

CATTLE-PLAGUE IN THE NETHERLANDS
DURING THE EIGHTEENTH CENTURY

by

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One of the most severe disasters, which infested the Dutch countryside in the eighteenth century, was the cattle-plague or rinderpest. Time after time this scourge carried death and destruction among the herds and bewilderment and despair among the people. During the first year of an outbreak of rinderpest at least 70% of the existing cattle in the stricken areas succumbed. This percentage clearly shows the great significance of the catastrophe in those days, not only for agriculture, but for society as a whole.

Since the eighteenth century most authors on rinderpest begin their writings with a historical survey. All agree on the fact that in Europe's past the cattle-plague always had come from the East, where it was endemic in the steppes of Russia and Asia. From there it was spread by cattle-trade or by armies, which carried along infected animals as victuals. Thus, in the fourth century the plague appeared in Europe with the invasion of the Huns, as might be concluded from some strophes of the Latin poet Severus Sanctus. During and after the reign of Charlemagne rinderpest was carried from Hungary by the Frankish armies. In the thirteenth century the distemper seemingly made its appearance in Europe simultaneously with the invasions of the Mongols¹⁾. This traditional picture of the history of rinderpest in Europe evokes some questions. First, the picture rests on scanty data in the above mentioned Latin poem and some mediaeval chronicles. It is not altogether clear whether these contagious cattle-diseases were of the same gravity and persistency as the eighteenth century's cattle-plague. So it remains an open question, whether they really were rinderpest epidemics. Secondly, the connection with warfare and cattle-trade is not as obvious as it might seem to be. In the eighteenth century rinderpest did not spread only in time of war, and cattle-trade did not occur only previous to rinderpest-outbreaks.

During the eighteenth century the cattle-plague repeatedly swept over Europe. The first epidemic started in 1709. From Asia the pestilence took its way along the Caspian Sea to European Russia and from there it spread to the rest of the continent.²⁾ In 1713, the plague appeared in the Netherlands, where it

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persisted until 1720. The second period of the eighteenth century, during which het cattle-plague wrought great havoc in European herds, began in 1740. As a consequence of the Austrian War of Succession the infection passed from Hungary to the other European countries. In 1744 it reached the Netherlands. There the pestilence had run its course in 1765. In the same year in the eastern part of the Balkans the third and last epidemic of rinderpest in the eighteenth century started its macabre march through Europe. It entered the Netherlands in 1768 and persisted till about 1786.

An impression of the ravages, which the cattle-plague caused in the Netherlands during the eighteenth century, can be obtained from the following figures. They are concerned with the three most important livestock husbandry provinces, and are derived from official mortality-lists, composed by municipal and provincial authorities for tax-reductions granted to the stricken cattle-owners.

NUMBER OF CATTLE DIED OF RINDERPEST

Province of Friesland:

December 1713–February	1715:	66,000 cattle
November 1744–August	1745:	135,000 cattle
November 1747–April	1748:	23,000 cattle
May 1769–December	1769:	98,000 cattle ³⁾ .

(During the second half of the eighteenth century the total number of cattle in Friesland was about 160,000).⁴⁾

Province of Holland:

April 1769–March 1770: 160,000 ⁵⁾ (excluding calves).

(Here the total number of cattle, excluding calves, amounted to about 225,000 in 1769).⁶⁾

In this province from 1769 till 1784 more than 400,000 beasts succumbed.⁷⁾

Province of Utrecht:

1744–1746: 34,000 cows of 3 years and older.⁸⁾

(In 1800 in this province the total number of cows of 3 years and older amounted to 43,000).⁹⁾

To the agricultural producers the cattle-plague meant a loss of part of their capital goods and consequently a decrease of their output of milk, butter, cheese, meat, etc. In 1768 the quantity of cheese, brought to the weigh-houses of the northern part of the province of Holland, was about 18.5 million pounds. In 1770 it was circa 12.5 million pounds.¹⁰⁾ To what extent the income of the individual farmer decreased, depends not only on the number of beasts he lost, but also on the development of the price-level. Now it is a matter of fact that prices of animal products used to rise steeply when the plague decimated the herds. During the forties the average price of butter in Friesland behaved as follows:

1741:	26.05 (high price-level as a consequence of the great famine of 1740)
42:	16.52
43:	15.81

