COLORADO SEED CERTIFICATION STANDARDS

2020

Colorado Seed Growers Association
Department of Soil & Crop Sciences
Colorado State University
Fort Collins, Colorado 80523-1170
Phone: (970) 491-6202
Email: linda.munk@colostate.edu
Web: seeds.agsci.colostate.edu

Colorado Seed Certification Standards

2020

COLORADO SEED GROWERS ASSOCIATION
Department of Soil and Crop Sciences
Colorado State University
Fort Collins, CO 80523 - 1170
Phone (970) 491-6202
Fax (970) 491-1173
email *linda.munk@colostate.edu*

seeds.agsci.colostate.edu

STAFF
Rick Novak, Director of Seed Programs/CSU Extension Seed Specialist
Linda Munk, Certification Manager

BOARD OF DIRECTORS (2020)

Wayne Midcap, President, District 1
Bob Mattive, Vice President, District 4a
Walter Henes, Secretary, District 8
Steve Andrews, Treasurer, District 9
Wayne Brew, District 3
Judy Jolly, District 4b
Jim Mertens, District 2
Craig Schenck, District 5
Randy Trupp, District 6
Terry Hillin, Colorado Seed Industry Association
Dustin Cooksey, Colorado Wheat Research Foundation
Dr. Jerry Johnson, CSU Extension
Dr. Scott Haley, Dept. of Soil and Crop Sciences

TABLE OF CONTENTS

Introduction and Plant Variety Protection ii
Constitution 1
By-Laws 4
General Standards 7
- Purpose of Certification 7
- Eligibility Requirements for Certified Crop Varieties 7
- Classes and Generations of Certified Seed 7
- Establishing the Source of Seed 8
- Application for Certification 9
- Fees 9
- Refund of Fees 11
- Unit of Certification 11
- Field Inspection 11
- Weeds 12
- Harvesting and Storage 13
- Conditioning of Seed 13
- Transfer of Field-Approved Unconditioned Seed 14
- Blending Lots of Seed 14
- Seed Sampling 14
- Seed Testing and Labeling 15
- Bags, Tags and Labels 15
- Bulk Sales of Small Grains 16
- Seed Treatment 16
- Substandard Seed in Emergency Situations 16
- County Associations 17
- Federal and State Seed Laws 17
- Interagency Certification 17
- Distribution Summary 17
- Interpretation and Implementation of Rules 17
- Definitions 18

Alfalfa Standards 20
Field and Garden **Bean** Standards 22
Canola and **Mustard** Standards 24
Hybrid Canola Standards 26
Crownvetch Standards 28
Grass Standards 30
Industrial Hemp Standards 36
Self-Pollinated **Millet (Proso and Foxtail)** Standards 41
Small Grain Standards (**Wheat, Oats, Barley, Trticale and Rye**) 42
Woody Species and Forbs 45
Standards for Other Crops 50
Potato Seed Certification 50
Watermelon Seed Certification 50
Appendix I - Credit Policy 51
Appendix II - Class I Approved Conditioner Standards 52
Appendix III - Class V Approved Conditioner Standards 55
Appendix IV - Grower In Good Standing Self Checklist 56

INTRODUCTION

Seed certification is the 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 factors, such as weeds, diseases, viability and mechanical purity, are also very important. One of the most effective methods of preventing the wider distribution of weeds is to plant weed-free seed. Adverse effects of plant diseases can be reduced by planting clean seed from disease-free fields. Properly cleaned and graded seed is easier to plant and results in uniform stands. Certified seed gives farmers assurance that they are getting clean, pure, high-germinating seed.

Once a superior variety is developed, painstaking effort must be made to keep it pure and produce it in quantities for the good of all farmers. The production of Certified seed in Colorado is a voluntary, cooperative effort of seed growers and approved conditioners. The program is not restrictive; it is open to all who wish to meet the established standards. However, it is not the purpose of seed certification to have a large percentage of farmers producing Certified seed, but to have an adequate quantity of seed marketed in the areas where it is needed.

Seed certification for field crops in Colorado is supervised by the Colorado Seed Growers Association under authority of the State Board of Agriculture, by authority of legislation enacted by the 27th Colorado General Assembly.

The field crop certification program originated as an Extension project and was conducted through county Extension agents in the early years of Extension work. It has continued as part of the Extension Agronomy program since the establishment of the Seed Certification Service by authority of the Seed Inspection and Registration Law enacted in 1929.

The certification program depends largely upon the cooperation of the Department of Soil and Crop Sciences, the Colorado State University Cooperative Extension, the Colorado Agricultural Experiment Station, the Colorado Seed Growers Association, the growers and approved conditioners, privately financed research and marketing firms and other segments of the seed industry.

PLANT VARIETY PROTECTION

The Plant Variety Protection Act (PVPA) was signed into law on December 24, 1970. The PVPA's objective is to encourage development of novel varieties of sexually-reproduced plants and to make them available to the public, providing protection to those who breed, develop or discover them, and thereby promoting agricultural progress in the public interest. The Plant Variety Protection Office (PVPO) of the United States Department of Agriculture (USDA) is responsible for administering the Act.

A Certificate of Protection is valid 20 years from the date of issuance in most cases. The owner has the right to exclude others from selling, offering for sale, reproducing, importing, exporting or using the protected variety in the production of a hybrid or different variety during this time. The owner is responsible for enforcing these rights.

Two options for plant variety protection are available to the developer of a variety. The first option enables the developer and certificate holder to sell or authorize for sale either Certified or un-certified seed of the variety. If the certificate holder chooses this option, he must resort to civil action if his/her rights are infringed upon within the 20-year period. The certificate holder is not covered under Title V of the Federal Seed Act and violators cannot be prosecuted by the federal government. In a manner similar to a patent, the certificate owner can authorize the use of his variety in any way he wishes on a royalty or fee basis.

The second option for protecting a variety is the "certification only" option, which utilizes provisions of Title V of the Federal Seed Act. A variety protected in this manner may be sold by variety name only as a class of Certified seed. Sale of un-certified seed by variety name is in violation of both the certificate owner's rights and federal and state seed laws. Violators of Title V may be prosecuted by the federal or state government.

For further information, contact Colorado Seed Growers Association, Colorado State University, Fort Collins, CO 80523, (Phone (970) 491-6202), or the Seed Program Coordinator, Colorado Department of Agriculture, 700 Kipling Street, Suite 4000, Lakewood, CO 80215-8000 (Phone (303) 239-4153).

CONSTITUTION
of the
COLORADO SEED GROWERS ASSOCIATION

As Revised in 2008

ARTICLE I

ORGANIZATIONAL NAME

This organization shall be known as THE COLORADO SEED GROWERS ASSOCIATION and is incorporated under the general corporation act of the State of Colorado as a "Corporation not for profit" with the principal office located at Fort Collins, Colorado.

ARTICLE II

PURPOSE

The primary object of this Association shall be to promote the interests of agriculture in the State of Colorado through the general use of pure seed of the best varieties. These purposes shall be accomplished:

A. By maintaining and making available to the public, through seed certification, high quality seeds of recommended varieties so grown and distributed as to insure genetic identity and purity.
B. By cooperating with Colorado State University in the development and distribution of superior and recommended varieties and strains of farm crops.
C. By cooperating with other Agricultural Experiment Stations in fostering and regulating the introduction and distribution of foundation stocks of superior varieties and strains.
D. By developing and adopting standards of excellence for the various classes of seed grown by members under the rules and regulations for certification.
E. By providing, with the cooperation of Colorado State University, an inspection service for members growing seed crops. This service shall be known as the "Seed Certification Service" and shall be under the immediate supervision of the representative of Colorado State University who is in charge of seed certification.
F. By providing and requiring the use of uniform and distinguishing marks, tags and emblems for use on the classes of seed officially sponsored by the Association.
G. By supporting and sponsoring such activities as local, county, state and national shows and exhibits where pure seeds are featured and where the objective is to further the agricultural interests of the state.
H. By promoting, through advertising and other means, the sale and distribution of seed produced by members of the Association under the rules and regulations adopted by the Association.
I. By supporting and sponsoring such activities as local, county, state and national meetings which promote pure seeds and where the objective is to further the agricultural interest of the state.

ARTICLE III

MEMBERSHIP

A. Any resident of the United States or Canada who is a seed grower, contract grower, seedsman, or prospective seed grower, or who is interested in promoting the objects of this Association, may apply for membership in the Association.
B. An application for membership may be accepted or rejected by the Board of Directors following investigation as to the applicant's integrity, his interest in better seeds, his ability as a seed grower and his facilities for production, care, cleaning and storage of seed.
C. Upon acceptance of his application, the applicant shall become a member by paying the annual membership fee and by agreeing to abide by the Constitution and By-Laws of this Association.
D. Honorary membership may be conferred upon anyone interested in progressive agriculture by a unanimous vote of the Board of Directors.
E. The membership of this Association is strongly encouraged to attend the Annual Meeting. The voting membership of this Association at any regular or special meeting shall be limited to those

members actively engaged in the production of Certified seed during one of the last two years as evidenced by applications on file with the Seed Certification Service. Voting by proxy shall not be allowed.

ARTICLE IV

ORGANIZATIONAL STRUCTURE

A. The direction and management of this Association shall be by a Board of Directors composed of fourteen (14) Directors; eleven (11) of whom shall be active seed producers during the year of their election; one (1) from the Department of Soil and Crop Sciences of Colorado State University, one (1) from the Cooperative Extension Service of Colorado State University, and one (1) representing the Colorado Seed Industry Association.

B. One (1) Director shall be elected from each of the nine (9) Districts of the Colorado Seed Growers Association. The Directors shall be elected at a regular annual meeting of the Colorado Seed Growers Association and shall serve for a two (2) year term.

1. Districts 3 and 4 shall elect a second Director to the Board for a two (2) year term.
2. The State of Colorado shall be divided into nine (9) Districts and the counties listed under each of the Districts shall comprise the Districts as hereinafter designated:

District #1: (Northeast) Logan, Morgan, Phillips, Sedgwick

District #2: (North Central) Boulder, Clear Creek, Gilpin, Grand, Jackson, Lake, Larimer, Summit, Weld

District #3a,b: (West) Delta, Gunnison, Mesa, Montrose, Ouray

District #4a,b: (San Luis Valley) Alamosa, Conejos, Costilla, Rio Grande, Saguache

District #5: (Southeast) Baca, Bent, Cheyenne, Crowley, Custer, Huerfano, Kiowa, Las Animas, Otero, Prowers, Pueblo

District #6: (Central) Adams, Arapahoe, Chaffee, Douglas, Elbert, El Paso, Fremont, Jefferson, Lincoln, Park, Teller

District #7: (Northwest) Eagle, Garfield, Moffat, Pitkin, Rio Blanco, Routt

District #8: (Southwest) Archuleta, Dolores, Hinsdale, La Plata, Mineral, Montezuma San Juan, San Miguel

District #9: (East-Northeast) Kit Carson, Yuma, Washington

3. The Districts named may be modified or changed by a majority vote of the Colorado Seed Growers Association at any regular annual meeting.
4. Nominations for Directors of the Colorado Seed Growers Association shall be made by the members at District meetings called for this purpose by the Secretary of the Association.
5. Directors of Districts 1, 3b, 4a, 6 and 8 will be elected to a term to begin in odd-numbered years. Directors of Districts 2, 3a, 4b, 5, 7 and 9 will be elected to terms to begin in even-numbered years.
6. In the event of a Directorship vacancy, a special meeting shall be called within that District to nominate and elect a grower to fulfill the unexpired term.

