

WHEAT PRODUCTION NEWSLETTER



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Certified seed for less than \$5 per acre?

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Over the past two years wheat farmers have been faced with record-setting drought followed by record-setting rainfall. The negative effects of these extreme weather events have been compounded by heavy foliar disease pressure and the breakdown of some of our most popular leaf rust resistance genes. These events have a majority of farmers ready to change some or all of the wheat varieties in their lineup. Many of these farmers, however, don't feel they can afford to buy certified seed to plant their acres this fall and will plant the same varieties that underperformed in 2007.



When one actually works the numbers, certified seed is not that expensive in comparison to other crop inputs. To demonstrate this, I have provided two examples in chart below. In the interest of full disclosure, I am not an economist or an accountant. I have, however, heard Kim Anderson speak several times and that should count for something. Also, you can fill in your own numbers if you have problems with mine.

In the example below, a farmer currently planning to sow bin-run wheat seed at 1.5 bushels per acre could change varieties and plant certified seed for an additional \$5.55 per acre. At today's prices, the certified seed would only need to out-yield the bin-run seed by about a bushel per acre to offset the additional cost.

If a farmer is currently cleaning his/her wheat seed, the price difference between farmer-saved and certified seed sources is even less. In my example, a farmer sowing 1.5 bushels per acre would only incur an additional cost of \$4.02 per acre to plant certified seed.

	Bin-run	Farmer-saved & cleaned	Certified
Cost of seed (\$/bu)	\$5.00	\$5.00	\$9.00
Cleaning charge		\$0.50	
10% cleanout		\$0.52	
Storage & shrinkage	\$0.30	\$0.30	
Total cost per bu.	\$5.30	\$6.32	\$9.00
Marginal cost per bushel for certified seed	\$3.70	\$2.68	-

In my example I use a \$9 per bushel price for certified seed and a \$5 per bushel selling price for wheat. In any cost comparison of farmer-saved vs. certified seed it is important to consider the opportunity cost of bin-run seed. The biggest misconception regarding farmer-saved or bin-run seed is that it is free. **It is not free!** Also, in my example I assume only a 10% cleanout. This year the value will likely be closer to 20% for most seed (see next article on this page). Finally, I do not consider the additional costs of labor, fuel, electricity or interest in my example. Including these costs would make certified seed even more attractive.

The take-home message here is don't continue to grow an underperforming variety just because you think certified seed is too expensive. If you feel that changing varieties would gain you more than 1.5 - 2 bushels per acre in yield, then purchasing certified seed of a new variety is likely the right decision. Similarly, if you choose to grow the same varieties as last year, be sure to consider the entire cost of saving your own seed and weigh this against the cost of certified.



Protect yourself against spring freeze injury by diversifying your wheat acreage among early, medium, and late maturity varieties. For many growers, this will mean purchasing certified seed of newer varieties, but it is worth the investment.

What about low-test-weight or sprout damaged wheat for seed?

I am a proponent of certified seed, but it is clear that there will not be enough to go around this fall. So, supply and demand will dictate that a large amount of farmer-saved seed will be sown in 2008. Much of this farmer-saved seed will be borderline in terms of quality and will need a great deal of cleaning and conditioning to meet minimum standards.

Low test weight is probably the biggest concern related to farmer-saved seed at this time. It is preferable that seed wheat have a test weight of at least 56 lb/bu. Wheat seed with a test weight below 56 lb/bu *may* still germinate well, but seedlings will be less vigorous, produce less forage, and may produce less grain.



