

## WHEAT SAMPLING PROTOCOL

### FIELD PROCEDURE

1. Familiarize the field team with the **Precautionary Notes on Avoiding Contamination**.
2. Collect a representative sample of around 250 grams from bulk harvest, or if grains are harvested from a small plot, collect about 10 randomly selected heads before the main harvest. Place the samples in clean, new, properly labeled paper envelopes to avoid contamination from dust and soil.

### IN THE LABORATORY

3. Thresh heads by hand (do not use a rubber-coated rubbing board, which can contaminate the sample), and store the seed in clean, new paper envelopes.
4. Pass the grains through an air cleaner to remove all foreign material.
5. Sample split the clean grains to obtain 10 grams of sample, and manually remove any visible soil particles. Place the resulting sample in new, clean brown paper bags.
6. In areas where Karnal bunt is a problem, dry the grains in a clean oven at 75°C for 48 hours to destroy the spores. Wash the seed in high-purity water, then dry again in a clean oven for 24 hours.
7. For ICP analysis, collect 5 grams of whole-grain samples. For atomic absorption spectroscopic (AAS) analysis, grind 5 grams of grains in a noncontaminating grinding mill (such as a Retsch mill with Teflon chambers and zirconium balls or an IKA A10) and collect 0.5 grams of ground wheat flour. Package the samples in clean, new, properly labeled, paper #1 coin envelopes and store in a dry location until ready for analysis.

*For more information, contact:*

Dr. Ivan Ortiz-Monasterio, HarvestPlus Wheat Crop Leader ([i.ortiz-monasterio@cgiar.org](mailto:i.ortiz-monasterio@cgiar.org))

or

Dr. James Stangoulis ([james.stangoulis@flinders.edu.au](mailto:james.stangoulis@flinders.edu.au))