



## *UMN Forever Green Initiative*

### **Seed and Grain Testing Protocol for Kernza® Growers**

Developed by: UMN Forever Green Commercialization, Adoption, and Scaling Team

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#### UMN Forever Green support available for Kernza® Perennial Grain testing

An important part of post-harvest management and market development for Kernza® Perennial Grain is consistent, rigorous, and timely grain testing. Assessment of moisture, disease, germination, and other qualities will help everyone involved in the Kernza® supply chain better understand characteristics of the grain supply in the market and best potential end-uses (grain, seed, feed, etc.).

To generate consistent data, reduce costs for early adopters, achieve discounts through volume, and streamline the process, **in 2023 UMN Forever Green will pay for seed and grain quality tests for any Kernza growers in Minnesota or other states.** Tests per lot usually cost between \$100-\$200.

Generous support for seed and grain testing is made possible by MN State legislature allocations from the MN Clean Water Fund and is a component of the Forever Green EECO Implementation Program.

#### Sampling protocol for growers

**Once your crop is harvested and dried down, UMN recommends:**

- **Take a representative 10 lb sample of bin-run Kernza.** This amount is needed to support multiple potential rounds of testing and research requests. These tests could include 1) pre-dehulling grain quality tests, 2) post-dehulling grain quality tests, 3) cleanout analysis, 4) germination tests, and 5) supplemental research and industry development needs. Examples of supplemental research and industry development efforts include developing grain grading standards for Kernza with RMA and achieving EFSA novel food status in the EU to open new markets for Kernza.
- **For each round of testing, 2 lbs. of seed per sample is needed.** The remaining sample should be stored and kept available for repeated tests if needed
- **Label your sample with the following information:**
  - **Identification/Reference Number** (provided to you by UMN Forever Green)
  - **Grower first and last name,**
  - **Lot** (if you are growing multiple lots),
  - **Year planted**
  - **Harvest date**
  - **Harvest method**

**Confidentiality of results:** Test results will be sent by UMN only to the lot owners. Growers can share those results with producer groups, buyers, or others as they wish, or allow UMN to share results on their behalf. Results may be made anonymous, aggregated, and reported out by UMN Forever Green for the purpose of statewide or national harvest reports, other research, and Kernza industry development efforts.

## Kernza® grain testing protocol for UMN Forever Green:

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**UMN will pay for bin-run and de-hulled Kernza® grain at to be tested at North Dakota Grain Inspection Services, Inc. for the following tests:**

- Vomitoxin (DON)
- Aflatoxin
- Protein
- Moisture (usually included in above tests)
- Dockage
- Foreign Material

Any other desired tests are the responsibility of the submitter and/or lot owner.

### **To submit hull-on and de-hulled samples of Kernza® to North Dakota Grain Inspection Services, Inc.**

1. **CONTACT** (phone, email, text) Andrew Leach at UMN Forever Green ([leach167@umn.edu](mailto:leach167@umn.edu) / 818-606-5310) to obtain the *Submitted Sample Form* which will accompany your grain sample when submitted.
2. PRINT *Submitted Sample Form* including tests to be performed.
  - a. **Label your sample with the following**
    - i. **Identification/Reference Number** (provided to you by UMN Forever Green):
    - ii. **Grower first and last name (customer)**
    - iii. **Lot** (if you are growing multiple lots and have them segregated)
    - iv. **Harvest Year**
  - b. **Example of a properly labeled sample:** "ID number, *Your Name*, Lot #120, 2023"
3. **MAIL** your clearly labeled grain sample with your *Submitted Sample Form* to **North Dakota Grain Inspection Services, Inc., 4150 98<sup>th</sup> Ave. S, Fargo, ND 58104**



## Kernza® seed testing protocol for UMN Forever Green

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**UMN will also pay for germination, tetrazolium (TZ), purity, and weed seed content tests at the MN Crop Improvement Association (MCIA) seed testing lab, located at 1900 W Hendon Ave, St Paul, MN 55108.**

All seed lots intended to be sold as certified seed must have been enrolled and inspected by MCIA prior to harvest and have seed quality tests conducted in the MCIA seed lab. Tests can be run on primary product and conditioned seed.

To submit germination, purity, and weed content tests:

1. **CONTACT** (phone, email, text) Andrew Leach with UMN Forever Green ([leach167@umn.edu](mailto:leach167@umn.edu) / 818-606-5310) and let them know what tests you'd like run. This may require a short phone call. They will send you a partially completed MCIA sample form.
2. **WRITE** your name on your enclosed grain sample. If you have more than one lot, please include a consistent lot number.
3. **MAIL** your clearly labeled grain sample and MCIA sample form to the **MCIA Seed Testing Lab, c/o Chase Mowry, 1900 W Hendon Ave, St Paul, MN 55108**

### Additional details:

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- DON, aflatoxin, and protein tests could take anywhere from 1-7 days in the lab
- Full germination tests take 21 days at MCIA once started
- To conserve budget, UMN will only underwrite the same test on the same lot in the same form twice, and only if needed (i.e. a DON test on a lot's dehulled grain). For most samples, there will be no need to test twice. In the event of an unexpected result, a re-test is possible. Any subsequent tests will be conducted at the grower's or business's expense.
- As a food grade product that needs to meet food safety and quality specifications, please be conscious of commingling lots of Kernza® with unknown quality characteristics.

If you have any questions or concerns or Kernza® perennial grain testing needs please contact Andrew Leach with the UMN Forever Green Commercialization, Adoption, and Scaling Team at 818-606-5310 or [leach167@umn.edu](mailto:leach167@umn.edu).

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