C. The Director representing the Cooperative Extension of Colorado State University shall be elected to a term that will begin in even-numbered years. The Directors representing the Department of Soil and Crop Sciences from Colorado State University and the representative selected by the Colorado Seed Industry Association shall be elected to terms that will begin in odd-numbered years.

D. The President, Vice-President, Secretary, Treasurer and immediate Past-President shall constitute the Executive Committee.

E. The Board of Directors shall meet immediately after the Annual Meeting to elect officers.

F. No one member of the Board of Directors shall be elected for President or Vice-President for more than

two (2) years in succession.

ARTICLE V

EXECUTIVE DUTIES AND RESPONSIBILITIES

A. The President shall:
   1. Preside over all meetings of the Association and the meetings of the Board of Directors.
   2. Call special meetings of the Association and of the Board of Directors.
   3. Appoint committees authorized by the By-Laws and Board of Directors.
   4. Perform all acts and duties usually required of an executive presiding officer.
B. The Vice-President shall:
   1. In the absence of the President, preside and perform duties of the President.
   2. Serve all notices required by law and by the Constitution and By-Laws.
   3. Perform such other duties as may be required of him by the Association or the Board of Directors.
C. The Treasurer and/or Manager shall:
   1. Receive and disburse the funds and be the custodian of all the securities of the Association.
   2. Keep full and accurate account of all the financial transactions of the Association in books belonging to the Association and deliver such books to his successor in office when qualified. He shall make a full report of all matters and business pertaining to the office to members at the Annual Meeting and to the Directors whenever required and make all reports required by law.
   3. Have an annual audit by a public accountant or audit committee appointed by the President.
   4. The Treasurer and/or Manager shall be properly insured, and the amount of such insurance will be determined by the Board of Directors and the cost borne by the Association.
   5. Implement the Association's financial matters in accordance with all of the rules set forth in the CSGA/CSU Memorandum of Understanding , and direction from the CSGA Board of Directors.

ARTICLE VI

MEETINGS

A. The Association shall hold an Annual Meeting at the time and place selected by the Board of Directors of the Colorado Seed Growers Association. Due notice of the meeting shall be sent to each member at least ten (10) days in advance of the meeting.
B. Special meetings of the Board of Directors shall be held at the call of the President or upon written request from three (3) or more members of the Board of Directors.
C. The Executive Committee shall meet upon the call of the President or upon written request of two (2) or more members of the Executive Committee.

ARTICLE VII

QUORUM

A. Five percent (5%) of the active membership or ten (10) members of this Association shall constitute a quorum for the transaction of business at any regular or special meeting.
B. A majority of the members of the Board shall constitute a quorum for the transaction of business.
C. Three (3) members of the Executive Committee shall constitute a quorum for the transaction of business.

ARTICLE VIII

AMENDMENTS TO THE CONSTITUTION

This Constitution and By-Laws may be amended by a two-thirds (2/3) vote of the members present at any Annual Meeting of the Association provided notice of the proposed changes are given by letter at least ten (10) days prior to the meeting.

ARTICLE IX

DISSOLUTION

In the event of dissolution of the Association, any remaining assets shall be allocated to Colorado State University to be used exclusively for research and education in crop improvement.

BY-LAWS

ARTICLE I

ELECTIONS

Each seed grower District shall nominate a director for that District. Elections shall take place at the annual seed grower's meeting and other nominations may be made from the floor. Secret ballots shall be used if more than one grower is nominated from a District. The President shall appoint a committee of three (3) to act as tellers.

ARTICLE II

MEMBERSHIP AND OPERATING FEES

A. A member of the Colorado Seed Growers Association is anyone who has paid the annual membership fee of the Association.
B. The annual membership fee shall be established at the Annual Meeting of the Board of Directors, of which $3 will be refunded to the organized county or area associations upon receipt of the minutes of the last meeting held during the year. The membership fees must be paid in advance or at the time of application for field inspection.
C. Each member having a field inspection shall pay such fees at such times in such form and calculated in such a manner as shall be determined by the Board of Directors and the Seed Certification Service of Colorado State University. These fees shall be designated to cover the cost of maintaining the Association and carrying on its objectives.

ARTICLE III

COMMITTEES

A. The following committees shall be appointed by the President following each annual meeting:
    1. Education and Promotion
    2. Approved Conditioners
    3. Standards and Procedures
    4. Commodities
        a. Small Grains
        b. Grasses, Shrubs and Forbs
        c. Beans
        d. Other
    5. Western Colorado Premium Bean Seed
    6. Financial
    7. Other

B. Duties of the Committees
    1. The Education and Promotion Committee shall develop program policies to aid in the sales of Certified seed and in the education of users.
    2. The Approved Conditioners Committee shall establish standards and monitor activities of approved conditioners.
    3. The Standards and Procedures Committee shall assist in changing the rules of the organization and monitor the procedures used in seed certification.
    4. Each Commodity Committee shall recommend to the Board changes in standards, and guide management and other Committees in activities concerning individual commodities.
    5. The Western Colorado Premium Bean Seed Committee shall direct expenditures of funds collected for promotion of west slope grown bean seed.

C. Committee Membership

1. Committee members must be voting members of the Colorado Seed Growers Association with the following exceptions:

    a. CSU Extension or Research personnel may serve on the Education and Promotion and Commodity Committees.
    b. Approved Conditioners who do not certify seed may serve on the Approved Conditioner and Western Colorado Premium Bean Seed Committees.
    c. Members of the Colorado Seed Industry Association may serve on the Commodity Committees.
2. The Approved Conditioner Committee shall consist of at least two Class I and one Class V conditioners and one grower who is not a conditioner.
3. The Western Colorado Premium Bean Seed Committee shall consist of the District 4 director, a representative of each Approved Conditioner who wholesales bean seed in District 4 and a representative of the Tri River Extension Area.

D. Terms of membership of standing Committees (not including Western Colorado Premium Bean Seed) shall consist of six members whose terms do not exceed 3 years. Terms shall be staggered so that two members are appointed each year.
E. A chairman shall be appointed from the membership of each committee.

ARTICLE IV

CLASSES OF SEED AND STANDARDS

A. The Association shall recognize seven (7) classes of seed: 1) Breeder, 2) Foundation, 3) Registered, 4) Certified, 5) Tested, 6) Selected and 7) Source-Identified.
B. The eligibility and standards for each class of seed for each crop shall be determined by the Standards & Procedures Committee and the Commodity Committee for that crop. Standards shall comply with the minimum standards of the Association of Official Seed Certifying Agencies.

ARTICLE V

INSPECTION, RESPONSIBILITIES, VIOLATIONS

A. All seed inspected for members shall be under the jurisdiction of the Colorado Seed Growers Association.
B. Certification of seed shall be on the basis of reports submitted by official inspectors and the Colorado Seed Laboratory or other approved laboratories.
C. The Board in cooperation with the Seed Certification Service shall have the authority to revise annually the rules and regulations governing inspections, fees (other than membership), responsibilities and refunds.
D. Responsibility for maintaining Certified seed standards for that seed which has passed the inspection of the Association rests with the individual grower of the seed; and thus, the grower guarantees the seed to be as identified when sold by the grower.
E. All complaints on the use of fraudulent or other undesirable methods in the production handling, sale or advertising of Certified seed shall be referred in writing to the manager or the president of the Colorado Seed Growers Association.
F. On proof of the use of fraudulent or other unethical methods for sale of seed, a member may be suspended by a unanimous vote of the Board of Directors; he may be expelled by a two-thirds (2/3) vote of the members present at regular meetings of the Association. If a member violates the rules and regulations of the Association or engages or persists in practices which in the judgement of the Board of Directors are likely to injure or discredit the Association, the member may be suspended or his membership may be terminated by a unanimous vote of the Board of Directors.

ARTICLE VI

TAGS AND SEALS

Each lot of Certified seed to be sold as such must bear the official tag or certificate designated by the Seed Certification Service and the Board of Directors. Any seed eligible for certification must be accompanied by labels or tags attached to the bag or a bulk sales certificate prior to shipment from the conditioner's warehouse. If not identified, the seed is no longer Certified, nor can it be recertified.

ARTICLE VII

EXPENSES

Traveling expenses shall be paid to the following for reasons stated:

A. To members of the Board of Directors when attending official meetings of the Board.
B. To members of the Executive Committee when attending official meetings of the Executive Committee.
C. To members of the official committees when attending specially called meetings.

ARTICLE VIII

ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES

The Association shall maintain membership in the Association of Official Seed Certifying Agencies. The Board of Directors of the Association shall designate the manager and one director to represent the Association at the annual meeting of the Association of Official Seed Certifying Agencies. In addition, one-half of the travel expenses of any director to attend the AOSCA meeting shall be paid by the Colorado Seed Growers Association. One of those designated to attend the annual meeting of the Association of Official Seed Certifying Agencies shall be the individual in charge of the Seed Certification program at Colorado State University, and this individual shall be an official Director in the Association of Official Seed Certifying Agencies.

ARTICLE IX

INTERSTATE CERTIFICATION

Participation of the Association in the interstate production, handling, processing, blending and tagging the Colorado grown Certified seed shall conform to standards developed by the Association of Official Seed Certifying Agencies and certification agencies of other states involved.

ARTICLE X

EQUAL OPPORTUNITY ORGANIZATION

Colorado Seed Growers Association is an equal opportunity organization, and all members agree to respect the rights granted by all Federal and Colorado laws, regulations and executive orders regarding equal opportunity and civil rights "including non-discrimination" requirements in all programs involving employees associated with the Colorado Seed Growers Association.

GENERAL STANDARDS

These general standards are applicable to all field crops eligible for certification and, with the standard for the individual crops, shall constitute the standard for field crop certification in Colorado.

I. Purpose of Certification

The purpose of seed certification shall be to make available to the public high quality seed of superior crop varieties so grown and distributed as to ensure genetic identity and purity.

