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Production of certified and registered seed

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Quick Facts

- Seed certification is a means of maintaining a pedigree on seed of a specific variety.
- Once a superior variety of seed is developed, painstaking effort must be taken to keep it pure and produce it in large quantities for use.
- Most growers can produce certified seed if they are willing to make the extra effort.
- The certification program recognizes four basic classes of seed: breeder, foundation, registered and certified, representing advancing generations of seed production.
- The steps necessary to produce certified seed include obtaining foundation or registered seed, keeping planting, harvesting, transporting and storing equipment clean, planting seed on ground that meets certification requirements, getting fields inspected, having seed conditioned or cleaned and submitting seed samples for analysis by the certification service.
- Certified seed may be sold in bag or bulk.

factors, such as weeds, diseases, viability and mechanical purity also are very important. One of the most effective methods of preventing the wider distribution of crop pests is to plant certified seed.

Once a superior variety is developed, painstaking effort must be taken to keep it pure and produce it in large quantities for distribution to farmers. The production of certified seed in Colorado is a voluntary, cooperative effort of seed growers, approved seed conditioners and the seed certification service. The program is not restrictive; it is open to all who meet the established standards.

Seed certification for field crops in Colorado is conducted by the Colorado Seed Growers Association under authority of the State Board of Agriculture and in cooperation with the Colorado State University Extension Service and Experiment Station.

To contact the seed certification service write to: Colorado Seed Growers Association, Department of Agronomy, Colorado State University, Fort Collins, CO 80523, Phone: (303) 491-6202.

The production of certified (and registered) seed requires extra time, labor and management effort. However, it usually does not require additional equipment. Most growers can produce certified seed, provided they are willing to make the extra effort.

Certification Program

The certification program recognizes four basic classes of seed. They are breeder, foundation, registered and certified. Each of these classes represents advancing generations of seed production. Production of breeder and foundation classes are limited to the plant breeder and Foundation Seed Projects, respectively.

Two additional classes are recognized; select and source identified. These classes are used for collection of native species and improved strains that have not been formally released or tested. Refer to the *Colorado Seed Certification Standards Handbook* for a more detailed description of seed classes.



Seed certification is a means of maintaining a pedigree on seed of a specific variety. Certified seed varieties result from years of careful effort on the part of plant breeders and growers to develop superior varieties. Varietal purity is the first consideration in seed certification, but other

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The steps necessary to produce certified seed must be followed precisely to be successful. The following list outlines those steps:

1. Obtain foundation or registered seed. Foundation seed of public varieties may be obtained from the Foundation Seed Project at Colorado State University. Registered seed produced in Colorado can be obtained directly from growers listed in the *Colorado Certified Seed Directory*. When foundation or registered seed is not available, seed may be recertified on a one-time basis from the certified generation; however, you must obtain permission from the certification agency, prior to planting, for a field to be eligible for recertification.

Retain the proof of planting eligible seed, because it must be supplied to the certification service to verify the seed source. The proof of eligible seed is the certification label or tag that is attached to the bag, or a bulk sales certificate issued by the seller at the time of purchase. This proof *must* accompany the application for field inspection.

2. Clean all equipment before planting, harvesting, transporting or storing the seed. Special care must be taken to prevent contamination from other crops, other varieties and weed seeds. The most efficient methods of cleaning equipment include sweeping, vacuuming and using compressed air or water. A relatively small amount of contamination may be cause for rejection of a seed field.

3. Plant the seed on clean ground that meets all certification land requirements. The field should not have a history of containing noxious weeds and must not have been planted to the same crop the previous year unless it was planted to the same variety and class of certified seed. Some crops such as alfalfa and grasses require longer than one year between seed crops.

Isolation requirements also must be met. Self-pollinated crops usually only require mechanical isolation (10 feet—3 meters— from other crops of the same kind). Isolation requirements for cross-pollinated crops vary with crop and class of seed produced. Refer to the *Colorado Seed Certification Standards Handbook* for specific isolation requirements.

4. Apply for field inspection through your local CSU county extension agent or submit the application directly to the Colorado Seed Growers Association. Applications must be filled out completely with a separate application submitted for each field. Membership and field inspection fees should accompany the application. Applications are due in the certification office as follows:

May 15—winter cereals

June 1—spring cereals

June 20—hybrid corn and sorghum

July 1—alfalfa, clover, beans and grasses

July 20—non-hybrid sorghum, millet and sudangrass

Late application will be accepted only if adequate time permits for field inspection. A \$10 per field late fee will be required on all late applications.

5. Prepare your seed fields for inspection by roguing off-type plants and controlling weeds. If

noxious weeds are present in a small portion of the field, you should destroy the weeds and clearly mark off that area, so that it can be eliminated from harvesting for certified seed. Careful roguing and weed control insure varietal purity and absence of weed seed.

