

A Guide for Kernza® Growers and Distributors: The Differences between a Grain Standard, Specification, and COA

Summarized by Katharine Chute, UMN Forever Green Initiative, with input from the Agricultural Utilization Research Institute and The Land Institute - January 2026

Grain Standard:

For commodity grains, a Grain Standard is a document maintained by the federal government that sets out the different classes and grades for a grain that affect its quality and market value. For example, the USDA Agricultural Marketing Service maintains the [standard for wheat](#). Note that this is **NOT** the Kernza® standard. For USDA to have a standard for a grain, the grain needs to be widely traded. Given Kernza's small market presence to date, a USDA-issued Kernza® standard does not yet exist and is not expected any time soon.

The Kernza® standards for grain quality are included in the [Identity Preserved Program \(IPP\) Guidelines for Kernza®](#), and compliance with these standards is a requirement for all licensed Kernza® growers, distributors, CPGs and handlers. These guidelines are available on the [Grower's Resources](#) page on [kernza.org](#). It is important to note that the Kernza IPP grain standards represent the minimum quality standards that grain must meet in order to be considered Kernza. Buyers may require more stringent standards based on their specifications (see Product Specifications section below).

In addition, The Land Institute contracted Neil Doty Associates, LLC and the Northern Crops Institute to create the [Recommended Kernza® Evaluation Procedures](#) For Grain Handler and Grower Use based on Kernza® varieties commercially available in 2025. This document is attached for your reference and is available on the [Grower's Resources](#) page on [Kernza.org](#).

- This publication provides training for grain handlers and guidance for establishing uniform Kernza® evaluation procedures. The needs of the buyer vary by intended end use and may require more stringent or specific quality specifications.
- The evaluation procedures should be of use in providing uniform procedures for Kernza®. It is a basic set of procedures, but they did not exist before now. It presents a uniform way for growers and distributors to understand the dockage for their lots using either Carter-Day or hand sieve methods. Growers and distributors can then decide how to use this information.
- For example, the information gained through the evaluation procedure could be used to inform purchasing decisions, determine the amount of dockage or hulled grain objectively in a standardized way, and discount the price accordingly because of the additional costs to clean and dehull. Kernza® growers or handlers (especially buyers) will continue to need to establish their own prices for grain purchased, as well as any discounts or fees applied based on the grain quality (and the accompanying metrics for any quality parameters).

- Buyers can establish their own specifications for Kernza®, so long as the grain sold is in compliance with the grain quality standards within the Identity Preserve Program.
- The Land Institute does not plan to establish grades for Kernza® at this point in time - this would require a collaborative effort after evaluating varieties on the market grown under varying conditions. This was beyond the scope of work that resulted in the evaluation procedures.

Product Specification:

This is a document that a grain distributor makes available to potential customers that shows the typical range of values to expect for the product across a set of relevant quality and food safety metrics. It should be developed by each distributor/supplier to reflect their product. Sometimes, a specification can also tell growers what a distributor will purchase, and when discounts would apply. For example, Grain Millers maintains this [product specification book](#) for buyers (shows some nutrition, certifications, etc.), and it has this [purchasing specification](#) for rye (more quality metrics). For a Kernza® example, the Agricultural Utilization Research Institute (AURI) developed a milling product specification as part of early Kernza® supply chain work (see pages 161-168 of [this report](#)).

Certificate of Analysis (COA):

A COA is a document that summarizes certain quality test results for a customer, showing how a specific lot of grain performed on those tests so that a customer can confirm this lot meets the product specification and see any variations. The COA is generally created by the processor (cleaner, miller, etc.) and made available, if not outright sent, to the buyer upon delivery of the grain. Buyers may choose to perform additional tests not detailed on the COA to confirm the quality of their purchase. The COA is written confirmation to the buyer that the grain received meets the expectations set by the specification.

Other useful definitions

The following definitions were taken from the article, "[USDA Grading Standards and Moisture Conversion Table for Wheat](#)" Agronomy Guide from Purdue University Cooperative Extension. It is important to note that these definitions are true for wheat, and can be applied to Kernza.

Dockage: the word "dockage" means weed seed, weed stems, chaff, straw, grain other than wheat, sand, soil, and any other material other than wheat that can be removed readily from the wheat by the use of appropriate sieves and cleaning devices. Underdeveloped, shriveled, and small pieces of wheat kernels removed when properly separating the material other than wheat is also a part of dockage, along with those wheat kernels that cannot be recovered by properly rescreening or recleaning. **Determination of dockage is made in the initial sieving.**
Shrunken and broken kernels and foreign material are determined after the dockage has

been removed. The percent dockage is rounded and reported to the nearest tenth percent. Dockage is determined from a 1,000 gram sample.

Foreign Material: Foreign material refers to all matter other than wheat, including stones, that is not separated from the wheat in the proper removal of dockage. It is recorded to the nearest tenth of a percent.

Clean Out: “Clean out” or “clean out rate” is a colloquial term usually used to describe the percentage of foreign material (and grain that does not meet buyer specifications) that has been removed from a lot during the cleaning process.

Sources

https://ag.purdue.edu/departments/agry/agry-extension/_docs/small-grains-management/ay-243.pdf