II. Eligibility Requirements for Certified Crop Varieties

A. The Release Committee, appointed by the Head of the Department of Soil and Crop Sciences of Colorado State University, makes recommendations for release of varieties that are eligible for certification.

B. A variety shall be eligible for certification in Colorado if it has been approved as meriting certification by at least one member of the Association of Official Seed Certifying Agencies or by appropriate national variety review board.

C. If a variety is currently not eligible for certification in Colorado, the originator, developer, owner, or agent may request certification by submitting the following information to the Colorado Seed Certification Service:

1. The name of the variety. This name must be the established name if the variety has previously been marketed.
2. A statement concerning the variety's origin and the breeding procedure used in its development.
3. A detailed description of the morphological, physiological and other characteristics of the plants and seed that distinguish it from other varieties.
4. Evidence of performance of the variety, such as comparative yield data, insect and disease resistance and other factors supporting the identity of the variety.
5. A statement delineating the geographic area or areas of adaptation of the variety.
6. A statement on the plans and procedures for the maintenance of stock seed classes including the number of generations through which the variety may be multiplied.
7. A description of the manner in which the variety is constituted when a particular cycle of reproduction or multiplication is specified.
8. Any additional restrictions on the variety, specified by the breeder, with respect to geographic area of seed production, age of stand, or other factors affecting genetic purity.
9. A sample of seed representative of the variety as marketed. The sample size shall be that required for a submitted sample in the current issue of the Rules for Testing Seeds of the Association of Official Seed Analysts.

D. If the originator of a potentially promising variety contemplates naming and release, Breeder and/or Foundation seed may be increased prior to release. The originator shall submit applications for field inspection and sufficient descriptive information for proper field inspections to be performed. Official tags or labels will not be issued until the variety is accepted for certification.

III. Classes and Generations of Certified Seed

A. Classes

Seven classes of seeds or propagating materials are recognized in seed certification. These are: Breeder, Foundation, Registered, Certified, Tested, Selected and Source-Identified. The Colorado Seed Growers Association requirements for these classes must meet or exceed the minimum standards of the Association of Official Seed Certifying Agencies. The seven classes of seed are defined as follows:

1. *Breeder Seed*

   Breeder seed shall be that seed or vegetative propagating material directly controlled by the originating or, in certain cases, the sponsoring plant breeder, institution, or firm, and which provides the source for the initial and recurring increase of Foundation seed. Breeder seed can also be the source for Registered and Certified seed.

2. *Foundation Seed*

   Foundation seed (white tag) shall be seed stocks that are so handled as to most nearly maintain specific genetic identity and purity, and which may be designated or produced by an Agricultural

Experiment Station, or originator. Foundation seed shall be the source of Registered and/or Certified seed.

3. *Registered Seed*
   Registered seed (purple tag) shall be the progeny of Foundation seed. Registered seed is the parent stock for the production of Certified seed.
4. *Certified Seed*
   Certified seed (blue tag) shall be the progeny of Foundation or Registered seed that is so handled as to maintain satisfactory genetic identity and purity and that has been approved and certified by the Colorado Seed Growers Association.
5. *Tested Seed*
   Tested seed (blue tag) requires progeny testing to prove that traits of interest are heritable in succeeding generations. Testing procedures (number of sites, generations required, etc.) are outlined for each species by the Colorado Seed Growers Association.
6. *Selected Seed*
   Selected seed (green tag) or plant material shall be from rigidly selected woody species or stands that have promise of genetic superiority, but that may or may not have been progeny tested. Shows promise of superior and/or identifiable traits as contrasted with other germplasm accessions, ecotypes or variety/cultivars of the species. Selection criteria and supporting comparative data is required.
7. *Source-Identified Seed*
   Source-Identified seed (yellow tag) or plant material may be seed from: a) natural stands with geographic source and elevation known, or b) from plantations or shelter-belts of known geographic location. Comparisons with other germplasm collections, accessions or ecotypes of the same species are not known.

B. Limited Generations
   1. The number of generations through which a variety may be multiplied, shall be limited to that specific by the originating breeder or owner and shall not exceed two generations beyond the foundation seed class with the following exceptions which may be made with the permission of the originator or sponsoring Plant Breeder, institution or his/her designee:
      a. For older varieties where foundation seed is not maintained.
      b. When an emergency is declared stating that foundation and registered seed supplies are not adequate to plant the needed certified acreage of the variety. This additional generation of Certified seed is ineligible for re-certification.
      c. At the discretion of the certifying agency, a producer may continue production of Foundation, Registered or Certified seed from lots of seed which were inspected but rejected because of factors not involving varietal identity and genetic purity.
   2. Source-Identified, Selected and Tested Classes should use Generation 0 (G0) as equivalent to originally collected seed or plant material; Generation 1 (G1) as equivalent to Foundation Seed; Generation 2 (G2) as equivalent to Registered Seed; and Generation 3 (G3) as equivalent to Certified Seed.
      a. Number of generations allowed for seed production and length of stand for perennial plants varies by species.
      b. When germplasm at any stage can be shown to have been significantly altered from the original collection or accessing, it loses its non-manipulated (Natural) status and is routed to the bulk population (manipulated germplasm) track.

IV. Establishing the Source of Seed

A. A crop, to be eligible for certification, shall be grown from seed inspected and certified by the Colorado Seed Growers Association or an official certification agency of another state or country. The source of seed claimed by each application must be supported by documentary evidence, such as a bulk sales certificate or an official seed certification tag from the seed which was planted. The documentary evidence must accompany the application for field inspection when it is submitted to the Colorado Seed Growers office. An applicant claiming a seed source of his/her own production need only identify the field or lot from which his seed source came.

B. The Tested, Selected and Source-Identified classes must have a Certified Site Identification Log submitted to the Colorado Seed Growers Association. CSGA will send an inspector to visit at least 5% of all sites applied for. It is the responsibility of the collector to positively identify the species being collected. Proof of identification must accompany the Certified Site Identification Log (a list of pertinent plant characteristics, literature sources of plant characteristics, and/or a document from a recognized authority that positively identifies the plant).

V. Application for Certification

A. Forms

Field Application forms may be secured by

1. Writing to:

   Colorado Seed Growers Association
   CSU - Dept. of Soil and Crop Sciences
   Fort Collins, CO 80523 - 1170

2. Calling CSGA at (970) 491-6202
3. Emailing linda.munk@colostate.edu

B. Date for Filing Field Applications

Field application forms are due at the office of the Colorado Seed Growers Association as follows:

May 1 — Alfalfa, Clover and Grasses
May 22 — Fall-sown Small Grains
June 1 — Spring-sown Small Grains
June 10 — Hybrid Corn and Sunflowers
June 15 — Canola
June 15 — Industrial Hemp
July 10 — Beans
Aug 1 — Millet

C. Application Information

1. All crops are to be applied for on the Application for Field Inspection form. The form will be processed by the Colorado Seed Growers Association office, and a verification report itemizing all applied for fields and acreages will be returned to the grower for approval and/or corrections.
2. Growers with a Farm Service Agency-established yield of less than 35 bushels per acre on small grains who wish to apply for a low yield adjustment must include the FSA Form "CCC-452 NAP Actual Production History and Approved Yield Record" with the Application for Field Inspection by May 1.
3. One Certified tag, bulk sales certificate, or source field number establishing source of seed planted in the field, must accompany the application. Applications which lack necessary information, adequate fees, or documentary evidence of the source of seed planted will be returned to the applicant, whose responsibility it is to see that the application is returned within the specified time. Manner of completion, payment of fees, verification of seed source and date of filing shall be governed by the instructions appearing on or with the application. Fee payment must accompany application. Checks should be made payable to: **Colorado Seed Growers Association.**

D. Application for Alfalfa, Clover and Grasses

Application for certification of alfalfa, clover and grasses must be made the year these crops are seeded and each year a Certified seed crop is to be produced.

E. Late Application

Late applications, if accepted, are subject to a late fee of $30 per field, in addition to the membership fee and field inspection fees. The Colorado Seed Growers Association reserves the right to refuse any application received after the closing date.

VI. Fees

A. Membership

The membership fee is $150 per year. For regularly enrolled 4-H and FFA members, the membership fee is $2.50 per year. Only one membership fee is required per partnership or farm.

B. Inspection Fees

The following fee schedule is subject to periodic revision.

INSPECTION FEE FOR EACH CROP IN ADDITION TO MEMBERSHIP FEE***

	Irrigated fee/acre	Dryland fee/acre
Small grains and millet	$7.15	$4.40
Canola	8.25	—
Alfalfa and other small-seeded legumes	2.85	1.95
Beans (2 inspections on irrigated beans)	7.50	4.50
Grasses	4.95	1.95
Hybrids, including corn, and sunflowers	6.60	6.60
Other crops not listed	Please contact CSGA Office.	
Per collection site (Source Identified)	—	25.00*
Bin inspection (for goatgrass removal)	50.00**	50.00**
Industrial Hemp	$500.00/field + $20.00/acre	
Seedling inspection (perennial crops when no seed crop is produced the year of establishment)	9.50/field	9.50/field

* Collection site fee is $25.00/site applied for, plus 50¢ per mile and $20.00/hour fee where applicable. All wild-collected seed will be assessed an additional 2¢ per pound when tags are ordered.

** Bin inspections to determine goatgrass removal from lots found to have goatgrass in the field is minimum - $50.00 per visit (more than one bin acceptable on one visit). Up to $250 can be charged to cover actual costs per CSGA Office discretion.

*** All fees are subject to change.

MINIMUM inspection fee PER FIELD is $10 except for seedling inspection. Late fees are $30 per field.

C. Variable Low Yield Adjustment

If small grains yield according to the Farm Service Agency is lower than 35 bushels per acre, then an adjustment of 10¢ per bushel can be deducted from the acreage fee to a minimum of $3.00/acre. Growers with a Farm Service Agency-established yield of less than 35 bushels per acre on small grains who wish to apply for a low yield adjustment must include the FSA Form "CCC-452 NAP Actual Production History and Approved Yield Record" with the Application for Field Inspection by May 1.

D. Tag and Label Fees

Adhesive labels	$0.08/each	Sew-on tags	$0.08/each
Bulk Distribution Tags	$0.10/each		

Additional tag/ label fees may be added on specific commodities as a checkoff to fund promotion, research, etc.

E. Colorado Seed Growers Association has been designated to collect licensing and royalty fees for certain crop varieties which have been released under a licensing program. Producers of such seed will be notified of the licensing agreement when they purchase foundation or registered seed. Certification will not be completed on licensed varieties without a current signed agreement on file in the Colorado Seed Growers Office. Licensing agreements and licensing fees are due on or before the due date for the crop field inspection.

