

## Certified Seed vs. Grower-saved Seed: How to Feed a Hungry World

For centuries, growers have planted seed, saved seed and replanted seed. But as the global population continues to grow, the need to produce more on existing acres is critical, and research shows certified seed consistently out-yields saved seed. As you help growers prepare for the planting season, be sure they are aware of the benefits and risks associated with both saved (noncertified) and certified seed. Let's start by defining the categories of saved and certified seed.

<u>Saved Seed</u>		<u>Certified Seed</u>	
<b>Bin-run</b>	Seed a producer has stored for planting the next year—not cleaned, treated or tested	<b>Breeder</b>	Seed directly controlled by the originating or sponsoring plant breeding organization
<b>Custom-cleaned</b>	Saved seed left untreated, but cleaned by a custom conditioner	<b>Foundation</b>	Progeny of Breeder or Foundation seed handled by an originating breeding organization to maintain satisfactory genetic purity and identity
<b>Custom cleaned, treated</b>	Cleaned and treated with a fungicide and/or insecticide by the grower or a cleaning crew	<b>Registered</b>	Progeny of Breeder or Foundation seed handled by an approved breeder to maintain genetic purity and identity
		<b>Certified</b>	Progeny of Breeder, Foundation or Registered seed handled by an approved breeder to maintain satisfactory genetic purity and identity

### Growers Benefit from Genetic Purity

Often growers will purchase and plant certified seed, then save for two or more consecutive years before purchasing certified seed again. The further removed from the original certified seed variety, the more risks growers will face with saved seed.



“There is really only one advantage to planting saved wheat seed,” says Mark Brick, professor, Department of Soil and Crop Sciences at Colorado State University. “The initial cost is lower than certified seed. But you’re also taking a risk. Certified seed almost always pays for itself through increases in yield.”

To qualify as certified seed, strict regulations must be met. Growers raising certified seed must keep detailed records of all treatments applied to each field, and their fields must pass unannounced, random inspections. Thousands of seeds from each crop are also laboratory tested for purity to ensure each certified seed fits the [Identity Preserved \(IP\)](#) program quality and cleanliness standards.

“Genetic purity is the primary goal and mission of certified seed programs,” Brick explains. “You have the assurance that an agency like the [Association of Official Certifying Seed Agencies \(AOCSA\)](#) oversees labeling to ensure everything is done correctly. They take steps to assure what you see on the label is what you’re going to get—quality assurance. For the most part, growers should plant certified seed all the time. Study after study has shown the price for certified seed is usually rewarded many times over in higher yield, which is what growers want.”



Studies conducted by the Texas AgriLife Extension have shown the benefits of planting certified seed. “Plots of grower-saved seed were grown next to certified seed plots,” says Robert Duncan, assistant professor and state small grains/oilseeds Extension specialist, Texas AgriLife Extension. “While some saved seed performed well, the certified seed produced high yields and offered growers the genetic benefits of a specific variety.”

#### Risks Encountered with Saved Seed

The guarantees offered with certified seed are not valid on saved seed, which may contain diseased seeds that cause poor germination and weed seeds that would be added to the seed bank, competing with the crop for moisture and nutrients among other potential problems. Addressing these added challenges in-season could easily offset savings gained from planting saved seed.

“When saving seed, most growers don’t take every precaution seed producers do such as cleaning the drill, combine, storage bins, truck to haul the grain; storing the seed in bins that control heat and moisture; and conducting purity and germination tests,” Brick says. “In the end, the grower who doesn’t take these precautions may have reduced crop yield and quality.”

And these growers may have to purchase more seeds or apply more product if saved seeds don’t perform as well as hoped.

Duncan agrees that growers need to consider which strategy will benefit them in the long run. “If a grower isn’t able or willing to invest the extra money and time needed to produce high-quality saved seed,” he says, “certified seed can have a significant economic benefit.”

#### Feeding the World: Seed Solutions

Be sure to discuss the differences between certified and saved seed with your growers and encourage them to also integrate other management practices:

- Routine and thorough field scouting
- Minimal or conventional tillage to reduce the likelihood of weeds and pathogens in the soil
- Seed treatment applications of **Cruiser<sup>®</sup>** insecticide and **Dividend Extreme<sup>®</sup>** fungicide to protect the crop from seedborne, soilborne and early-season diseases and insects
- Herbicide application of **Axial<sup>®</sup> XL** to prevent grass weed competition
- Fungicide application of **Quilt<sup>®</sup>** to protect the valuable flag leaf from disease and enhance Plant Performance™



For growers not convinced of the benefits of certified seed, Brick recommends growers conduct their own small-scale trials. “I encourage growers to buy two or three different varieties each year, plant them in strips and compare those with a saved seed crop,” he explains. “And growers should do that each year. Over time, the results are convincing—growers are more often than not going to return a profit on the little extra they invest in certified seeds.”

With the increasing global demand for food and escalating pest problems, growers need to consider how they can produce higher yields on fewer acres. “By purchasing certified seeds, growers not only reduce their risk for diseases and low germination rates, but can also take advantage of new advancements in seed technology,” Duncan explains. “Purchasing certified seed for even a small portion of their fields allows farmers to keep up-to-date with the newest varieties available.”

