Gregor Johann Mendel (Figure 1.1), (July 20, 1822 - January 6, 1884), an Augustinian monk is often called "The Father of Genetics" for his study of the inheritance of certain traits in pea plants. Mendel grew pea plants in a small monastery garden (Figure 1.2) in St Thomas. Mendel showed that the inheritance of these traits follows particular laws, which were later named after him. He discovered the Laws of inheritance: Law of Segregation and Law of Independent Assortment. In 1866 Mendel published his work on heredity in the Journal of the Brno Natural History Society but his work at that time was not understood. It was later in 1900 after Mendel died that his work was re-discovered and appreciated.
Mendel's Experiment on Peas.

Mendel hypothesized that the determinants of the inherited traits remained discrete during hybridization, rather than being blended.

Why Mendel choose Peas?

Mendel chose garden Peas, *Pisum sativum* (Figure 2.1) as his experimental organism because:
Garden peas were easy to cultivate in a large amount, and had a relatively short life cycle.

- They had discontinuous characteristics such as flower color and pea texture.
- They are hermaphrodites therefore it was easy to control pollination by keeping away foreign pollen ensuring cross-fertilization.

Mendel studied seven discrete traits with contrasting form in Peas as summarized in Figure 2.2. The figure summarizes the dominant and recessive traits for each characteristic.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Dominant Trait</th>
<th>Recessive Trait</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flower color</td>
<td>Purple</td>
<td>White</td>
</tr>
<tr>
<td>Flower Position</td>
<td>Axial</td>
<td>Terminal</td>
</tr>
<tr>
<td>Seed color</td>
<td>Yellow</td>
<td>Green</td>
</tr>
<tr>
<td>Seed Shape</td>
<td>Round</td>
<td>Wrinkled</td>
</tr>
<tr>
<td>Pod Shape</td>
<td>Inflated (Full)</td>
<td>Constricted (Flat)</td>
</tr>
<tr>
<td>Pod color</td>
<td>Green</td>
<td>Yellow</td>
</tr>
<tr>
<td>Plant Height</td>
<td>Tall</td>
<td>Dwarf</td>
</tr>
</tbody>
</table>

Figure 2.2: Seven traits Mendel studied in Peas.

Shivangini, 2010
Reference:


Adii Freelancer © Copyright 2008 UrbanGardenCasual, Treg, LLC

Mendel's garden: © 2002 by Griffiths et al. Source:
http://www.mun.ca/biology/scarr/Mendels_Garden.html