F. Bulk Sales Certificates

Bulk sales certificates are required on ALL PRODUCTION SOLD AS PLANTING SEED unless the seed is sold in bags with tag or label attached. Bulk Sales Certificates are available from the Colorado Seed Growers Association office at a cost of $1.00 each. Online Bulk Sales Certificates are available (call the office for instructions) at a cost of $0.50 each.

1. The bulk sales certificate for all non-CWRF wheat varieties is a **two-colored** certificate.
2. The bulk sales certificate for Colorado Wheat Research Foundation varieties of wheat is a **three-colored** certificate imprinted with the Red Area.
3. The bulk sales certificate for Colorado Wheat Research Foundation varieties of *Clearfield* wheat is a **four-colored** certificate with an imprinted Red Area and a Yellow *Clearfield* statement.

H. Seed Testing Fee
Seed samples sent to Colorado Seed Growers Association for analysis will be tested by the Colorado Seed Testing Laboratory. Growers will be billed by Colorado State University for Lab fees.

I. Tests performed by any other AOSA (Association of Official Seed Analysts) approved lab will also be considered official for certification. These tests are to be billed directly to the grower. The grower is responsible for the delivery of the test results to the Colorado Seed Growers office.

J. Credit Policy
Fees shall be collected in a timely manner according to a credit policy established by the Board of Directors. (see Appendix I)

K. All fees shall be payable to: **Colorado Seed Growers Association**.

VII. Refund of Fees

A. Field Inspection Fee
1. The field inspection fee will be refunded if a grower finds that his crop will not meet certification requirements and withdraws his field by notifying the Colorado Seed Growers office or the field inspector prior to the time the inspector inspects the field.
2. 75% of the inspection fees will be refunded after inspection only if the field is destroyed by a disaster such as hail or fire.
3. Late applications may not be canceled for refund except under disaster conditions listed above.
4. All production from the canceled part of the field is ineligible for certification.
5. A rebate of up to two-thirds (2/3) of field inspection fees may be refunded if the seed field is heavily damaged after inspection, and the grower would still like to use the seed. This request must be supported by documentation and is subject to Board approval.

B. Membership Fee
After the application for certification has been accepted by the certifying agency, the membership fee will not be refunded under any circumstances.

C. Tag Fees
Tag fees are nonrefundable except under special circumstances as dictated by the CSGA management. Refunds will only be made for any amount above normal costs of material and printing.

VIII. Unit of Certification

Unit of certification shall be a clearly defined area that may be divided subject to regulations for specific crops.

IX. Field Inspection

A. Field inspecting requires technical training and shall be performed only by properly qualified personnel.

B. A field inspection shall be made each year in which a Certified seed crop is produced. If possible, seed growers will be notified of the approximate date of field inspection. Hybrid corn growers shall notify the certifying agency of the approximate date tasseling will begin. Hybrid sorghum and hybrid small grain growers shall notify the certifying agency after the plants have started to head but before any pollen has formed. The growers shall accompany the inspector into the field when possible.

C. The inspector shall traverse the field sufficiently to evaluate accurately the factors affecting certification. If a field is ready to harvest, but has not been inspected, it is the grower's responsibility to contact CSGA.

D. The right is reserved to reject a field on general certification principles when weeds, diseases, poor isolation or lack of good management make inspection inaccurate or might bring Certified seed into disfavor. Fields are subject to rejection for certification if the field was harvested before inspection.

E. Re-inspection of fields not properly identified or ready at inspection time shall be made at the discretion of the certification agency. Extra costs in such cases shall be borne by the grower.

X. Weeds

Every field for which certification is requested shall show that it has been well managed and that reasonable precautions have been taken to control noxious weeds. Prohibited and Restricted noxious weed seeds which are inseparable in available cleaning equipment from seed of the particular crop being inspected will be cause for rejection of the portion of the field in which these weeds are found. If any prohibited or restricted noxious weed seeds are found in the laboratory Noxious Examination, the entire lot of seed will be rejected (see exception for restricted weed seeds in grass species in the Grass Standards). The lot can be reconditioned, and a new sample submitted for reconsideration. Weeds classified as noxious by the Colorado State Law include the following list. Scientific names are given in parentheses.

A. Prohibited (Primary) Noxious Weeds

Anoda, spurred (*Anoda cristata*)
Bindweed, field (*Convolvulus arvensis*)
Bouncingbet (*Saponaria officinalis*)
Camelthorn (*Alhagi pseudalhagi*)
Chamomile, scentless (*Anthemis arvensis*)
Cinquefoil, sulfur (*Potentilla recta*)
Clematis, Chinese (*Clematis orientalis*)
Daisy, oxeye (*Chrysanthemum leucanthemum*)
Goatgrass, jointed (*Aegilops cylindrica*)
Halogeton (*Halogeton glomeratus*)
Horsenettle, Carolina (*Solanum carolinense*)
Horsenettle, white (*Solanum elaeagnifolium*)
Houndstongue (*Cynoglossum officinale*)
Johnsongrass (*Sorghum halepense*)
Knapweed, black (*Centaurea nigra*)
Knapweed, diffuse (*Centaurea diffusa*)
Knapweed, Russian (*Acroptilon repens*) (syn. *Centaurea repens*)
Knapweed, spotted (*Centaurea maculosa*)
Knapweed, squarrose (*Centaurea virgata*)
Loosestrife, purple (*Lythrum salicaria*) and (*Lythrum virgatum*)
Mallow, Venice (*Hibiscus trionum*)
Medusahead (*Taeniatherum caput-medusae*)
Millet, wild proso (*Panicum miliceum*, subsp. *ruderale*)
Nutsedge, yellow (*Cyperus esculentus*)
Povertyweed, silverleaf (*Ambrosia tomentosa*) (sny. *Franseria discolor*)
Povertyweed, woolyleaf (*Ambrosia grayi*) (syn. *Franseria tomentosa*)
Rocket, Dame's (*Hesperis matronalis*)
Rue, African (*Peganum harmala*)
Sage, Mediterranean (*Salvia aethiopis*)
Saltcedar (*Tamarix parviflora*) and (*Tamarix ramosissima*)
Skeltonweed, rush (*Chondrilla juncea*)
Sorghum, almum (*Sorghum* x *almum*)
Sowthistle, perennial (*Sonchus arvensis*)
Spurge, cypress (*Euphorbia cyparissias*)
Spurge, leafy (*Euphorbia esula*)
Spurge, myrtle (*Euphorbia myrsinites*)
St. Johnswort, common (*Hypericum perforatum*)
Starthistle, yellow (*Centaurea solstitialis*)

Tarweed, coast (*Madia sativa*)
Thistle, Canada (*Cirsium arvense*)
Thistle, musk (*Carduus nutans*)
Thistle, plumeless (*Carduus acanthoides*)
Thistle, Scotch (*Onopordum acanthium*) and (*Onopordum tauricum*)
Toadflax, Dalmatian (*Linaria dalmatica*)
Toadflax, yellow (*Linaria vulgaris*)
Whitetop (*Cardaria draba*)
Whitetop, hairy (*Cardaria pubescens*)
Whitetop, tall (*Lepidium latifolium*)
Woad, dyers (*Isatis tinctoria*)

B. Restricted (Secondary) Noxious Weeds [Colorado Seed Law limitation in seeds per pound]
Blueweed (*Helianthus ciliaris*) [200/lb]
Burdock, common (*Arctium minus*) [200/lb]
Butterprint or velvetleaf (*Abutilon theophrasti*) [10/lb]
Dock, curly (*Rumex crispus*) [50/lb]
Dodder (*Cuscuta* spp.) [20/lb]
Foxtail, giant (*Setaria faberi*) [50/lb]
Groundcherry, purple (*Quincula lobata*) (syn. *Physalis lobata*) [50/lb]
Hemlock, poison (*Conium maculatum*) [10/lb]
Henbane, black (*Hyoscyamus niger*) [10/lb]
Lettuce, blue (*Lactuca tatarica*, subsp. *pulchella*) (syn. *Lactuca pulchella*) [200/lb]
Mustard, black (*Brassica nigra*) [30/lb]
Mustard, India (*Brassica juncea*) [30/lb]
Mustard, wild (*Sinapsis arvensis*) (syn. *Brassica kaber*) [30/lb]
Oat, wild (*Avena fatua*) [10/lb in oats, barley, wheat, rye and triticale; 100/lb in all other species]
Plantain, buckhorn (*Plantago lanceolata*) [100/lb]
Povertyweed, mouse-ear (*Iva axillaris*) [200/lb]
Puncturevine (*Tribulus terrestris*) [50/lb]
Quackgrass (*Elytrigia repens*) (syn. *Agropyron repens*) [50/lb]
Sandbur, longspine (*Cenchrus longspinus*) [50/lb]
Thistle, bull (*Cirsium vulgare*) [10/lb]
Velvetleaf or Butterprint (*Abutilon theophrasti*) [10/lb]

XI. Harvesting and Storage

A. The harvesting of the seed crop must be carried out with the utmost precaution to avoid mechanical mixtures. All machines must be thoroughly cleaned before starting to harvest a crop to be Certified. The first cut around the field with a combine should be discarded. Adjustments should be made that will prevent cracking or other damage to the seed. Cracking causes extra clean-out loss, poor germination and shortens storage life of seed.
B. A record of the method of cleaning the harvesting equipment, the amount of seed discarded, and the name and address of the harvester shall be available to the Association Manager on request.
C. All seed for certification shall be stored in clean, well-identified bins or containers. The seed must be protected at all times before becoming mechanically mixed. Seed moisture must be checked repeatedly prior to and during storage to be sure that heating, insects, mold and excessive respiration does not cause a reduction in germination.
D. It is recommended that a representative sample be probed from the storage facility and submitted for germination and purity as soon as seed moisture has reached equilibrium.

XII. Conditioning of Seed

All seed that is eligible for final certification shall only be cleaned or conditioned by an approved conditioner. It is the responsibility of the grower to see that each lot of seed is properly cleaned. The grower may condition his own seed only if he is a Class V approved conditioner. Approval of approved conditioners shall be on an annual basis. For specific Certified seed conditioner requirements see the

Approved Certified Seed Conditioner Standards. Please refer to Appendix II (Class I) and Appendix III (Class V) of these Standards or contact the CSGA.

XIII. Transfer of Field-Approved Unconditioned Seed

A. Certifiable unconditioned seed may only be transferred from the grower to a Colorado Seed Growers Association Class I Approved Conditioner.

B. The conditioner must obtain proper information from the grower for each lot of seed and provide the information of the seed transfer on the Sample Seed Identification form (Form D) when submitting the seed sample for analysis. This must be mailed to the **Colorado Seed Growers Association, Department of Soil and Crop Sciences, Colorado State University, Fort Collins, Colorado 80523.**

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

D. When an approved conditioner takes the seed into his plant and recleans it, he must take a representative sample and send it to the Colorado Seed Growers Association. The sample should be obtained by a sampling device or by hand throughout the cleaning operation.