44: 14.26
45: 25.53 (beginning of cattle-plague)
46: 21.67
47: 20.90 $\frac{1}{2}$
48: 22.61
49: 22.01
50: 19.15 $\frac{1}{2}$.¹¹⁾

And under the influence of the third epidemic the butter price at Leiden developed thus:

1767: 21.17
68: 24.73 (beginning of the plague in Holland)
69: 27.50
70: 32.21.¹²⁾

There is contemporary evidence, indeed, about farmers belonging to the happy few that lost little or no cattle and therefore grew wealthier because of the high prices.¹³⁾ On the other hand the rising prices were of no avail to the many farmers who repeatedly lost their whole stock and thus sometimes even were reduced to beggary. The tax-rolls of those years are full of annotations about cattle-owners who suffered such heavy losses that they were unable to pay their taxes.

The mortality-lists of Friesland, being specified per municipality and per bi-mestrial period, reveal some interesting facts. First, mortality was heaviest during the autumn. Obviously the chance of infection increased, when the cattle was housed. Secondly, the lists suggest that the infection spread mostly in the typical grassland regions in the West and the middle of the province. In the arable farming districts the danger of infection was smaller. This phenomenon may be ascribed to the higher cattle density and the more intensive cattle-trade in the former regions. When infected one day, however, the animals of the grassland districts had more chance of survival than those of the arable areas. Probably the latter on the average were not as strong as the grassland cows. It is likely, indeed, that the grassland farmer on the average bestowed more care on his stock, being his chief capital good, than his arable colleague, who kept his beasts mainly as manure producers. Accordingly, the inhabitants of the grassland regions showed the higher propensity to bring up the herds to full strength again, as is suggested by tax-roll figures.¹⁴⁾ In this district, after the serious depletion of the herds in 1769, in six years already the total number of cows and heifers again surpassed the level of the years before the distemper. In the northern part of the province, where arable husbandry predominated, that level was not reached until 1792.

Now there is a good deal of logic in this difference in reaction. In the grassland districts, the nature of the soil mostly did not allow the farmer to convert from livestock husbandry to arable farming. When loosing part of his cattle, he could try to get some additional income by keeping more sheep than usual. There are evidences, indeed, that in times of rinderpest the fields were crowded with sheep.¹⁵⁾ And the quantity of wool, brought to the weigh-houses of North-Holland gradually rose from nearly 980,000 pounds in 1768 to circa 1,230,000 pounds in the peak-year 1775.¹⁶⁾ But for the most productive use of his equip-

ment and experience, the dairy farmer needed cows. Moreover, the rising price of his final products stimulated him to restore his stock as soon as possible, even with imported cattle at high cost. Although reliable figures on imports are lacking, there is rather convincing evidence of import of cattle from Denmark and Germany, especially after the outbreak of the third epidemic of rinderpest.¹⁷⁾ Most probably this injection of Scandinavian blood into the Dutch stock contributed to the supremacy of the black and white breed. To the arable farmer, however, the immediate acquisition of new cattle meant a strong increase of his cost of production of manure, whereas the price of his final products did not rise. So he might prefer to do temporarily with less manure, even though his output would suffer. The purchase of new cattle at high prices would probably be still more unprofitable to him.

A strong tradition in Dutch agrarian historiography holds, that as a consequence of the cattle-plague in the eighteenth century in several parts of the country a large-scale conversion from livestock husbandry to arable farming took place.¹⁸⁾ Particularly, the land use in the province of Groningen is alleged to have changed thoroughly in that way. Now, adequate material on this topic is only available with regard to Friesland in the second part of the eighteenth century. Figures from tax-rolls suggest, that in this province ploughing of pasture, after the rinderpest decimated the herds, in most cases was a temporary measure. Simultaneously with the restoration of the herds, the arable acreage again declined. Only in two municipalities of the arable district, after the blow of the third epidemic in 1769, until 1805 the total number of cattle never again reached the level of the years before 1769. On the other hand, the amount of arable land remained higher than before the epidemic started. So, conversion may have occurred here to a certain extent.

From a macro-economic point of view the rising price-level meant shifting of part of the loss onto the consumers. The landowners had a share in the loss as well because rents generally fell. In many cases the landowner received no rent at all during several years.

