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G86-811 High Quality Seed Wheat

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High Quality Seed Wheat

This NebGuide discusses high quality winter wheat, the options farmers have in obtaining high quality seed, seed size, year-old seed, seed treatment, and replanting the same seed year after year.

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Winter wheat uniquely allows the least time between the harvest of one crop and the planting of the next of any annual crop. This short time period may necessitate making a hurried decision about the seed to be planted. In the end, the farmer must be responsible for planting good, high quality seed.

The phrase "high quality seed wheat" means different things to different people. High quality wheat seed is not perfect but is a reasonably pure supply of an adapted variety or hybrid which has good germination and viability, and is relatively free of objectionable weed seed, other crop seed, and debris.

To meet a farmer's specific needs, wheat seed must adapt to growing conditions, be available in quantities large enough to be useful at an acceptable price.

There are four usual sources of seed wheat:

- Certified seed from a reputable seed dealer.
- Non-certified seed from a reputable dealer.
- A neighbor's grain bin or wagon.
- Your own grain bin from last year's crop.

Buying Certified Seed From a Reputable Dealer

Although initially requiring a higher cash outlay, there are many safeguards built into this option. First,

dealers with a reputation to uphold will have chosen the varieties they sell with care. Second, they will have cleaned the seed and stake their reputations on the product they are selling. Finally, since seed sale is their business, they should have mastered some of the problems associated with selling good seed.

Another safeguard is the certified seed tag or bulk sales certificate that goes with this seed. This assures you of the variety and tells you the seed meets a minimum level of physical purity. It assures you that noxious weeds are not present in the seed and tells you that both field and laboratory inspections have been made before this seed was sold.

Ask to see the field inspection report which is required by the seed certifying agency, which may point out some interesting facts about the field where the seed was grown.

A second tag or label will describe the physical characteristics of the seed. This analysis label is required by state and federal seed laws. A third tag and/or the color of the seed may also tell you that seed treatment has been added to the seed to enhance its ability to survive in the field.

Buying Non-Certified Seed From a Reputable Dealer

There are many reasons why a dealer may sell good quality seed that has not been certified. Most hybrids and some varieties are not certified at the choice of the owner of that variety. In other cases, the seed is not grown under the certified seed program. In those cases, the reputation of the dealer or company producing the seed is the sole guarantee of varietal identity and performance.

Buying Seed From Your Neighbor's Bin

A number of problems can occur when buying bin run seed from a neighbor. The genetic and physical purity of the seed is of prime importance. If the grain is from a protected variety, federal and state seed laws will restrict how the grain is to be sold and used. Contact the Cooperative Extension Service, Nebraska Crop Improvement Association or State Department of Agriculture for more information.

It is important to know the germination and viability of the seed and whether it carries any disease. The amount and kind of weed seed present is also important. Nebraska Seed Law requires any seed for sale must have a germination test and weed seed analysis and that this information must be available to the buyer.

Varietal purity is very important and may be the most compelling reason for buying the seed from neighbors; they have a newer, improved variety. But remember, most of the new varieties are protected under the Plant Variety Protection Act and it is illegal for your neighbor to advertise or sell this seed by variety name unless it is certified seed. If there is a question as to the purity or variety, this seed may not be a bargain, even if it is cheap. The new varieties and hybrids have more yield potential and are likely to return more than the additional cost of the seed. With hybrid seed, planting back last year's seed would give extremely disappointing results.

Weed seed purity is pertinent to your neighbor's seed. It is possible that your neighbor has a source of weed seed that you do not have, be it noxious or obnoxious such as jointed goatgrass or wild buckwheat. To check the physical purity of the seed, pour 10 to 15 pounds of grain into a bucket or pail that is half full of water. Straw, chaff, and many common weed seeds including jointed goatgrass, sunflower, downy brome, and others will float to the top. If you do not like what you see floating on the water, either clean the grain (if you can) or look for another source. Weeds are hard enough to combat without planting them with the seed.

Using Your Own Bin Run Grain For Seed

This is usually the least expensive in terms of direct cash outlay but can be burdened with many problems. The first consideration again relates to the genetic purity of the seed and might be, "Is my seed of a pure, known variety and is it a top yielding variety that I want to plant?" If the answer is yes, then there are other questions to satisfy. Obviously, if the answer to the first question is no, it is time to look for other sources of seed to plant.

There are many ways for seed to lose its varietal purity. Mixtures can occur in the drill, the combine, or the storage bin.

The second consideration relates to the physical purity of the seed. Is the seed free of weed seed, trash and debris, and mechanical damage? If the seed is not clean enough to plant, can it be cleaned soon enough and cheap enough to make it worth planting? Use the method described earlier for a quick "purity" test.

Once seed purity has been satisfied, question the ability of the seed to germinate. Poor germination can be caused by combine damage, harvesting at too high a moisture content, storage problems, sprouting in the head, or seed dormancy. Seed should be sent to a seed testing laboratory for a germination test required on any seed sold in Nebraska. Wheat that has passed all these tests is probably a likely candidate for planting as a seed substitute.

All seed should be carefully inspected before it is planted. If the weeds you find upon examination are already present on your farm in low numbers, you may still want to plant the seed. If however, the weed seed is something you don't have and don't want, it is best to know about that in advance of planting it.

Importance of Seed Size

A recent addition to the marketing of seed wheat is an emphasis on seed size. It is well established that small under- developed kernels will not perform as well as large, healthy kernels. These facts indicate that removal of small kernels from seed wheat would be beneficial. The primary question remains of what is considered large, how much small seed has been removed, and at what price is large seed economically feasible? These questions have not been fully answered at this time.

Use of Year-Old Seed

There are many reasons to consider year-old seed for planting. It may be left from the last season, or it may be that the previous year was a better year for growing wheat. There is generally no reason to fear year-old seed if it is stored under dry, normal conditions. In fact, there may be some advantages to using year-old seed.

First, it gives the producer a whole year to clean, treat, and test germination on the seed. Second, some of the current varieties of wheat carry genes which increase seed dormancy. If seed is carried over for one year, all the dormancy has broken down and the germination could be better than new seed. This is especially true if harvest was late and planting begins while soil temperatures are still quite high. Year-old seed should have a germination test before seeding.

Seed Treatment

Many seed dealers and commercial seed cleaners apply a fungicide to the seed to protect it from

seedling blight, seed rots, and smut. Protection against soil borne pests may be most beneficial when conditions after planting are less favorable. Treated seed will have color added and cannot enter normal market channels. Always treat less seed than you will plant to avoid taking treated seed back out of the drill.

You can treat seed with a fungicide at planting time. The easiest method is to treat the grain as it is being augered from the truck to the drill. If applied properly, this method is also effective. The same cautions and restrictions apply to seed treated at planting time. Again, less seed should be treated than planted to avoid removal from the drill box.

Replanting Bin Run Seed Year After Year

Many producers talk about a variety "running out" when that same variety of seed is planted from the bin year after year. Genetically, there is no reason for a variety to "run out," but there may be other reasons for this phenomenon to occur. The variety may have mixed with other varieties, may have been contaminated with weed seed, may have had a build up of seedborne diseases, or may have been exposed to a changing pattern of races of rust.

Bin run hybrid wheat seed should not be planted the next year as it will change genetically and could also have some sterility, resulting in lower yields.

The question of how often to buy new seed must be answered individually, depending on each farmer's yield goals, growing conditions, number of varieties grown, care in handling and keeping varieties separate. Currently more seed is purchased on an annual basis.

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