

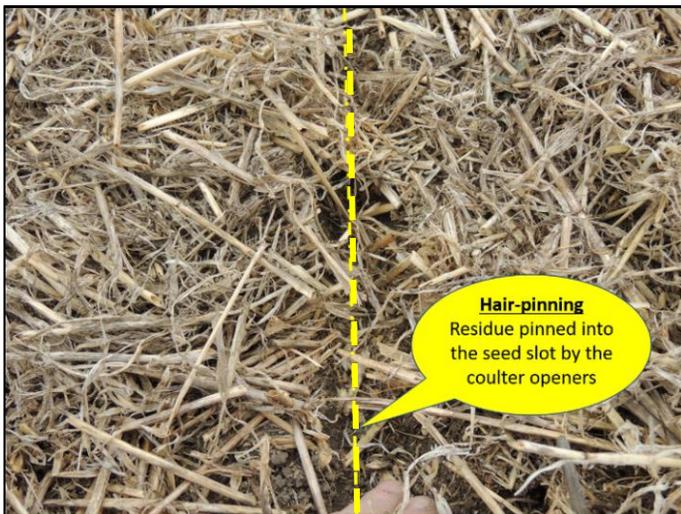


Plant Chat

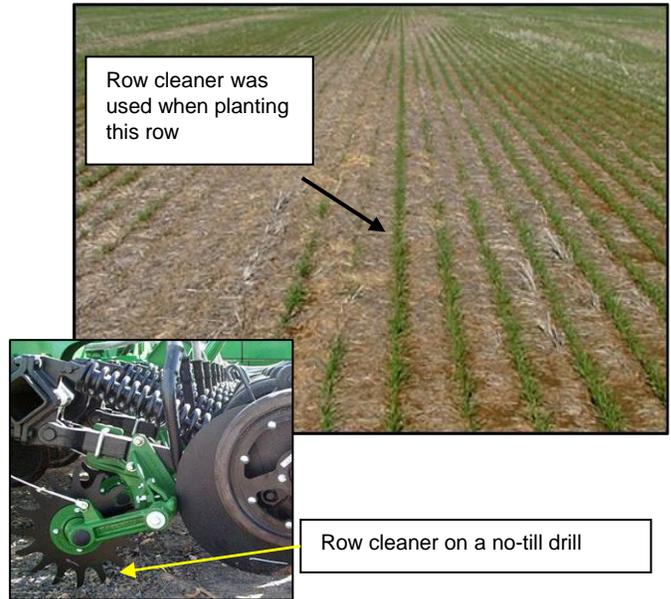
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NRCS Field Offices in North Dakota, South Dakota and Minnesota

Challenges of Shallow Seeding in No-Till

Correct seed placement is extremely important for successful establishment of perennial grasses, forbs, and legumes. The challenge is having seed to soil contact without seeding too deep. Drill seeding into tilled and packed soils with little to no surface residue is less challenging than no-till seeding into fields with considerable soil surface residue. Most good grass drills are well equipped to provide proper seeding depth in tilled and properly packed soils where residue is not a concern. However, in a no-till environment, heavy amounts of residue can make seeding a challenge. Vertical standing stubble is not as concerning as horizontal residue laying on the soil surface. Residue concerns can first be addressed with good distribution of straw and chaff behind the combine. However, even with good distribution, remaining residues can be a problem for shallow seeding. With substantial residue on the soil surface, conventional grass drills will not be adequate for the task and no-till drills may not perform well if not properly equipped. When seeding shallow in heavy residues, coulters and/or disk-type openers can't run deep enough to prevent hair-pinning of residues into the seed slot. Instead of cutting through the



residue, they pin it in with the seed. This inhibits seed to soil contact and severely impacts germination. Heavy amounts of residue will cause depth bands or depth control wheels to ride on top of the residue rather than the soil surface. Seed ends up in the residue, not in the soil. Packer wheels are ineffective in this scenario. With no soil around the seed, they only push more residue into the seed slot. It is in this seeding environment that row cleaners do their best work. The photo at upper right illustrates the effectiveness of row cleaners when residues are an issue.



Retesting Seed

If seed purchased or harvested in prior years was held over or stored, it may need a new germination test. Listed in the table below are germination testing time limits related to NRCS cost share programs in North Dakota, South Dakota, and Minnesota. If seed was stored in conditions with high humidity and/or high temperatures, seed deterioration may have occurred. Therefore, seed should be retested even though the germination tests may meet testing date requirements. When sampling, make sure the sample is representative of the seed lot. Bulk several small samples from the lot for the testing sample. This may mean opening several bags. Allow enough time to get test results back prior to seeding. The length of time for a laboratory to run a germination test is related to the species. Some species require as much as 28 days in the germination chamber. Mixes will take longer, as species have to be separated by lab personnel before germination tests can be conducted. Test results may also be delayed if the laboratory is experiencing large numbers of samples. Contact the seed laboratory for the amount of seed required for testing of your particular species or mix.

STATE	Species	*Maximum Age of Germination Test
Minnesota	Native	15 months
Minnesota	Non-native	12 months
North Dakota	Native and Non-native	12 months
South Dakota	Native and Non-native	9 months

* Maximum age is exclusive of the test month.