared that there was not a single veterinary surgeon in the province in 1871. However, a provincial veterinary surgeon, William Jakeman, was appointed after 1880. See the *Nova Scotia Journal of Agriculture* (hereafter *N.S.J.A.*), Volume IV, p. 207. This Journal was the official voice of the Central Board of Agriculture for the Province.

4 The writer's great-grandfather, Ranald McVicar of Merigomish, Pictou County, was one of many farmers who had this costly and frustrating experience. In the Port Hawkesbury *Sun*, 3 April, 1969, Vincent J. MacDonald speaks of herds being wiped out to the point where only one cow remained alive in all the farms on a six-mile stretch of coastline.

5 As reported in the Pictou *Eastern Chronicle*, 19 May, 1881. The Council must have taken the action soon after the incorporation of counties in 1879. A letter to the *Eastern Chronicle* editor in the issue of 15 September, 1881, called for an end to the "conspiracy of silence on the part of newspapers and government" though the disease was "carrying poverty and ruin to the farmer wherever it goes."

6 *J.H.A.*, 1888, Appendix 8 — Agriculture, pp. 53, 55; *N.S.J.A.*, Volume IV, p. 238; 1881 saw the greatest mortality from the disease recorded up to that time — 203 animals.

way connected with it . . . The plant is not uncommon in Britain . . . growing in pastures where it is left untouched by the cattle and no evil effects have ever been attributed to it.<sup>7</sup>

To Dr. McEachran, the obvious cause was malnutrition, from the feeding of late-cut weedy hay. Lack of necessary food substances — “albuminoids” — led to “deterioration of the blood” and “dropsy.” His opinion as to the nature of the disease was corroborated by the great Doctor William Osler of McGill.<sup>8</sup> As for the danger of contagion, McEachran, disagreeing with Dr. Thayer, was convinced that the disease “was communicable by mediate agents, notably infected buildings and by the animal fluids and decomposing bodies.” So an elaborate system of quarantine stations was set up under his direction. Inspectors and constables could seize suspected animals, confine them in grounds rented and fenced for the purpose, then kill them and destroy the carcasses if the unmistakable symptoms appeared. Owners of destroyed cattle were compensated by the Dominion government.<sup>9</sup> Liberal newspapers approved of the government taking action at last against the disease, but they attacked the great expense involved, the folly of placing a quarantine ground at Pictou town, “the headquarters of the disease,” and the failure to seek a cure. Profiting by the farmers’ desperation, “quack veterinarians” advertised “guaranteed cure” in the newspapers, and sometimes complained of interference by government inspectors.<sup>10</sup>

Publicity given to the disease had both good and bad results. While it moved the Dominion government to action, it also created a threat to the farmers’ markets. In June, 1881, (Dr. Thayer’s report notwithstanding), the United States Consul at Halifax refused to issue Health Certificates for salted hides and calf skins awaiting shipment to Boston because of letters from

7 *J.H.A.*, 1888, Appendix 8 — Agriculture, pp. 80-1.

8 *Ibid.*, pp. 53, 55. Dr. Osler, Professor of Medicine at McGill University, took a keen interest in the work of the Montreal Veterinary College because of his interest in comparative pathology. See Harvey Cushing, *Life of Sir William Osler* (Oxford, 1925), pp. 151-2.

9 *J.H.A.*, 1888, Appendix 8 — Agriculture, pp. 63, 70, 80-1. Other investigators agreed (with some reservations) with McEachran on the possibility of the disease being spread through infected barns or feedlots. See Veterinary Inspector Rutherford’s report in Canada, *Sessional Papers*, Volume 6, No. 15, 1903, p. 82; also Dr. Wyatt Johnston’s report in *ibid.*, Volume XXVI, No. 7, 1893, pp. 41-7. Dr. McEachran, in recommending a slaughter-and-compensation policy, estimated that 1,000 animals might have to be destroyed, at a cost of \$18,000. The Minister asked for an appropriation of \$20,000 in 1882. The policy may not have been in effect from that date until 1906, though the Minister of Agriculture indicated in 1906 that it had been. In his 1893 Report on the Cattle Disease, however, Dr. Wyatt Johnston mentioned the necessity of a slaughter-and-compensation policy. See the *Pictou News*, 29 September, 1882; *J.H.A.*, 1888, Appendix 8 — Agriculture, p. 70; see also Canada, *Sessional Papers*, Volume XV, No. 7, 1882, Paper No. 11 and Appendix No. 26; Volume XXVI, No. 7, 1893, pp. 41-7; Volume XL, No. 6, 1906, p. lxxv.

