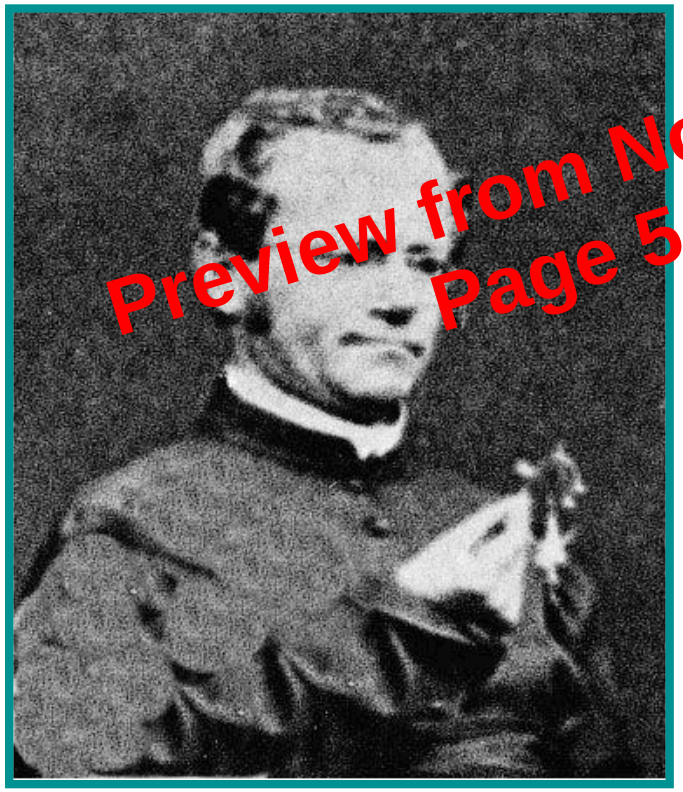
Gregor Mendel



Important Facts

Monk
Founder of Genetics
"Father of Genetics"

Mendelian Genetics

- But first, let's introduce a few terms
  - Mendelian factors are now called genes
  - Alleles are different versions of the same gene
  - An individual with two identical alleles is termed homozygous
  - An individual with two different alleles, is termed heterozygous
  - Genotype refers to the specific allelic composition of an individual
  - Phenotype refers to the outward appearance of an individual

Monohybrid Crosses and Mendel's Principle of Segregation

- Terminology used in breeding experiments:
  - Parental generation is the P generation.
    - True breeding unless stated otherwise
  - Progeny of P generation is the first filial generation,
    - designated F1.
  - When F1 interbreed or are "selfed",
    - the second filial generation, F2, is produced.
    - F2 is always F1 x F1
  - Subsequent interbreeding produces F3, F4, and F5 generations.

Monohybrid Crosses and Mendel's Principle of Segregation

- When Mendel had conducted experiments for the seven different traits in garden peas (Table 2.1), he made these conclusions:

1. Results of reciprocal crosses are always the same.

2. The F1 resembled only one of the parents.

3. The trait missing in the F1 reappeared in about 1/4 of the F2 individuals.

Question

- If Mendel had a homozygous tall plant what would the genotype look like from this individual?
- 1) tall
- 2) short
- 3) TT
- 4) Tt