Even the public revenue suffered under the impact of the cattle-plague. During the years 1746 to 1754, in the northern part of the province of Holland, exemptions from an important provincial tax, the "Verponding", amounted to 1.3 million guilders.¹⁹⁾ The receipts out of the Frisian tax on fireplaces, heads, cows, horses and arable land fell from 282,000 in 1744 to 133,000 guilders in 1745.²⁰⁾ And, in the province of Groningen, the total revenue of all taxes fell from 789,850 gls. in 1745 to 670,800 in 1746.²¹⁾

It will be evident that the repercussions of the cattle-plague were felt in the entire economic and social life. No wonder that the distemper was dreaded very much at the time. When it appeared in the country, people were seized with dismay. The provincial governments issued a multitude of edicts, containing a fixation of days of public prayer, an embargo on the import of cattle, a ban on the movement of livestock from the infected areas, instructions on the burying of beasts which had died from the plague, etc.

However, all these measures were no more than makeshifts. The only effective remedy against the rinderpest was the immediate slaughter of all infected and suspected beasts. In 1711, this remedy was already suggested by the famous Italian physician Giovanni LANCISI, when by order of the Pope he made a study of the cattle-plague.²²⁾ In England the same advice was given by Thomas Bates in 1714. The English government followed the advice, and within a few

months the distemper had run its course.²³⁾ During the third cattle-plague wave the so-called LANCISI-system was applied in several other countries, such as the Austrian Netherlands²⁴⁾ and Southern France.²⁵⁾ Indeed, in these countries the plague disappeared sooner or later. In the Dutch republic, however, perhaps as a consequence of the lack of a strong central government, the policy of slaughtering had not yet been applied during the eighteenth century. Not until 1799, after the establishment of the unitary state, the foundation for the system of slaughter was laid by the formation of the so-called cattle-fund. To this fund all cattle-owners in the Netherlands had to pay yearly contributions according to the number of cattle they owned. In case of cattle-plague, the owners of slaughtered beasts would receive compensation from this fund.²⁶⁾ This system showed its value during the cattle-plague outbreaks in the nineteenth century.

Though this solely effective method has not been applied in the Netherlands during the eighteenth century, this does not mean that no attempts were made to combat the distemper. Men of science studied the nature of the disease, dissected beasts which died of rinderpest, and published their findings combined with good advices and pretended remedies. In the *theatrum anatomicum* of the Groningen university the famous Petrus CAMPER gave public lectures on cattle-plague. His audience consisted not only of students but also of regents and other prominent persons.²⁷⁾ The government of Holland offered a premium of 10,000 guilders to the inventor of an effective remedy against the disease.²⁸⁾ The contemporary authors on rinderpest showed an overwhelming therapeutic inventiveness. But many of the medicines they suggested seem to have been more effective expedients than the cattle-plague itself, to kill the beasts!

The only treatment which – besides the LANCISI-system – promised some success in fighting the cattle-plague, was inoculation. On the analogy of the inoculation of small-pox, which had been known already at the time; in 1754 experiments with cattle-plague inoculations were started in England.²⁹⁾ The next year, 1755, the first experiments were effectuated in the Netherlands.³⁰⁾ The success was not very great. During the seventies, the Groningen farmer Geert REINDERS discovered that the inoculation was successful when applied to calves of cows which themselves had recovered from rinderpest.³¹⁾ Thereupon the inoculation has been practised on a rather large scale in the northern provinces. A drawback of the method was the danger of further spread of the infection. Hence, the inoculation was only justified in an area where the infection already prevailed everywhere.³²⁾ In all other circumstances, the policy of slaughter was much better. In the nineteenth century, therefore, this policy was generally preferred to the inoculation.

It is evident that people's reactions upon the catastrophe, as they appear in diaries, poems, sermons, etc., were rather gloomy. The opinion was agreed upon that the plague was a divine judgment brought about by the sins of mankind. Days of public prayer were appointed, protestant ministers summoned people to repent of their sins, roman catholic priests organized novenas and said prayers and orations in the cow-houses. Sad enough, the piety of the day often implicated the view, that fighting the plague was rebellion against the will of God. Therefore, measures of the government and scientific activities frequently met with opposition from the people. However, the religious argumentation obviously was not rooted very deeply. Anyhow, the opposition against the inoculation diminished rather quickly when REINDERS' system turned out to be successful.³³⁾

One other consequence of the challenge of the rinderpest in the eighteenth century remains to be mentioned. Veterinary medicine, until then usually confined to the treatment of horses with the cavalry as its main school, now widened its scope and tended to reach the academic level. The first veterinary school started at Lyon in 1762³⁴), and before the end of the century several European countries had their own veterinary schools. In the Netherlands, it was in 1821 that the veterinary school of Utrecht was founded.³⁵) Thus, the scourge of the eighteenth century agriculture at least brought about one advantage: it stimulated the progress of veterinary science.

