

## **Black Tongue** <sup>[1]</sup>

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Black Tongue is the familiar name for the often fatal effects of a deficiency of the vitamin niacin (once designated Vitamin B<sub>3</sub>, now B<sub>5</sub>), found chiefly in liver, lean meat, poultry <sup>[2]</sup>, fish, and beans. The term, seldom used since the mid-twentieth century, is generally synonymous with pellagra <sup>[3]</sup> in humans; it was sometimes, although imprecisely, identified as anthrax in livestock <sup>[4]</sup>. Recorded as early as 1820, Black Tongue became a serious problem in North Carolina and other southern states around the beginning of the twentieth century with the spread of rural poverty that accompanied tenant and sharecrop farming <sup>[5]</sup> and low-wage employment in cotton mills <sup>[6]</sup>. Economic slumps <sup>[7]</sup> increased the incidence.

Black Tongue, which occurred anywhere that diets consisted almost entirely of corn, was perhaps the most acute vitamin deficiency the United States has known. The affliction caused diarrhea, mental confusion, loss of weight and strength, irritation inside the mouth and stomach lining, and painful lesions of the skin, especially areas exposed to sunlight. The affected tissue would darken, thicken, and become scaly; cases were sometimes misdiagnosed as leprosy. Symptoms could progress to depression, stupor, and an irrational violence. Until foods containing niacin were determined a cure, as many as two of every three Black Tongue patients died of its effects.

By 1914, Black Tongue was epidemic in the South and Congress legislated an investigation. That year, 551 deaths from the disease were recorded in North Carolina; in 1915 the state's death toll rose to 831. Wide experimentation in 1915, typically on prison and hospitals inmates and orphan children, revealed to federal public health professional Joseph Goldberger that certain foods cured pellagra, although the simple niacin compound was not identified as the agent until 1937. Annual deaths in the state peaked at 1,015 in 1930. The yearly total stayed well into the hundreds through the Depression and beyond; it did not fall to double digits until 1944. The first year that the state recorded no Black Tongue deaths was 1960. The discovery of vitamins and their nutritional roles began the disease's rapid decline; in modern times it has been almost unknown in the United States.

### **Reference:**

Alan M. Kraut, *Goldberger's War: The Life and Work of a Public Health Crusader* <sup>[8]</sup> (2003).

### **Additional Resources:**

Bollet, A.J. (1992). "Politics and pellagra: the epidemic of pellagra in the U.S. in the early twentieth century." *Yale Journal of Biology and Medicine* 65 (May-June 1992): 211–21. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2589605/>. <sup>[9]</sup>

Wood, E. J. "Pellagra," *Twelfth Biennial Report of the North Carolina Board of Health 1907-1908* Raleigh, N.C.: E. M. Uzzell & Co., 1909. <https://archive.org/stream/biennialreportof12nort#page/44/mode/2up>. <sup>[10]</sup>

Wood, Edward J. "The Prevention of Pellagra And How It May be Done by Decreasing the Cost of Living" *The Health Bulletin* 32 no. 3, June 1917. <https://archive.org/stream/healthbulletinse32nort#page/90/mode/2up>. <sup>[11]</sup>

### **Subjects:**

Diseases and Epidemics <sup>[12]</sup>

Medicine <sup>[13]</sup>

Public health <sup>[14]</sup>

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### **From:**

Encyclopedia of North Carolina. University of North Carolina Press. <sup>[16]</sup>

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### **Links**

<sup>[1]</sup> <https://ncpedia.org/black-tongue> <sup>[2]</sup> <https://ncpedia.org/poultry> <sup>[3]</sup> [http://www.fao.org/DOCREP/W0073e/w0073e05.htm#P4008\\_468640](http://www.fao.org/DOCREP/W0073e/w0073e05.htm#P4008_468640) <sup>[4]</sup> <https://ncpedia.org/livestock> <sup>[5]</sup> <https://ncpedia.org/sharecropping> <sup>[6]</sup> <https://ncpedia.org/cotton-mills> <sup>[7]</sup> <https://ncpedia.org/panics-economic> <sup>[8]</sup> [http://books.google.com/books?id=\\_K8lCoVuhx8C&printsec=frontcover#v=onepage&q&f=false](http://books.google.com/books?id=_K8lCoVuhx8C&printsec=frontcover#v=onepage&q&f=false) <sup>[9]</sup> <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2589605/> <sup>[10]</sup> <https://archive.org/stream/biennialreportof12nort#page/44/mode/2up> <sup>[11]</sup> <https://archive.org/stream/healthbulletinse32nort#page/90/mode/2up> <sup>[12]</sup> <https://ncpedia.org/category/subjects/diseases> <sup>[13]</sup> <https://ncpedia.org/category/subjects/medicine> <sup>[14]</sup> <https://ncpedia.org/category/subjects/public-health> <sup>[15]</sup> <https://ncpedia.org/category/authors/joyner-whitmel-m> <sup>[16]</sup> <https://ncpedia.org/category/entry-source/encyclopedia->