E. The approved conditioner may order tags or labels, and assumes the responsibility for proper labeling.

F. The Colorado Seed Growers Association reserves the privilege of making inspections and taking samples without notice during or after the conditioning and labeling of the seed. Seedlots found to be out of compliance are subject to revocation of certification.

XIV. Blending Lots of Seed

A. A grower may combine the production of two or more fields of the same crop variety. If seed lots of different classes are combined, the lowest class shall be applied to the resultant combination. The grower shall report this combination on the Seed Sample Identification form (Form D) when sending seed samples or test results to the association office.

B. Different lots of certifiable seed of the same variety produced by two or more growers may be blended only by a Class I approved conditioner working with regularly transferred field inspected seed lots. Separate samples of each lot must be submitted prior to blending, and a sample of the blended lot must be submitted. The Colorado Seed Growers Association must be notified of the amount of each lot used in the blend.

XV. Seed Sampling

A. A cleaned representative sample of each lot of seed conditioned must be sent to the Seed Growers Association for laboratory analysis to determine the purity and germination of the seed. A two-pound sample is required for most crops, but only one pound of alfalfa, sweet clover, red clover and small-seeded grasses is required.

B. The representative sample shall be drawn by the producer, approved conditioner or an authorized agent of the certifying agency. The sample should be obtained by a sampling device or by hand throughout the cleaning operation. If a sample was not obtained during conditioning, sample the top, middle and bottom of all sacks. In lots of 10 sacks or less, sample all sacks. In large lots, never sample less than 10 bags and/or at least 25% of the bags. Recleaned seed in bins should be sampled in at least 7 different places with a deep bin probe.

C. Non-free-flowing seed, such as certain grasses and other seeds difficult to sample with a probe shall be sampled by thrusting the hand into the bag or bulk and withdrawing representative portions. The hand is inserted in an open position and the fingers are held closely together while the hand is being inserted and the portion withdrawn.

D. As the seed is sampled, each portion shall be examined. If there appears to be a lack of uniformity, the portions shall not be combined, but shall be retained separately for laboratory analysis. If the portions appear uniform, they shall be combined to form a composite sample.

E. The **Seed Sample Identification Form (Form D)** should be completely filled out and submitted with the representative sample. Sample bags and Seed Sample Identification Forms may be obtained from the Colorado Seed Growers Association.

F. Pilot samples of bin-run seed are encouraged, since such a sample will allow the determination of other crop, weed seed content and germination. This information will aid the conditioner or potential buyer of the seed in determining clean-out losses and actual value of the seed.

G. A representative sample of carry-over Certified seed shall be submitted to one of the following:
   1. Colorado Seed Laboratory - Colorado State University.
   2. A commercial seed lab supervised by a registered seed technologist in good standing with the Society of Commercial Seed Technologists or the Association of Official Seed Analysts.

H. A sample of carry-over Certified seed must be submitted for new germination and date of test, if the previous test date has expired. A standard germination test is valid for thirteen months for most kinds of seed. Check with the State Department of Agriculture in the state where the seed is to be marketed for additional information. The owner of the seed lot is responsible for re-labeling of seed which has an outdated germination test.

XVI. Seed Testing and Labeling

A. Germination and purity analyses will generally be made by the Colorado Seed Laboratory, and must be made in accordance with the Rules for Testing Seeds established by the Association of Official Seed Analysts.

B. Seeds found to be "Dormant" or "Hard Seeds" in a normal germination test performed in accordance with AOSA Standards may contribute to the total germination of the seed lot. The percentage of Dormant or Hard Seed shall be listed on the tags, labels or bulk sales certificate for the seedlot.

C. Germination or Purity factors found in a lab analysis may be downgraded for labeling purposes as long as the downgraded figures fall into the tolerances set by the standards. Dormant or hard seed cannot be downgraded and must be reported on the tags, labels or bulk sales certificates exactly as received from the Seed Testing Lab.

D. Plant varieties which have been approved to receive protection under the Plant Variety Protection Act of 1970, and amended in 1994, shall be labeled with the words: "***U.S. Protected Variety - Unauthorized Propagation Prohibited***".

E. The use of the Seed Sample Identification Form -- Form D is recommended for all Certified seed samples.

XVII. Bags, Tags and Labels

A. All bags of seed sold as Colorado Breeders, Foundation, Registered, Certified, Tested, Selected or Source-Identified seed must have the appropriate tag or adhesive label properly affixed to the bag - **at first point of sale**, except small grains sold in bulk, as prescribed in Section XVIII.

B. The certification tag or label which is attached to the bag, serves to identify the variety, grower and/or processor and the lot number of the seed enclosed.
   1. An official Colorado Seed Growers Association tag or label shall be used for identifying Breeders, Foundation, Registered, Certified, Tested, Selected and Source-Identified seed.
   2. The official tags or labels of the Colorado Seed Growers Association are: black and white for Breeders or Foundation seed, purple for Registered seed, blue for Certified or Tested seed, green for Selected and yellow for Source-Identified seed. Tags and labels must meet the specifications of the Association of Official Seed Certifying Agencies.

C. The certification tag or label shall be attached to the container in a manner which prevents easy removal and reattachment.
   1. With fabric bags or open top paper bags, it is recommended the tag be sewn on the top of the bag. Tying the bag is satisfactory if the tag is attached so it cannot be removed and reused.
   2. Pressure sensitive or glue-on labels may be used for paper and plastic bags and all containers, including metal ones, except burlap bags. Labels must be glued to the container with an adhesive which prevents removal without destroying the label.
   3. Other methods for sealing of paper, plastic and metal containers may be used with prior approval of the Colorado Seed Growers Association.
   4. Valve-filled paper bags shall be considered adequately closed, and sufficiently tamper-proof

without sealing. However, sealing is preferred where practical by cementing the valve shut, by a sealing strip cemented over the valve or by a special stapling device.

D. Official tags and labels shall be furnished by the Colorado Seed Growers Association and must be affixed to the seed containers either by the grower, approved conditioner, or representative of CSGA.
E. Tags and labels shall be issued only to producers of Breeders, Foundation, Registered, Certified, Tested, Selected, or Source-Identified seed or propagating materials or to approved conditioners.
F. Unused tags or labels must be destroyed or returned to the Colorado Seed Growers Association. Unattached certification tags or labels must not be mailed or handed from one party to another.
G. New bags must be used to bag all Breeders, Foundation, Registered, Certified, Tested, Selected or Source-Identified seed or propagating materials.
H. On request, new certification tags or labels will be issued for carry-over seed after a new analysis report is received and certification requirements are met. All old tags and labels must be removed and destroyed and new tags or labels must be properly attached. New pressure sensitive labels must be attached directly upon old labels. The firm or person who has possession of carry-over Certified seed may attach separate analysis tags showing germination, date of test and other information if that seed meets Colorado Certification Standards and the procedure conforms to the seed law in the state where the seed is sold.
I. In order to allow seedsmen to bag and label in one operation, certification tags or labels may be pre-issued upon receipt of a completed field inspection report showing that field production standards have been met, even though final laboratory tests have not been completed. Any analysis information listed on the tag shall be reported as a figure that is reasonably achievable through normal conditioning and still within standards. In the event that final analysis shows lower figures than reported on the tag, the tags must be removed and new tags issued, or certification will be revoked. Such seedlots are not to leave the control of the conditioner until final certification is completed.

XVIII. Bulk Sales of Small Grains

A. Cleaned Registered or Certified seed of small grains may be sold directly to the planter by the grower or Class I conditioner specifically approved to handle Certified seed in bulk. The bulk sales certificate shall be filled out completely with one copy supplied to the purchaser, one copy forwarded to the Colorado Seed Growers Association and one copy retained by the seller.
B. Bulk Sales Certificates are available from the Colorado Seed Growers Association office at a cost of $1.00 each. Online Bulk Sales Certificates are available (call the office for instructions) at a cost of $0.50 each.
C. Bulk sales certificates are required to be filled out at the time of sale and are to accompany the load of seed as it leaves the seller. Failure to do so results in the revocation of certification for the seedlot.

XIX. Seed Treatment

Seed treatment to control seed borne diseases may be required in the Certification Standards for individual crops. State and Federal laws require that treated seed be labeled with the name of the treatment used and carry a warning statement to prevent such seed from being used in food or feed products. Certified seed shall comply with State and Federal laws governing the labeling of treated seeds. For the latest information it is suggested that the seed producer or conditioner contact the **Division of Plant Industry, Colorado Department of Agriculture, 700 Kipling Street, Suite 4000, Lakewood, Colorado 80215-5894. Phone (303) 239-4100.** It is very important that treated seed be labeled properly and handled in such a way to prevent injury to humans or animals.

XX. Substandard Seed in Emergency Situations

It is recognized that in certain situations, seeds may not germinate properly or minimum pure seed requirements cannot be met. Seed failing to meet certification standards in factors other than those affecting genetic purity may be Certified, providing there is no injury to the reputation of Certified seed. Therefore under such circumstances and by Action of the Board of Directors of the Colorado Seed Growers Association, the above seed may be Certified. Such seed will carry a regular tag plainly marked SUB-STANDARD for the specific reaction.

XXI. County Associations

Active county and area seed growers associations will be refunded $3 per each paid membership and 50¢ for each junior membership on request of the treasurer of said organization. The request for such refunds must be accompanied by a copy of the minutes of a meeting of the association held within the previous 12 months. In the event of multiple association meetings in a 12-month period, CSGA will refund a maximum of $3 per member even if the member attends more than 1 meeting.

XXII. Federal and State Seed Laws

Federal and State laws must be complied with in the production, conditioning, labeling, sampling, shipment and sale of Certified seed. Responsibility for any obligation other than those concerned with certification, arising from the sale or shipment of seed which has been Certified, rests with the grower or subsequent handler making the sale or shipment. The Colorado Seed Law is administered by the **Colorado Division of Plant Industry, Colorado Department of Agriculture, 700 Kipling Street, Suite 4000, Lakewood, Colorado 80215.**

All Certified seed growers must register annually with the Colorado Department of Agriculture in order to sell seed in Colorado. Contact the Department of Ag at the above address or phone 303-239-4100 for cost and application form.

XXIII. Interagency Certification

Interagency certification is the participation of two or more certifying agencies in performing the services required to certify the final lot or lots of seed. The standards and procedures used will be those as prescribed by the Association of Official Seed Certifying agencies and the certification standards of the states involved.