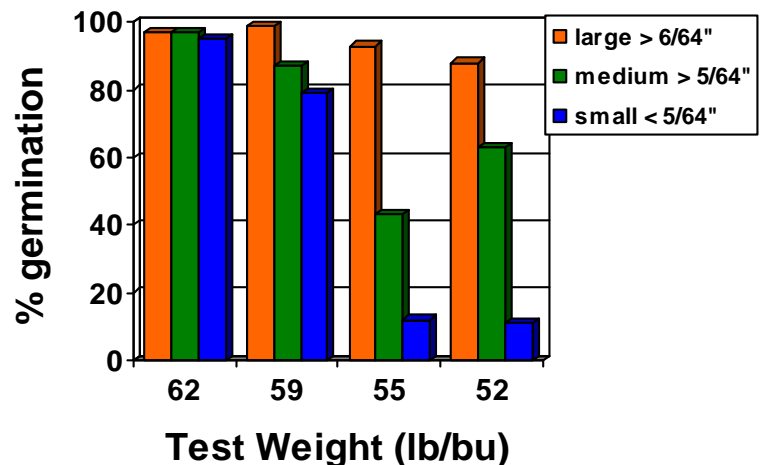
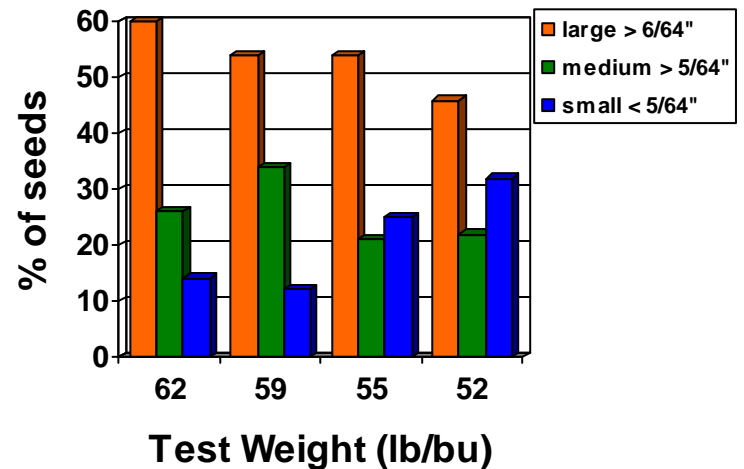
Low test weight wheat, such as the sample shown in this picture, should only be used as a seed source after extensive cleaning to remove smaller seeds.

The consequences of low test weight wheat seed were demonstrated in a 1992 K-State experiment evaluating the effect of freeze damage on wheat seed (see K-STATE publication SRL 114 [Planting wheat seed damaged by frost before harvest](#) for the full report).

Researchers in northwest KS harvested TAM 107 wheat seed with differing levels of freeze injury and test weight. Seed from each test weight grouping were then separated into large, medium, and small seeds using different screen sizes. As one might expect, the lower test weight samples had a much higher proportion of small seeds (see top figure to right).

Researchers then evaluated the germination potential of the different seed sizes coming from each of the test weight groupings. They found that even the small seed from the 59 and 62 lb/bu samples germinated fairly well. In contrast, only the largest seed from the 55 and 52 lb/bu samples germinated well after storage (see bottom figure to right).

In other words, the only viable seed in the 55 and 52 lb/bu samples was the seed too large to pass through a 6/64" screen. This meant that 46 and 54% of the seed would need to be removed from the 55 and 52 lb/bu samples to ensure adequate germination! This is why 56 lb/bu is often suggested as a minimum test weight for seed wheat.



Figures adapted from K-State publication SRL 114

The effect of sprout damage on the germination potential of wheat is a little tougher to address than low test weight. Whether or not sprout damage will effect the germination of wheat seed depends on several factors such as storage, handling, and environmental conditions after sowing. Research from North Dakota and Kansas suggests that if sprout damage is clearly visible with the naked eye, then germination potential for the seed is low. So, I would avoid using sprout-damaged wheat seed if at all possible. For more information on this topic, I recommend K-STATE publication SRL 115 [Planting wheat seed damaged by sprouting before harvest](#).

The only sure way to determine the viability of a seed lot is with a good germination test; however, those of you who plant early to increase forage production are acutely aware of the fact that some varieties must go through a period of after-ripening to be able to germinate. So, to ensure that high-temperature germination sensitivity is not a confounding factor in your germination test, it is a good idea to place wheat samples in the refrigerator for 4 - 5 days prior to running a germination test. This should be sufficient to break the dormancy of most varieties.

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