10 *Pictou Eastern Chronicle*, 31 August, 1881; *Pictou News*, 29 September, 1882.

United States Consul Oscar Malmros in Pictou quoting a recent newspaper article which revealed an alarming spread of the cattle disease.<sup>11</sup> The embargo was in force for several weeks during the summer, when shippers were naturally anxious to dispose of hides, fearing spoilage from the heat. In September, 1887, an American embargo on "importation of Horses, Cattle, Hides, Sheep, etc." from Nova Scotia was again imposed. A newly-appointed consular official, arriving in Pictou for the first time, was influenced by newspaper accounts to send alarming reports to his government about the plague.<sup>12</sup> Premier W.S. Fielding and George Lawson, Secretary for Agriculture, assured the American government that cattle losses were caused, not by a new disease but by the "non-contagious local affliction" already investigated in 1880 and 1881. Early in October the embargo was lifted.<sup>13</sup>

Losses from the disease seem then to have declined for a time. Only nine cases were reported in 1887, and the Dominion Minister of Agriculture was confident that the curse had been "almost completely exterminated."<sup>14</sup> But in 1896 more than fifty cases were reported; in 1901, 120 sick cattle were slaughtered. The Veterinary Director-General visited eastern Nova Scotia in 1902 and "decided to establish an experiment station within the disease area where the disease could be studied."<sup>15</sup> By this time, the fluffy seeds of the ragwort plant had spread to neighbouring counties of Nova Scotia as well as the Souris and Alberton regions of Prince Edward Island.<sup>16</sup> An experimental station was set up at Cloverville, near Antigonish, and Dr. W.H. Pethick of Charlottetown, who had taken a special course in pathology at McGill University, was placed in charge of the experiments carried on during 1904 and 1905. By feeding shopped ragwort to some cattle and restricting others to a ragwort-free diet, Pethick determined that the ingestion of ragwort caused cattle to become afflicted with hepatic cirrhosis. Most of the animals fed ragwort in hay over winter died the following summer. This was the pattern of mortality from the disease which had been observed by farmers for years. The experiments also proved that the disease was not contagious:

11 M.M. Jackson to the Assistant Secretary of State, 1, 8, 29 June, 1881, Microcopy T - 469, Despatches from United States Consuls in Halifax, 1833 - 1906, Roll 12, Volume 12, National Archives of the United States (courtesy of Professor Allen Stouffer, St. Francis Xavier University, Antigonish, N.S.).

12 *J.H.A.*, 1888, Appendix 8 - Agriculture, pp. 52-7.

13 *Ibid.* The trade in hides was considerable: in 1884 the Consul General reported 38,000 hides shipped from Halifax to the United States. See W.G. Frye to the Assistant Secretary of State, 15 April, 1884, Microcopy T - 469, Despatches from United States Consul in Halifax, 1833 - 1906, Roll 13, Volume 2, National Archives of the United States.

14 Canada, *Sessional Papers*, Volume 10, 1887, p. xi.

15 Canada, *Sessional Papers*, Volume XL, No. 15a, 1906, p. 91.

16 *Ibid.*, pp. 99, 100.

animals without access to ragwort did not get sick, although they lived among sick animals and drank from the same pail with them.<sup>17</sup>

In the light of these findings, it was obvious that the slaughter-and compensation policy could be abandoned, and emphasis placed on the weed's eradication. But "Stinking Willie" proved to be a tough customer. Sheep would eat the weed when grazing; sometimes, though, they became sick and died after eating it. Even if they did not sicken, their meat was so stained as to be unsaleable.<sup>18</sup> While cattle sometimes ate the weed on pasture by grazing it along with the other herbage, they usually ate it when dried in their hay.<sup>19</sup> Regular crop rotation, with thorough cultivation of the soil, preferably with a hoed crop or two grain crops in succession, would control the weed on hay or pasture land.<sup>20</sup> Another method of control involved school children: a ragwort-picking contest, sponsored by Councils of Women, School Inspectors, and country schoolteachers, elevated "Stinking Willie" to a bountied status, like bears and wildcats. A "counter" was appointed, to whom Pictou County school children took bundles of ragwort stalks to be tallied for payment.<sup>21</sup> The children earned a little pocket money, but a juvenile population as numerous as China's would have been needed to effectively reduce the weed's numbers, and the "children's crusade" was soon abandoned. A suggestion that the Cinnabar moth, *Callimorphia Jacobaea*, known to feed on ragwort in Great Britain, should be introduced to Nova Scotia, was greeted with apprehension at a meeting of the Nova Scotia Institute of Science. Fears were expressed that the moth might change its ways in a new environment proving as unwelcome a settler as the English sparrow in North America, the rabbit in Australia, or "Stinking Willie" himself in Canada.<sup>22</sup>

