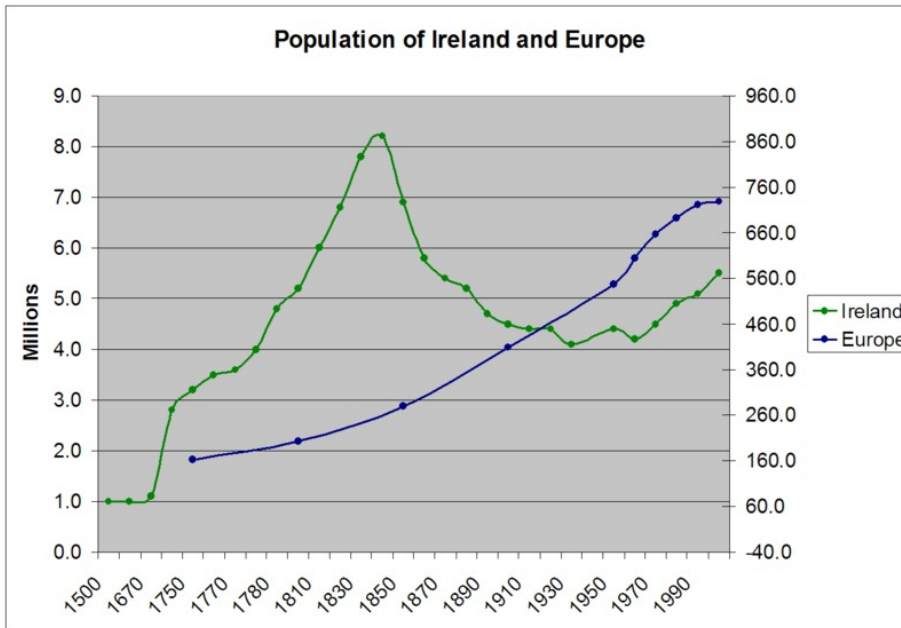


Profiling a Potato Killer: Who were the Victims? The Historical Importance of the “Great Famine.”

Objective/Problem: In this lesson, you will serve as epidemiologists to outline the circumstances of the potato disease and use credible internet resources to research the historical significance of the Great Famine of Ireland.

Materials: Access to the internet (or printed materials), web quest sheet, and pencil or pen.

Observations: Look at the following graph of population change between Ireland and Europe over time.



Observation 1: During what year did the Irish population decline after reaching its peak of 8.2 million?

Observation 2: What are some factors that can cause sharp declines in human population?

Observation 3: Why do you think population levels of both Ireland and Europe were very low before 1500?

Observation 4: Look at the picture of Ireland on the map of Europe. How do you think the geographic location of Ireland relates to the population graph above?

Observation 5: On the island of Ireland, what are some of the ways that the potato disease could have spread two hundred years ago? Why do you think Ireland experience famine?



Hypothesis: Look at the map and locate the black dot in Belgium where the disease was first noticed. Based upon your observations, what do you think were some of the routes of transmission of the potato disease? Why do you think the famine was greatest in Ireland? When faced with the famine, what measures do you think the country of England did?

Data: Use the following websites to collect information on the historical events of the Great Famine in order to profile the Potato disease.

http://www.nytimes.com/2008/03/17/opinion/17reader.html?_r=2&oref=slogin

1. Where was late blight first noticed in 1843 (hint, not in Ireland!) _____

2. Where did the pathogen originally come from? _____

http://www.bbc.co.uk/history/british/victorians/famine_01.shtml

3. Approximately how many people died in Ireland? _____ emigrated? _____

4. Why is this particular famine considered to be “more destructive” than those of modern times?

<http://www.historyplace.com/worldhistory/famine/> Click at the bottom left of the page to advance.

Introduction

5. In the time before the famine, how did a typical Irish family live? (Describe diet, home, living conditions)

6. Where do potatoes come from? _____

7. Why were potatoes considered a healthier food option for Irish peasants than say bread for British peasants?

Before the Famine

8. What were the “Penal Laws?” _____

9. What type of industry were the Irish engaged in? What percentage of Irish people was regularly employed?

_____ and _____%

10. Despite the rampant poverty in Ireland, why were the workhouses passed in 1838 disliked by the Irish?

The Blight Begins

11. What is the scientific name of the pathogen that causes “late blight?” _____

12. How did it spread throughout Ireland? _____

13. Name two of the theories that were proposed to explain the cause of the “wet rot.”

1. _____

2. _____

14. A major factor for famine relief for the poor in Ireland was the British Corn laws. What was the purpose of this legislation?

15. Why was corn not a good substitute for potatoes in the Irish diet?

16. Many people did not starve in the first year of the potato blight. Name 2 interventions that prevented this.

1. _____

2. _____

The Great Hunger

17. What type of weather conditions best permitted the pathogen to grow? _____

18. What had farmers done that also spread the pathogen in 1846? _____

19. Why didn't the Irish just fish for their food? _____

20. Based upon this reading, what you think a "seed potato" is? _____

Coffin Ships

21. What is a "coffin ship?" _____

22. What happened to many passengers on the coffin ships as they waited in quarantine? _____

23. What kind of conditions on these ships contributed to Irish deaths (including British Shipping laws?)

Financial Ruin

24. Now that food was returning to markets in Ireland, why were people still starving? _____

25. What happened in 1848 to cause the largest mass exodus of Irish to America? _____

Gone to America

26. What were some of the issues as the Irish settled in Boston? (Name at least 4.)

1. _____ 3. _____

2. _____ 4. _____

27. What are some of the anti-Irish sentiments that 19th century Americans feared in the Irish immigrants?

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After the Famine

28. In 1879 when the blight returned, why didn't another massive famine occur in Ireland?

29. What are three types of man-made famines?

Extra Credit: How many people are estimated to die each year from hunger or hunger-related diseases? _____

Analysis and Conclusions: Answer the following questions based upon your collected data.

30. Do you think that *P. infestans* has a Central American or a South American origin? Explain your answer.

31. Based upon your research, why do you think that the pathogen thrived in Europe, Ireland, and the United States instead of its point of origin?

32. Based upon different sources, there are varying figures of how many people perished due to the Great Famine. Why do you think there is such a discrepancy?

33. Along with starvation, many Irish people died of epidemic disease. How do you think starvation is linked to outbreaks such as typhus, dysentery and fever?

34. *P. infestans* caused the blight of the potatoes, however it is often described as a famine due to poverty. Explain this statement.

35. Re-read your hypothesis. Was it supported or rejected? Why or why not?