


**Lecture 4**  
**Geography of Plant Domestication**



Alphonse de Candolle (1806–1893)  
Charles Darwin (1809–1882)  
1858 *Origin of Species*  
Nicholas Ivanovitch Vavilov (1887–1943)

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**Alphonse de Candolle (1806–1893)**



Alphonse De Candolle as a young botanist and at the height of his career

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*Origin of Cultivated Plants (1882)*

1. Presence of wild relatives
2. Historical
3. Names (linguistics)
4. Archeology (limited in De Candolle's time—  
now a major source of evidence  
due to carbon dating techniques)

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**Charles Darwin (1809–1882)**



**Charles Darwin as a young man  
and at the height of his career**

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**Darwin's Famous Work**

*“On the Origin of the Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life” (1859)*  
*“The Origin of the Species” for short*

**The most influential book in all biology**

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**Concepts of Darwinism**

**Evolution occurs; species not fixed at “creation”**  
**Evolutionary change gradual**  
**Primary mechanism is struggle for existence and survival of the fittest**  
**All species arose from a single original life form**

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**N.I. Vavilov (1887–1943)**

A black and white portrait of N.I. Vavilov, a man with a mustache, wearing a suit and tie.

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**Vavilov's Contribution to Plant Geography and Evolutionary Genetics**

**Law of Homologous Series in Variation (1920)**  
**Centers of Origin of Cultivated Plants (1926)**  
Center of Diversity = Center of Origin  
Plant species not uniform  
8 Primary world centers  
Comprise small portion of earth  
(2–3% of land area)  
640 species listed  
5/6 Old World;  
1/6 New World

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**Jack Harlan (1917–1998)**

A black and white portrait of Jack Harlan, a man with glasses and a mustache, wearing a suit and tie.

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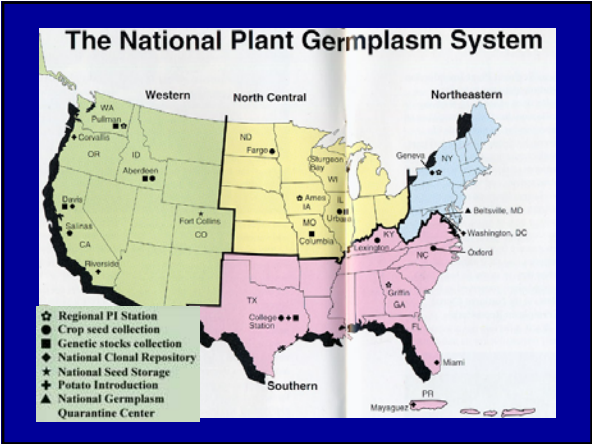
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History of Horticulture: Lecture 4




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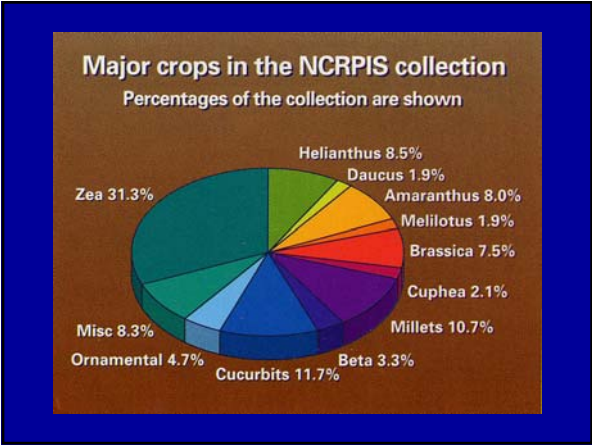
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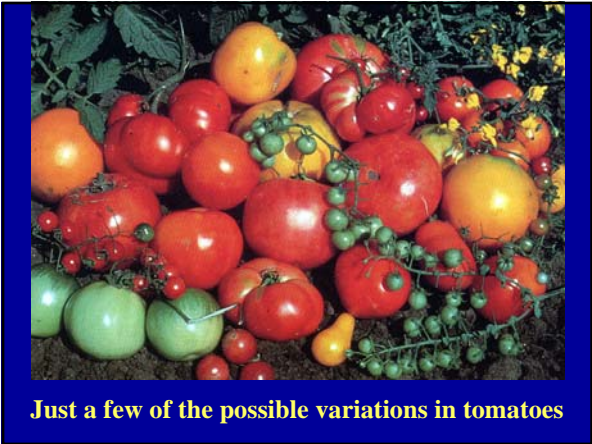
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History of Horticulture: Lecture 4



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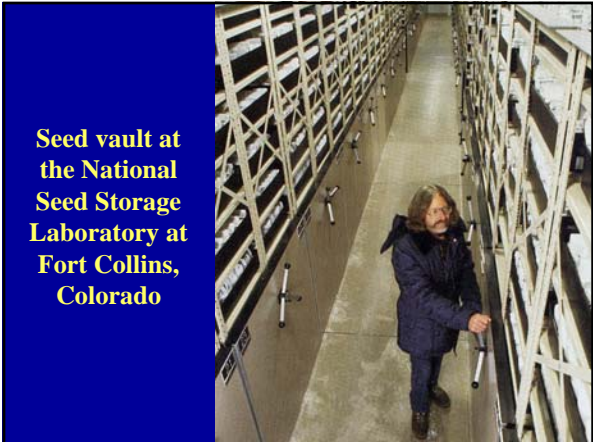
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History of Horticulture: Lecture 4



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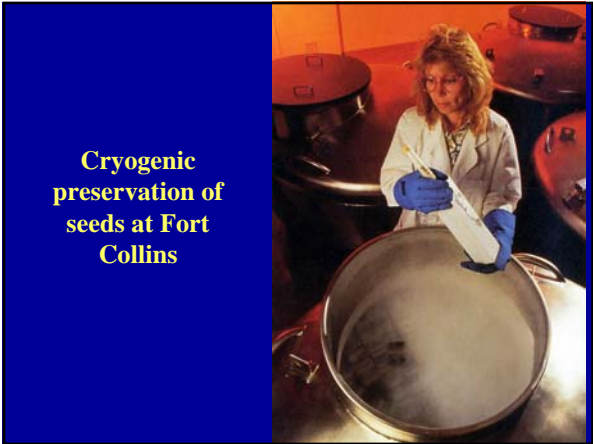
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**Cryogenic  
preservation of  
seeds at Fort  
Collins**

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