NOTES AND REFERENCES

¹) F. C. HEKMEYER, *Korte geschiedenis der runderpest* (1845), p. 3-5. Probably "Severus Sanctus" stands for Sulpicius Severus (c. 363-c. 425), a Christian writer born in Aquitaine, author of a *Chronica* (c. 403) and a *Life of St. Martin of Tours*.

²) HEKMEYER, *op. cit.*, p. 6 *et seq.*

³) Mortality-lists in the State Archives of Friesland. All the following figures are rounded off on thousands by the present writer.

⁴) Estimation, based on tax-roll data.

⁵) B. W. WITTEWAALL, *Eene bijdrage nopens de veeziekte*, in: *Economist* (1865), p. 488.

⁶) G. FLEMING, *Animal Plagues: Their History, Nature, and Prevention I* (London 1871), p. 354.

⁷) B. W. WITTEWAALL, *op. cit.*, p. 488.

⁸) J. M. G. VAN DER POEL, *Heren en boeren* (Wageningen 1949), p. 36.

⁹) G. J. HENGEVELD, *Het rundvee* (Haarlem 1865) II, p. 70.

¹⁰) P. N. BOEKEL, *De zuivelexport van Nederland* (Wageningen 1929), p. 210-211. 1 Dutch pound = 494 grammes.

¹¹) *Vergelijkende staat van den boterprijs*, composed by T. HALBERTSMA (Leeuwarden 1841). Prices are quoted in Dutch guilders per 80 pounds. Eighteenth century's guilders contained 9.61 grammes of fine silver.

¹²) BOEKEL, *op. cit.*, p. 63.

¹³) J. H. KNOOP, *Tegenwoordige staat of historische beschryvinge van Friesland* (Leeuwarden 1763), p. 65.

¹⁴) Calculated from registers of the taxation on cows and arable (State Archives of Friesland).

¹⁵) *Tegenwoordige staat der Vereenigde Nederlanden XVI* [Friesland IV] (Amsterdam etc. 1789), p. 587.

¹⁶) WITTEWAALL mss., Library of the State University of Utrecht.

¹⁷) *Tegenwoordige staat XVI* [Friesland IV], p. 577.

¹⁸) VAN DER POEL, *op. cit.*, p. 49-55.

¹⁹) WITTEWAALL mss., Library of the State University of Utrecht.

²⁰) State Archives Friesland, Collection Friesch Genootschap.

²¹) State Archives Groningen, "Staat van de pachten".

²²) C. F. MULLETT, *Cattle distemper in mid-eighteenth-century England*, in: *Agricultural History*, 20 (1946), p. 145.

²³) MULLETT, *op. cit.*, p. 146.

²⁴) P. LINDEMANS, *Geschiedenis van de landbouw in België II* (Antwerpen 1952), p. 477, 481, 482.

²⁵) FLEMING, I, p. 467-470.

²⁶) VAN DER POEL, *op. cit.*, p. 45-49.

²⁷) *Ibid.*, p. 39.

²⁸) *Ibid.*, p. 38.

²⁹) The statement of many writers, that the Englishman DOBSON was the first to practise rinderpest inoculation, rests upon the wrong notice in the *Gentleman's Magazine*, XXIV, November 1754, p. 493, and ignores the corrective notice in the same magazine of December 1754, p. 549.

- ³⁰⁾ VAN DER POEL, *op. cit.*, p. 41.
- ³¹⁾ L. H. BRUINS, *Leven en werken van Geert Reinders, de grondlegger van de immunologie* (Assen 1951), p. 131 *et seq.*
- ³²⁾ *Ibid.*, p. 178.
- ³³⁾ VAN DER POEL, *op. cit.*, p. 44.
BRUINS, *op. cit.*, p. 162.
- ³⁴⁾ Henri HOURS, *La lutte contre les épizooties et l'École Vétérinaire de Lyon au XVIIIe siècle* (Paris 1957), p. 24 *et seq.*
- ³⁵⁾ J. WESTER, *Geschiedenis der veeartsenijkunde*, p. 139.