A. The seed shall meet standards at least equal to the minimum standards of Colorado for the seed in question.
B. Seed to be recognized for interagency certification must be received in containers carrying official certification labels or evidence of its eligibility from another official certifying agency (request Transfer of Seed Pending Certification Certificate from CSGA Office) which includes the following information:
   1. Variety and kind
   2. Quantity of seed (pounds or bushels)
   3. Class of seed
   4. Inspection of lot number traceable to the previous certifying agency's records
C. A signed copy of the official field inspection report and other pertinent records will accompany the request for certification.

XXIV. Distribution Summaries

Final seed distribution summaries may be required of the grower after the normal sales season. Such reports shall be made on forms furnished by the Colorado Seed Growers Association and at such a time as specified on the form.

For Winter Wheat: Seed Distribution Summaries are due to the CSGA Office on December 10th, annually. Incomplete or inaccurate reporting shall be reconciled by **January 1st** or the seed grower/retailer will be subject to a penalty of $200/variety. Failure to submit a Distribution Summary OR a Summary that remains incomplete or inaccurate after **February 1st** will result in the seed grower/retailer being penalized with double field fees the following season. If this occurs for any seed grower/retailer in two consecutive years, they will no longer be considered in Good Standing and will not be eligible to Certify (or sell Certified) seed in Colorado. In accordance, variety owners will be notified of this loss of certification priveledges.

XXV. Interpretation and Implementation of Rules

The Manager of the Colorado Seed Growers Association, with the consent of the Board of Directors shall have the authority to interpret and implement the rules of certification. Violators of the rules may be denied certification of seedlots and/or membership in the association subject to review by the board. A member of CSGA may appeal the Manager's interpretation of the rules of certification to the Board of Directors. If a field must be inspected before the Board can meet, the grower must pay actual inspection cost, regardless of the outcome of appeal.

XXVI. Definitions

A. Off-Types

"Off-type" means any seed or plant not a part of the variety in that it deviates in one or more characteristics from the variety as described, and may include, seeds or plants of other varieties; seeds or plants not necessarily any variety; seed or plants resulting from cross-pollination by other kinds or varieties; seeds or plants resulting from uncontrolled self-pollination during production of hybrid seed, or segregates from any of the above plants.

B. Inbred Line

An inbred line is a relatively true-breeding strain resulting from at least five successive generations of controlled self-fertilization or of backcrossing to a recurrent parent with selection of its equivalent.

C. Single Cross

The first generation of a cross of two inbred lines, an inbred line and a foundation backcross, or of two foundation backcrosses.

D. Foundation Single Cross

A foundation single cross is a single cross used in the production of foundation backcrosses or of double, three-way, or top crosses.

E. Foundation Backcrosses

1. A first generation foundation backcross shall be the first cross between a foundation single cross of related inbred lines and an inbred line which shall be the same as the one of the inbreds in the foundation single cross.
2. A second generation foundation backcross shall be the cross of a first generation backcross (ear parent) with its recurrent inbred parent (pollen parent).

F. Double Cross

A double cross is the first generation hybrid between two foundation single crosses.

G. Top Cross

The first generation of a cross between an open pollinated variety and an inbred line, a foundation backcross, or a foundation single cross.

H. Three-Way Cross

The first generation of a cross of a foundation single cross and an inbred line or a foundation backcross.

I. Open-Pollination

Open-pollinated seed is seed produced as a result of natural pollination as opposed to hybrid seed produced as a result of controlled pollination.

J. Variants

1. Variants are defined as seeds or plants which are (a) distinct within the variety but occur naturally in the variety, (b) are stable and predictable with a degree of reliability comparable to other varieties of the same kind, within recognized tolerances, when the variety is reproduced or reconstituted, and (c) which were originally a part of the variety as released. Variants are not to be considered off-types.
2. The breeder should identify variants as part of the variety description, but the expected rate of occurrence of the variant needs to be stated only when the Breeder considers the variant to be an aid in identifying the variety.
3. The tolerances in Table 4, Section 201.62, Part 201 of the Federal Seed Act must be applied to those variants which are described by the breeder as useful in identification of the variety.

K. Variety

The term "variety" (cultivar) means a subdivision of a kind which is distinct, uniform and stable, "distinct" in the sense that the variety can be differentiated by one or more identifiable morphological, physical or other characteristics from all other varieties of public knowledge; "uniform" in the sense that variations in essential and distinctive characteristics are describable; and "stable" in the sense that the variety will remain unchanged to a reasonable degree of reliability in its essential and distinctive characteristics and its uniformity when reproduced or reconstituted as required by the different categories of varieties.

L. Genetically engineered varieties are progeny of plants which have been produced by transformation and/or tissue culture selection to insert genes and/or select for value-added traits.
   1. When certifying genetically engineered varieties with genes for specific value-added traits, the Certification Agency should confirm the presence of these genes or traits, and that they occur at or above the minimum acceptable levels as indicated by the owners of such varieties.
   2. In cases where the Certification Agency has not been provided test protocols and/or does not possess capability for making such determinations, a representative of the Certification Agency may observe tests being performed by personnel of the owners of such varieties. In such cases, the Certification Agency must be provided with these test results, along with descriptions of procedures used in performing these tests. The test protocols and procedures may be designated as "confidential" by the company.

M. Genetic Manipulation
   Genetic manipulation involves "purposeful selection," such as recurrent selection, crosses within or between species, mutation inducement, biotechnology methods, etc.

N. Protocols should be established to minimize involuntary "non-purposeful" selection. If desired, the (Natural) designation may be printed on Source-Identified, Selected or Tested class or variety/cultivar, Foundation, Registered or Certified tags to indicate the "natural" genetic integrity of the germplasm collection, accessing or ecotype.

ALFALFA STANDARDS

I. Application and Amplification of General Certification Standards

The General Seed Certification Standards, as adopted by the Colorado Seed Growers Association, are basic, and together with the following specific standards, constitute the standards for certification of alfalfa seed.

II. Limitations

Limitations on the age of stand and pedigree classes of seed through which a given variety can be multiplied for both inside and outside the region of adaptation shall be specified by the originator or his designee. Certified seed production outside the region of adaptation shall not exceed six years if not otherwise specified by the originator or his designee.

A. The northern alfalfa region includes that part of Colorado located north of the 40th parallel.
B. The central alfalfa region includes that part of Colorado located south of the 40th parallel.

III. Land Requirements

A. A crop of the same kind must not have been grown or planted on the land for four, three and one year(s) prior to stand establishment for producing the Foundation, Registered and Certified classes, respectively; two years are required for the production of the Certified class of seed of varieties adapted to the northern and central regions following varieties adapted to the southern region.
B. During the year immediately prior to the seeding of any class of seed, the land shall be free from volunteer plants. No manure or other contaminating amendments shall be applied the year previous to seeding nor during the established and productive life of the stand.

IV. Handling Crop Prior to Inspection

Roguing to remove off-type plants, sweet clover and dodder and other noxious weeds is required prior to field inspection.

V. Field Inspection

A seedling inspection shall be made during the first season of planting. A field inspection shall be made after the crop is in bloom each year that certification is requested.

VI. Field Standards

A. General
1. Unit of certification - A portion of a field may be Certified if the area to be Certified is clearly defined. Portions of a field not meeting isolation requirements for certification must not be harvested as any certified class of seed.
2. Isolation - A field producing Foundation, Registered or Certified seed must have the minimum isolation distance from fields of any other variety or fields of the same variety that do not meet the varietal purity and generation requirements for certification, as follows:

a. I solation distance

	Isolation distance	
Seed class	Fields over 5 acres	Fields 5 acres or less
Foundation	600 feet	900 feet
Registered	300 feet	450 feet
Certified*	165 feet*	165 feet*

*Isolation requirements for the certified class are based on the size of the certified field and the percentage of the field within 165 feet of another variety of alfalfa. If 10 percent or less of the certified field is within the 165-foot isolation zone, no isolation is required -- only a definite separation. If more than 10 percent of the field is within the isolation zone, that part of the field must not be harvested as certified seed. The isolation zone is that area calculated by multiplying the length of the common border(s) with other

varieties of alfalfa by the average width of the certified alfalfa field falling within the 165-foot isolation distance requirement.

In those cases where a portion of a field meets isolation requirements, a clear line of demarcation shall be established between the Certified and noncertified portions of the field.

b. Isolation distance for Certified seed production of varieties adapted to the northern and central regions shall be 500 feet from varieties adapted to the southern region of adaptation.
c. Isolation distance between classes of the same variety may be reduced to 25% of that indicated above.

3. Volunteer plants - Volunteer plants may be cause for rejection or reclassification of a seed field.

B. Specific Requirements

Factor	Maximum permitted in each class		
	Foundation	Registered	Certified
Other varieties (ratio of plants)[1]	1:1000	1:400	1:100
Sweet clover (plants per acre)	None	10	160
Dodder and other noxious weeds	*	*	*

[1] Other varieties shall include off-type plants that can be differentiated from the variety being inspected.
* Fields must show that a reasonable effort has been made to control dodder and other noxious weeds. Due to the modern cleaning equipment now available, a tolerance is permitted in the field, but the seed standards permit no tolerance of noxious weeds.

VII. Sampling for Laboratory Analysis

A representative one-pound sample shall be submitted to the Colorado Seed Growers Association for analysis. This sample shall represent the seed which will be sold. If lots of different quality are offered for sale, a sample of each lot must be submitted for analysis.

VIII. Seed Standards

Factor	Standards for each class		
	Foundation (%)	Registered (%)	Certified (%)
Pure seed (minimum)	99.00	99.00	99.00
Inert matter (maximum)	1.00	1.00	1.00
Weed seed (maximum)	0.10	0.20	0.20
Noxious weed seed (maximum)	None	None	None
Total other crop seed[1] (maximum)	0.10	0.10	0.50
Germination and hard seed (minimum)	80.00	85.00	85.00

[1] Sweet clover seed shall not exceed 9 per pound for Foundation seed, 90 per pound for Registered seed and 180 per pound for Certified seed.

FIELD AND GARDEN BEAN STANDARDS

I. Application and Amplification of General Certification Standards

The General Seed Certification Standards, as adopted by the Colorado Seed Growers Association, are basic, and together with the following specific standards, constitute the standards for certification of field and garden bean seed.

II. Land Requirements

A. Beans cannot follow beans. If the same variety of the same certified class or higher is grown, one (1) growing season out of beans is required. Two growing seasons out of bean production are required between variety (including market class) changes. If bacterial blight or bacterial wilt is found during field inspection that field cannot be used for seed production for three (3) growing seasons.

B. Fields must be free of volunteer beans.

III. Handling Crop Prior to Inspection

Roguing to remove off-type plants, other bean varieties and market classes, other crops and inseparable weeds (including nightshade plants with seed pods) is required prior to field inspection.