An intriguing and puzzling aspect of the story is the ragwort plant's Jekyll-

17 *Ibid.*, pp. 92-8.

18 *Ibid.*, p. 99.

19 Cattle whose diet lacks sufficient minerals have been known to graze ragwort, which is mineral-rich, when on pasture. See G.D. Palfrey, K.S. MacLean, W.M. Langille, "Correlation between Incidence of Ragwort (*Senecio Jacobaea* L.) Poisoning and Lack of Mineral in Cattle," *Weed Research*, Vol. 7, No. 2 (1967), p. 175.

20 E.E.I. Hancock, I.E. Shuh, G.D. Palfrey, *Ragwort and its Control* (Halifax, n.d.).

21 *New Glasgow Eastern Chronicle*, 25 June, 12 July, 20 August, 1907; Nova Scotia Institute of Science *Proceedings*, 1913-14, 2789. Earlier attempts had been made to control the weed by community action. In the 1860's, the street commissioner of Pictou town imposed a fine on people who failed to destroy it on their property.

In 1887 and 88 the Division Grange tried without success to persuade the Pictou County Council to pass a by-law compelling people to destroy Canada Thistle, Ragwort, and other noxious weeds. See the *New Glasgow Eastern Chronicle*, 15 March, 1888, also Canada, *Sessional Papers*, Volume XL, No. 15a, 1906, pp. 90-1.

22 Nova Scotia Institute of Science *Proceedings*, 1913-14, pp. 278-82, 287-88. The Nova Scotia Department of Agriculture attempted to introduce the cinnabar moth after 1950, and found it susceptible to climatic conditions and native insect predation.

and-Hyde role. Only occasionally poisonous in the homeland; it became extremely toxic when it migrated across the ocean.<sup>23</sup> Was the “sea change” caused by different climatic and soil conditions which increased the virulence of the plant’s poison? Or should we look for the cause in Great Britain’s better farming practices? Certainly the thorough tillage of hay and pasture land, commonly carried on in Britain and rarely in Nova Scotia, reduced the incidence of ragwort in the “old country,” so that cattle were less likely to eat it. Perhaps too, British cattle had acquired some immunity to the disease by a process of exposure and natural selection, or by having more mineral in their diet.<sup>24</sup>

But regardless of the cause, the poisonous nature of the plant had a significant effect on agriculture and trade. Dr. McEachran reported 1,599 ragwort-killed animals up to 1881; Dr. Pethick estimated the average yearly mortality to be two hundred head between 1881 and 1905, making a total of more than six thousand fatalities reported during a period of less than sixty years. Farmers were compensated for part of their loss, but many owners were not compensated because their sick animals were not reported.<sup>25</sup> Other animal diseases — blackleg, bovine tuberculosis, anthrax — came to Canada to increase the difficulties of livestock raisers. But by its deadliness in a rather small area, the impossibility of treatment or inoculation, and the obscurity of its causes, the ragwort disease earned for itself a special notoriety as an enemy of agriculture.

23 Recent findings indicate that the weed is sometimes fatal to livestock in Great Britain. See H.A. Smith and T.C. Jones, *Veterinary Pathology* (Philadelphia, 1968), p. 698.

24 Varying opinions as to the changes in the toxicity of ragwort were received from G.D. Palfrey, Department of Agriculture, Truro, N.S., and Dr. R.S. MacDonald, V.S., Baddeck, N.S.

25 *J.H.A.*, 1888, Appendix 8 — Agriculture, pp. 78-80; Canada, *Sessional Papers*, Volume XL, No. 15a, 1906, pp. 90-1.