6. Arrange for field inspection. The grower is responsible for contacting either the county agent or the certification office for field inspection at least seven days prior to harvest. Fields are inspected for varietal purity, isolation, freedom from noxious weeds and seed-borne disease and any other factor that could adversely effect seed quality. Upon completion of the inspection, the inspector will indicate that the field is either approved, rejected or referred. Approved fields are eligible for certification and need no further inspection.

Rejected fields are not eligible for certification unless the cause for rejection is remedied and they pass a second inspection. Fields will not be inspected more than twice. Fields may be referred due to several reasons, including controlled areas of noxious weeds, excess common weeds or other problems that can be remedied by appropriate harvesting or conditioning techniques. Referred fields can be certified when a clean seed sample is submitted that conforms to the minimum standard for certification.

7. Harvest, transport and store the seed with clean equipment. Careful attention should be given to make sure that harvesting equipment, trucks and storage facilities are cleaned prior to harvest. Clean equipment will help to maintain genetic and mechanical purity.

Seed from each certified field should be stored in a separate bin clearly identified to indicate kind, variety, year produced and field location. Check the seed frequently after harvest to make sure the seed is not overheating. It is recommended that a representative bin run sample be taken immediately after harvest and sent to the Colorado Seed Growers Association for germination and purity analysis. This will enable you to detect potential problems with the seed.

If you plan to market your seed to an approved conditioner, a bin run analysis will be an important marketing tool. Field approved seed cannot be sold as certified. It only can be sold as certified seed when a representative sample of the cleaned seed meets the minimum standards for that crop and a certificate of certification has been issued to the owner.

8. Have the seed conditioned (cleaned) by an approved certified seed conditioner. The primary purpose of seed conditioning is to remove unwanted inert material, weed seed, other crop and the small, less vigorous crop seed. Seed that is eligible for certification only may be cleaned by an approved certified seed conditioner. A list of approved conditioners is published in the back of every certified seed directory. Growers may condition their own seed provided that their cleaning facilities have been inspected and approved by the certification service.

9. **Submit a representative sample of the conditioned seed to the certification service for purity and germination analysis.** Be sure to include a "Seed Sample Identification Form" with each sample. This form must be completely filled out and signed before the seed can be certified. Make sure the sample is representative of the entire lot of seed offered for sale. Several samples should be taken during the conditioning process and a subsample taken from the bulk of all samples. The sample must meet the minimum standards for purity and germination for the specific crop and seed class. If the seed meets these standards a certificate will be issued by the seed certification service. Seed *only* can be sold as "certified" after a certificate of certification has been issued.

If the entire lot of seed is not conditioned in a continuous operation, each run or separate conditioning produces separate lots of seed. Separate samples must be submitted for each conditioning process.

Options for Sale of Seed After Harvest

Sale as unconditioned seed to a conditioner—A grower may sell field approved uncleaned seed that is eligible for certification to an approved conditioner. The buyer must complete a "transfer form" with the grower's signature before the seed is transferred. One copy of the transfer form must be furnished to the seed certification office following the transaction. The conditioner can complete the certification process and offer the seed for sale in bags or in bulk as certified. It is the obligation of the retailer to pay either the bulk sales fee or certified label fee on that seed.

Bagged sales—The grower may condition and bag the certified seed for sale if all certification requirements are met. Certified seed must be bagged in new containers and have a certified tag or label attached prior to shipment. Any seed sold without the tag or label *attached* to the container is not considered certified. Once certified seed is bagged and labeled with a certification tag, it can

be resold an indefinite number of times. Carry-over seed, which has not been tested for one year, must be retested and labeled with the updated germination before it can be sold within Colorado. Seed that is transported out of Colorado must have been tested and labeled for germination within five months.

Accurate records concerning the conditioning, storage and sale of all certified seed must be kept. Refer to the "Colorado Approved Conditioner Standards" for more detailed information. A copy of these standards is available upon request from the certification service.

Bulk sales—Certified seed may be sold in bulk by the original grower or by an approved Class I conditioner. A "Bulk Sales Certificate" must be issued at the time of sale. The bulk sales certificate must be completely filled out including kind, variety, lot number, grower, germination and purity analysis, and be signed by the seller. All certified seed sold in bulk must have been issued a certification certificate prior to delivery. The seller must pay a bulk sales fee to the certification service. These fees are needed to keep accurate records and to inventory seed that is accepted for certification.

Plant Variety Protection

Varieties for which plant variety protection certificates have been issued or applied for with the Title V option of the Federal Plant Protection Act (PVPA), can only be sold or advertised for seeding purposes by the owner of the protection certificate, or with the owner's permission. The crop harvested from a field of a protected variety under Title V must be marketed for grain if it is not certified. The owner of the certificate can bring civil action against persons in violation of the PVPA, and sale of uncertified seed of a Title V protected variety can constitute a violation of the Colorado Seed Law and/or Federal Seed Act. For further information about the PVPA refer to Service in Action sheet .301, *Protected varieties and the Plant Variety Protection Act*.