IV. Field Inspection

A. Seed fields shall be inspected for isolation, off-type and diseased plants at the full bloom stage.

B. A second inspection for beans grown on irrigated land shall be performed at maturity.

V. Field Standards

A. General

1. Isolation - Fields for certification must be at least 60 feet from any other beans unless the other fields meet the requirements for certification. A blank border row shall be maintained between contiguous fields.
2. Fields must be free of any prohibited noxious weeds and those restricted noxious weeds difficult to separate. Fields may be refused certification due to unsatisfactory appearance caused by weeds, poor growth, poor stand, disease, insect damage and any other condition which prevents accurate inspections, or creates doubt as to the identity of the variety.

B. Specific

	Maximum permitted ratio of plants		
Factor	Foundation	Registered	Certified
Other varieties	1:2,000	1:1,000	1:500
Other kinds (inseparable)	None	1:2,000	1:1,000
Total seed borne diseases*	1:100	1:100	1:100
Bacterial bean blights**	None	None	None
Bacterial wilt	None	1:10,000	1:5,000
Anthracnose	None	1:10,000	1:5,000
Bean common mosaic virus	None	1:200	1:100
Nightshade plants (with pods)	1 plant/A	3 plants/A	5 plants/A
Noxious weeds (inseparable)	None	None	None

* White mold: If white mold is noted at inspection, it must be recorded on the inspection form. Seed must be thoroughly sampled and checked. **Bacterial bean blights include Bacterial Brown Spot, Common Bacterial Blight, and/or Halo Blight.

VI. Sampling for Laboratory Analysis

A representative two-pound sample shall be submitted to the Colorado Seed Growers Association for analysis. This sample shall represent the seed which will be sold. If lots of different quality are offered for sale, a sample of each lot must be submitted for analysis.

VII. Seed Standards

A. Seed samples shall meet the following standards for certification

	Standards for each class		
Factor	Foundation (%)	Registered (%)	Certified (%)
Pure seed (minimum)	95.00	98.00	98.00
Inert matter (maximum)	NS	2.00	2.00
Foreign matter (maximum)	NS	0.50	0.50
Splits and cracks (maximum)*	NS	2.00	2.00
Discolored (maximum)*	NS	2.00	2.00
Weed seeds (maximum)	NS	None	0.10
Nightshade seed	0.0001	0.0001	0.0001
Noxious weed seeds	None	None	None
Total other crop seed (maximum)	0.04	0.10	0.20
Other varieties (maximum)	0.02	0.05	0.20
Other kinds (maximum)	None	0.05	0.10
Germination (minimum)			
Field beans	NS	85.00	85.00
Garden beans	NS	75.00	75.00
White mold	None	None	0.0001

* Additional "Premium Seed" Standards: The total of inert, splits and cracks, discolored, other kinds, other varieties and weed seed, alone or in combination, shall not exceed 2.00%, except in Foundation Seed. Some seeds will exhibit more than one determining factor (inert matter, splits and cracks and/or discolored). The seed should only be categorized once, and in the following order: 1) Inert matter, 2) Splits and cracks if most severe factor, or 3) Discolored if equal or most severe factor.

NS = No Standard.

B. All foundation and registered beans must be treated before sale.

CANOLA AND MUSTARD STANDARDS

I. Application and Amplification of General Certification Standards

The General Seed Certification Standards, as adopted by the Colorado Seed Growers Association, are basic, and together with the following specific standards, constitute the standards for certification of canola and mustard seed.

II. Land Requirements

A. Foundation seed of canola or mustard shall be planted on land which did not produce canola, crambe or mustard during the previous five years. Certified seed of canola or mustard shall be planted on land which did not produce canola, crambe or mustard during the previous three years.

III. Handling Crop Prior to Inspection

Roguing to remove off-type plants, other varieties, other crops and inseparable weeds is required prior to field inspection.

IV. Field Inspection

Field inspection shall be made after the crop reaches the bloom stage (at least fifty percent of the plants showing one or more blossoms).

V. Field Standards

A. General

1. Unit of Certification - The field shall be considered the unit of certification; a field cannot be divided unless adequately marked. A portion of a field may be accepted for certification provided that the rejected portion in no way impairs the genetic purity of the portion accepted.
2. Isolation - A field producing any class of certified seed must have the minimum isolation distance from fields of any other variety of the same kind, or from a noncertified crop of the same variety as follows:
   (a) Producing Foundation seed - one thousand three hundred twenty feet [402.34 meters]. All Foundation fields of canola and mustard must be isolated by three hundred thirty feet [100.58 meters] from fields of the other kind (canola from mustard or crambe; mustard from canola or crambe).
   (b) Producing Certified seed - six hundred sixty feet [201.17 meters].
   (c) Required isolation between classes of the same variety - ten feet [3.05 meters].

B. Specific field standards

Factor	Maximum Permitted in Each Class	
	Foundation	Certified
Other varieties*	1:2,000	1:500
Inseperable other crops	1:2,000	1:500

*Other varieties include plants that can be differentiated from the variety being inspected, but shall not include variants characteristic of that variety.

VI. Seed Standards

Factor	Foundation (%)	Certified (%)
Pure seed (minimum)	99.00	99.00
Inert matter (maximum)	1.00	1.00
Prohibited noxious weeds*	None	None
Objectionable weed seeds**	1 per pound	5 per pound
Other weeds	5 per pound	15 per pound
Total other crop seeds (maximum)	0.05	0.25
Other varieties (maximum)	0.05	0.25
Other kinds (maximum) ***	0.01	0.01
Germination (minimum)	85.00	85.00
Sclerotia (maximum)	7 per pound	7 per pound

*Prohibited noxious weed seeds include the seeds of cleavers or bedstraw.
**Objectionable weed seeds are dodder, wild mustard, wild oats, quackgrass and hedge bindweed (wild morning-glory).
***Shall not exceed 1 per pound for Foundation and 6 per pound for Certified.

HYBRID CANOLA CERTIFICATION STANDARDS

I. Application and Amplification of General Certification Standards

A. The General Seed Certification Standards, as adopted by the Colorado Seed Growers Association, are basic, and together with the following specific standards, constitute the standards for certification of canola seed.

B. The Genetic Standards are modified as follows:

1. Definitions
   a. A line - line or population which is male sterile
   b. B line - male fertile line or population capable of maintaining male sterility
   c. Restorer line - line or population used as male parent which has the capability of restoring fertility to male sterile lines/populations which cross with them
   d. Self Incompatible line - male fertile line or population incapable of self-pollination due to self incompatibility
   e. Self Compatible line - male fertile line or population which is capable of self-pollination
2. Designation of Classes of Seed
   a. A Commercial hybrid is one to be planted for any use except seed production.
   b. Only the certified seed class is recognized in the production of commercial hybrid seed.
3. Unit of Certification
   The entire crossing field grown by and/or belonging to an applicant and used for seed must be eligible for seed.

II. Seed Requirements

Breeder or Foundation seed must be used to establish all fields of hybrid canola for certification. The direction of the cross must remain unchanged throughout the certification program unless adequate data is provided to the certification agency to show that no change in variety performance results from the reversal of parentage.

III. Land Requirements

A. Foundation Seed - Crops for foundation status must not be planted on land which has grown canola, mustard or oilseed radish during the preceding five years.

B. Certified Seed - Crops for certified status must not be planted on land which has grown canola, mustard or oilseed during the preceding three years.

C. Land used for all classes of certified seed production must be free from volunteer contaminating plants.

IV. Field Standards

A. Field Inspection
Fields producing foundation or certified seed must be inspected when the crop is in the early flowering stage of the female parent. Additional inspections may be warranted.

B. Isolations
Canola planted to produce foundation or certified seed must be isolated by 2,640 feet from any other canola crop.

C. Weeds
Fields for certification must be free of prohibited noxious weeds.

D. The table below indicates the maximum number of plants of other varieties or other crop kinds, permitted per 10,000 plants in the crop inspected.[1]

Inspected Crop	Maximum Impurity Tolerances	
	Off-types/Other Varieties	Plants of Other Brassica Crop Species
Brassica napus	1.5:10,000	1:10,000

V. Hybridity

A. Percent hybrid seed shall not be less than 75%.

B. Percent hybrid seed shall be determined by a method of acceptable accuracy which can be reproduced by a certification agency.

C. A declaration stating the minimum percent hybrid seed and the method of determining the hybridity must be submitted by the applicant to the certification agency prior to final certification.

VI. Seed Standards

General seed standards apply.

VII. Additional Declarations

The certification agency may require a certificate from an accredited laboratory indicating a satisfactory erucic acid and glucosinate content prior to final certification.

[1] Suggested Procedure: The inspector makes six counts of 10,000 plants per count in the field to be certified to determine the number of impurities. The **average** of the (six) counts must not exceed the number given for the impurity in the preceding table.

CROWNVETCH STANDARDS

I. Application and Amplification of General Certification Standards

The General Seed Certification Standards, as adopted by the Colorado Seed Growers Association, are basic, and together with the following specific standards, constitute the standards for certification of Crownvetch.

II. Land Requirements

A. A crop of the same kind must not have been grown or planted on the land for 5, 3 and 2 years prior to stand establishment for producing the Foundation, Registered and Certified seed classes, respectively.

B. The land must be free of volunteer plants of Crownvetch during the year immediately prior to establishment; and no manure or other contaminating material shall be applied the year previous to seeding or during the establishment and productive life of the stand.

III. Field Standards

A. General

1. Isolation

Minimum distance from a different variety or a non-certified crop of the same kind shall be:

	Isolation in feet*	
Class	Fields of less than 5 acres	Fields of more than 5 acres
Foundation	900	600
Registered	450	300
Certified	330	165

* The isolation distance between classes of the same variety may be reduced to 10 feet, regardless of class or size of field.

2. Volunteer plants may be the cause for rejection or reclassification of a seed field.

B. Specific

	Maximum other varieties permitted Ratio of plants		
	Foundation	Registered	Certified
Other varieties	1:1000	1:400	1:100

IV. Seed Standards

	Standards for each class		
Factor	Foundation	Registered	Certified
	%	%	%
Pure seed (minimum)	95.00	95.00	95.00
Inert matter (maximum)	5.00	5.00	5.00
Weed seed (maximum)	0.10	0.20	0.50

IV. Seed Standards (continued)

Factor	Standards for each class		
	Foundation %	Registered %	Certified %
Objectionable or noxious weed seeds (maximum)*			
Total other crop seeds (maximum)	0.20	0.35	2.00
Other varieties (maximum)	0.10	0.25	1.00
Other kinds (maximum)**	0.10	0.10	1.00
Germination and hard seed (minimum)	65.00	65.00	65.00
Germinable seed (minimum)	35.00	35.00	35.00

* Objectionable and/or noxious weed seeds shall include the following: Bracted plantain (*Plantago aristata*); buckhorn plantain (*Plantago lanceolata*); docks: curly (*Rumex crispus*), bitter (*R. obtusifolius*), green (*R. conglomeratus*), smooth (*R. altissimus*); wild carrot (*Daucus carota*); sorrel (*Rumex acetosella*); and such weeds as may be designated by the certifying agency; and shall not exceed 27, 45 and 90 per pound in Foundation, Registered and Certified classes, respectively.

