

breeding better plants and animals, then letting microbes do the rest of the work



Plant Breeding: the Idea *

- purposeful manipulation of a crop's heredity to raise its value and utility
- draws on genetics, taxonomy, physiology, pathology and rDNA technology together
- aims: higher yield, better quality, tolerance to environmental stress, resistance to pathogens, tolerance to insect pests
- the **Green Revolution** combined superior seed, chemical fertilizers, pesticides, multiple cropping and modern irrigation
- wheat, rice and maize yields rose sharply from the 1960s
- Dr. Norman Borlaug (1970 Nobel laureate) developed the semi-dwarf wheat behind it
- Dr. M. S. Swaminathan is called the Father of the Green Revolution in India
- Swaminathan pioneered mutation breeding here, developing wheat varieties like Sonora and Sharbati

Hybridization: the plant breeding pipeline

