

**GOVERNMENT OF JAMMU & KASHMIR
DIRECTORATE OF AGRICULTURE, JAMMU**

ADVISORY FOR THE CONTROL OF KARNAL BUNT

Karnal bunt is so named because it was discovered on wheat grown near Karnal, India, in 1931 also called as '**new bunt**' or '**partial bunt**'. It has been brought to the notice that the Karnal Bunt incidence in wheat crop is rapidly spreading in non endemic area. This disease is spread primarily through contaminated seeds/ farm equipment and by wind.

The disease has gained significant importance not only owing to qualitative and quantitative losses but also due to the fact that the disease is prevalent only in a few countries around the world and the pathogen **Tilletia indica** (syn. **Neovossia indica**) is soil and seed borne and posing a serious problem and interfering with free and fair wheat trade.

It is also considered as potential BIOTIC STRESS in realizing the YIELD PLATEAU in NORTH WESTERN PARTS including J&K STATE.

As per the report of Seed Analyst of State Seed Testing Laboratory, Talab Tillo Jammu, a large number of samples of wheat seed procured from farmers field and Seed Multiplication Farms found infected with Karnal Bunt though within permissible limits prescribed under the Seed Certification Standards.

Accordingly, this Directorate while taking cognizance of serious repercussions of the disease in Jammu Province intends to impress upon all the Officers/stakeholders; as extension machinery of the Agriculture Department to extend more and more know how about the said disease to the grass root level.

The descriptive manifestation of the disease and its management is given hereunder for wider publicity and use.

Symptoms:

- Infection occurs at the flowering stage of the crop.
- Disease becomes evident when grains have developed and is visible on wheat grains, which are partially or completely converted into black powdery masses enclosed by the pericarp.
- In a stool all the ear heads are not infected and in an ear all the grains are not bunted.

- In badly infected spikelets, the glumes spread apart and quite often fall off exposing the bunted grains which also fall to the ground.
- Normally, the embryo tissues, except in very severe cases, is not destroyed.
- Generally the infection spreads to the tissue along the groove of the grain but the endosperm material lying along the groove of the grain remains uninfected.
- Frequently the grains are partially infected.
- Freshly collected infected grains **emit a foul smell, like rotten fish**, due to production of **trimethylamine** by the fungus.



Management:

- Encourage farmers for cultivation of Karnal Bunt resistant varieties.
- Discourage broadcasting of seed to reduce the impact of germination of primary inoculum from infected seed material.
- Mass campaign for use of fungicide like **Propiconazole** (25 EC) in Karnal Bunt sensitive area @ 0.1 percent at earhead emergence stage.
- Two sprays of **Trichoderma viride** as a bio-agent at growth stages of 31-39 DAS and 41-49 DAS may be popularized.

Note: In order to prevent and control the spread of the Karnal Bunt Standing instructions have been issued by Department of Agriculture & Co-operation, MoA, GoI, that State Seed Certification Agency to certify only wheat seed crop sprayed with Propiconazole 25 EC.

**DIRECTOR OF AGRICULTURE,
JAMMU**