**New Bunt of Wheat (Karnal Bunt of Wheat)**

**History and Importance:**

* Reported in 1931 on wheat, grown near Karnal, India
* Found in all major wheat-growing states of India, as well as in Pakistan, Iraq, Mexico, and Afghanistan
* Losses ranging from 20-40%

**Etiology:**

Causal organism: *Neovosia indica*

Order: Ustilaginales

Family: Tillitiaceae

**Symptoms:**

* Only few seeds per head infected
* Not all heads on a single plant are infected
* Disease is difficult to detect in the field
* Only a part of the germ end converted into a black powdery spore mass,
* Extreme cases, the entire kernel is converted into spores
* Rotten fish smell from the diseased field

**Disease cycle:**

* Smut fungus *Tilletia indica* (also known as *Neovossia indica*) spread by spores
* Spores can be carried in soil and on a variety of surfaces, including seed and other plant parts & also windborne
* Uplifted during the burning of wheat fields, and areas downwind may become contaminated if the spores remain viable

**Epidemiology:**

* 15–25° C, RH >82 %

**Management:**

* Seed treatment with PCNB and carboxin + thiram (Vitavax-Thiram)
* Disinfesting seeds in a 1.5% solution of sodium hypochlorite (i.e., 1 part of household bleach to 2 parts of water) plus Tween 20 with agitation for 10 minutes followed by rinsing
* Resistant varieties,Watan, Sehar, Bk-2000