

BEAN SAMPLING PROTOCOL

FIELD PROCEDURE

1. Familiarize the field team with the **Precautionary Notes on Avoiding Contamination**.
2. Before the main harvest, randomly collect approximately 10 well-filled pods. Place pods in clean new paper envelopes (to avoid contamination with dust and dirt while uprooting plants and threshing in bulk).

IN THE LABORATORY

3. Thresh the pods by hand, and collect 5 grams of seed. Clean the seeds using a cloth dampened with high-purity water.
4. Dry seeds to 7–8% moisture content (typically 10–12% in fresh seeds) in a clean, contaminant-free (uncorroded) oven at 60°C.
5. Grind the 5 gram sample with a noncontaminating grinding mill (such as a Retsch mill with Teflon chambers and zirconium balls or an IKA A10) to avoid iron and zinc contamination. The required sample amount for atomic absorption spectroscopic (AAS) or inductively coupled plasma–optical emission spectroscopic (ICP-OES) analysis is 0.5–0.8 grams of ground sample.
6. Package the ground samples in clean, new, properly labeled, paper #1 coin envelopes or in plastic screw-top tubes, and store them in a clean, dry, insect-free location until ready for analysis.

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