Healthy Seed for a Prosperous Wheat Crop

KARNAL BUNT OF WHEAT

A Hidden Threat – Needs Your Attention

Clean Seed | Healthy Crop | Better Yield



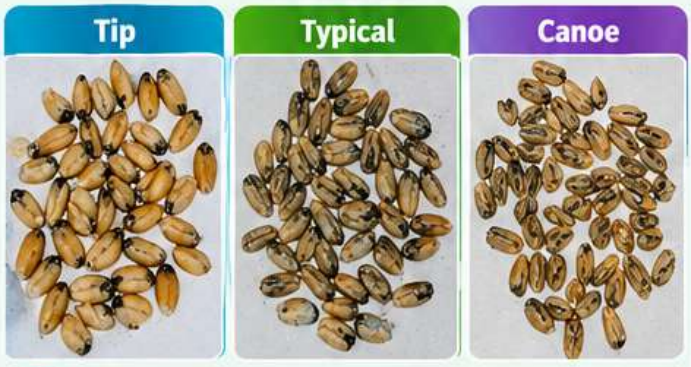
Infected kernels (blackened)

What is Karnal Bunt?

Karnal bunt is a seed-borne fungal disease of wheat caused by ***Tilletia indica***. It affects wheat mainly at the flowering stage and leads to the production of blackened kernels with a characteristic fishy or foul smell. It can reduce yield and quality and is a serious concern in Pakistan, especially in favourable conditions of cool and humid weather around flowering.

Diagnosis & Identification

- Look for blackened, shrivelled and lightweight kernels (seeds).
- Infected kernels may have a fishy or foul odour (especially when rubbed).
- Black teliospores are found inside the seed coat.
- Symptoms are seen at the tip, typical and canoe shapes (as shown in the picture).
- Confirm by laboratory test if needed.



Key Symptoms

- Blackened spots on kernels (tip, typical or canoe).
- Shrivelled and light weight seeds.
- Fishy or foul smell from infected seeds.
- Stunted and poor grain filling in severe cases.

Management & Prevention

1 Use Clean and Certified Seed

- Always use disease-free, certified seed from reliable sources.
- Avoid using locally saved seed.

2 Treat Seed with Fungicide

- Use recommended seed treatment fungicides (e.g. carboxin + thiram or other registered products).
- Ensure proper seed coating for complete coverage.

3 Adopt Crop Rotation

- Avoid growing wheat after wheat or other host crops (e.g. barley, oats, maize).
- Rotate with non-host crops for 2–3 years.

4 Field and Residue Management

- Remove and destroy infected crop residues.
- Deep ploughing helps reduce the survival of the fungus.

5 Manage Irrigation

- Avoid irrigation during flowering stage (especially the wetting of heads).
- Use proper drainage and avoid waterlogging.

6 Proper Harvesting, Drying and Storage

- Harvest at the right time.
- Clean and dry grain thoroughly.
- Store in clean, moisture-free godowns.

7 Seed Health Testing

- Get seed tested for Karnal bunt before sowing or distribution.
- Use only certified seed.

DO's

- ✓ Use certified, disease-free seed.
- ✓ Treat seed with recommended fungicide.
- ✓ Follow crop rotation.
- ✓ Keep storage clean and dry.
- ✓ Get seed tested for seed-borne pathogens.
- ✓ Maintain field hygiene.

DON'Ts

- ✗ Do not use blackened or suspected seed.
- ✗ Do not save seed from infected fields.
- ✗ Do not grow wheat continuously on the same field.
- ✗ Do not irrigate during flowering.
- ✗ Do not store grain in damp places.

Healthy Seed → Healthy Crop → Food Security

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Healthy Seeds Stronger Farms