Crownvetch seed shall be free of seeds of the following weeds: Bedstraw (*Galium spp.*), bindweed (*Convolvulus arvensis*), Canada thistle (*Cirsium arvense*), dodder (*Cuscuta spp.*), dogbane (*Apocynum cannabinum*), horsenettle (*Solanum carolinense*), leafy spurge (*Euphorbia esula*), pennycress (*Thlaspi arvense*), perennial sowthistle (*Sonchus arvensis*), Russian knapweed (*Centaurea repens*), and whitetop (*Cardaria draba, Cardaria pubescens*), and quackgrass (*Elytrigia repens*).

** Sweet clover seed shall not exceed None per pound for Foundation seed; 27 per pound for Registered seed; and 90 per pound for Certified seed.

GRASS STANDARDS

I. Application and Amplification of General Certification Standards

A. The General Seed Certification Standards, as adopted by the Colorado Seed Growers Association, are basic, and together with the following specific standards, constitute the standards for the certification of grasses.

B. All classes of Certified seed may be produced from vegetatively propagated planting stock in accordance with the procedure specified by the originator, but in such cases, the standards for vegetatively propagated grasses shall apply.

II. Establishing the Source

A. Evidence, such as certification tag, sales record, Certified seed site identification log, etc., must be submitted to the certifying agency to establish source of seed or plant materials.

B. The exact source of the parent plants by legal description and the stand history must be known and will be shown (geographic, elevation, etc.) on the certification tag or label.

III. Land Requirements

A. The production of Foundation seed shall be on land that has not grown or been seeded to the same species during the previous five crop years.

B. The production of the Registered or Certified classes shall be on land that has not grown or been seeded to the same species during the previous crop year, except a Certified class of the same variety equal or superior to that of the crop seeded.

C. Application to establish pedigree must be made within one year of seeding. The crop will remain under supervision of the certifying agency as long as the field is eligible for certification.

IV. Eligibility Requirements for Certification of Grass Varieties and Species

A. Only those varieties and species that are accepted by the Colorado Agricultural Experiment Station and/or the Colorado Seed Growers Association will be eligible for certification. Application forms for acceptance of privately developed varieties are available from Colorado Seed Growers Association.

B. For the Tested, Selected and Source-Identified classes, the applicant shall submit to the certifying agency, prior to the start of collections, an identification log (provided by CSGA) as follows:

1. Collector's name, address and telephone number.
2. Permit number, contract number, private land designation, etc.
3. Species and common name.
4. Location (State, County and elevation). It is strongly recommended additional information, such as soil type, aspect and associated species, be given, as this information would be extremely useful to the end user.
5. Date(s) collected.
6. Amount collected.
7. Lot designation (must be indicated on bag or container, also).
8. Signature of collector that the information is correct.
9. Signature of seed broker that to his knowledge the information is correct.
10. Description of plant with picture or drawing, if possible, or a document from an identification authority verifying the identity of the species.

C. Source-identified seed, or plants, cannot be collected from irrigated areas, unless predetermined to be of proven genetic origin.

V. Unit of Certification

A. The field shall be considered the unit for certification; a field cannot be divided unless adequately marked.

B. Six classes of certification shall be recognized: Foundation, Registered, Certified, Tested, Selected and Source-Identified.
   1. Foundation (white tag). Foundation seed or plant material shall be so handled to most nearly maintain specific genetic identity and purity, and which may be produced by an Agricultural Experiment Station, or originator. Foundation stock shall be the source of Registered and/or Certified stock.
   2. Registered (purple tag). Registered seed or plant materials shall be the progeny of Foundation seed or plant material. Registered stock is the parent stock for the production of Certified stock.
   3. Certified (blue tag). Certified seed or plant materials shall be the progeny of Foundation or Registered seed or plant materials and should have been so handled as to maintain genetic identity and purity.
   4. Tested (blue tag). Tested propagating materials shall be the progeny of plants whose parentage has been tested and has proven genetic superiority or possesses distinctive traits for which the heritability is stable, as defined by the certifying agency, but for which a variety has not been named or released. This seed must be produced so as to assure genetic purity and identity from either:
      a. Rigidly controlled and isolated natural stands or individual plants.
      b. Seed fields.
   5. Selected (green tag). Selected propagating materials shall be the progeny of phenotypically selected plants of untested parentage that have promise but not proof of genetic superiority or distinctive traits, produced so as to ensure genetic purity and identity from either:
      a. Natural stands or seed production areas.
      b. Seed fields.
   6. Source-Identified (yellow tag). Source-Identified propagating materials are seed, seedlings or other propagating materials collected from natural stands, seed production areas or seed fields where no selection or testing of the parent population has been made.

VI. Handling of Crop Prior to Inspection

A field must be rogued prior to blooming to remove off-type plants and prior to harvest to remove other grasses and weeds, the seed of which cannot be separated mechanically.

VII. Field Inspection

A. A seedling inspection shall be during the seeding year to check for volunteer plants, isolation distance and potential noxious weed problems, and a field inspection shall be made each year that a Foundation, Registered, Certified, Tested, Selected or Source-Identified class is to be harvested.
B. Inspection of stands, designated sites, collection areas, etc., for Tested, Selected and Source-Identified classes shall be sufficient to determine geographic source, location and elevation in increments of 500 feet, for each species being collected.
C. Established fields which have not been field inspected for two or more consecutive years shall be considered ineligible for certification unless prior approval has been given.
D. Conditioning and warehouse inspections shall be made to assure proper identity and compliance with field standards.
E. All conditioning records involved in receiving, conditioning, storage, labeling, and shipping shall be available for inspection by the certifying agency.
F. The certifying agency reserves the right to reject from certification any lot of seed that has not been properly protected from contamination or is not properly identified.

VIII. Field Standards

A. General - Isolation
   1. A strip at least 5 feet wide which is mowed, uncropped, or planted to some crop other than the kind in question shall constitute a field boundary.
   2. The following isolation requirements shall be met when any other strain or strains of the species are in bloom at the same time, except that the minimum isolation for all seed classes of tetraploids shall be 15 feet from diploids of the same species.

Isolation Standards

Type	Border to be removed* (feet)	Minimum isolation (feet)** Foundation	Registered	Certified
Cross-pollinated	0	900	300	165
	9	600	225	100
	15	450	150	75
Strains at least 80% apomictic	0	60	30	15
& highly self-fertile species	9	30	15	15

* Where a border is to be removed, it shall not occur until pollination of the crop to be Certified is completed.
** When different classes of seed of the same variety are being grown on the same or adjacent fields, the isolation requirements may be reduced to 25% of that indicated above.

B. Specific

Factor	Maximum permitted ratio of plants Foundation	Registered	Certified
Inseparable grass species	1:1000	1:200	1:100
Other varieties*	1:1000	1:100	1:50

* Other varieties shall be considered to include plants that can be differentiated from the variety that is being inspected.

C. Length of stand requirement
1. The life of the stand shall be unlimited, as long as 75% of the plants present in the stand are those that were planted originally.
2. Exceptions may be otherwise specified by the originator of the variety or his designee.

IX. Sampling for Laboratory Analysis

A representative one-quart sample shall be submitted to the Colorado Seed Growers Association for analysis. This sample shall represent the seed which will be sold. If lots of different quality are offered for sale, a sample of each lot must be submitted for analysis.

X. Seed Standards

A. General seed standards

Factor	Maximum permitted in each class Foundation	Registered	Certified
Prohibited noxious weeds	None	None	None
Restricted noxious weeds	None	½ State standard	State standard
Total other crop seed	0.20%	1.00%	2.00%
Other varieties	0.10%	1.00%	2.00%
Other inseparable species	0.10%	0.10%	0.25%
In grass for forage use	0.10%	0.10%	0.50%

B. Specific

1. Nonchaffy-seeded species**

Species	Type of repro-duction*	% inert matter (maximum) F&R	% inert matter (maximum) C	% weed seed (maximum) F&R	% weed seed (maximum) C	% pure seed (minimum) F&R	% pure seed (minimum) C	% total viability (germination + dormancy) (minimum) F, R & C
Alkali Sacaton (*Sporobolus airoides*)	C	13.00	13.00	0.30	0.50	87.00	87.00	65.00
Bentgrass (*Agrostis* spp.)	C	4.00	4.00	0.30	0.50	96.00	96.00	80.00
Bluegrass								
Big (*Poa secunda*)	A	10.00	10.00	0.30	0.50	90.00	90.00	70.00
Kentucky (*Poa pratensis*)	C & A	10.00	15.00	0.30	0.50	90.00	90.00	75.00
Bromegrass								
Meadow (*Bromus biebersteinii*)	C	15.00	15.00	0.30	1.00	85.00	85.00	80.00
Mountain (*Bromus marginatus*)	S	10.00	10.00	0.30	0.50	90.00	90.00	85.00
Smooth (*Bromus inermis*)	C	15.00	15.00	0.30	1.00	85.00	85.00	80.00
Canarygrass, Reed (*Phalaris arundinacea*)	C	4.00	4.00	0.30	0.50	96.00	96.00	75.00
Fescue								
Arizona (*Festuca arizonica*)	C	10.00	10.00	0.05	0.30	90.00	90.00	50.00
Chewings (*Festuca rubra*, var. *commutata*)	C	2.00	2.00	0.30	0.50	98.00	98.00	80.00
Meadow (*Festuca pratensis*)	C	5.00	5.00	0.30	0.50	95.00	95.00	80.00
Red (*Festuca rubra*)	C	2.00	2.00	0.30	0.50	98.00	98.00	80.00
Sheep (*Festuca ovina*)	C	5.00	8.00	0.30	0.50	95.00	95.00	80.00
Tall (*Festuca arundinacea*)	C	5.00	5.00	0.30	0.50	95.00	95.00	80.00
Foxtail, Creeping(*Alopecurus arundinaceus*)	C	20.00	20.00	0.50	0.50	80.00	80.00	80.00
Galleta, florets (*Hilaria jamesii*)	C	60.00	60.00	0.50	1.50	40.00	40.00	60.00
caryopsis	C	15.00	15.00	0.50	1.50	85.00	85.00	60.00
Indian Ricegrass (*Oryzopsis hymenoides*)	C	15.00	15.00	0.30	0.50	85.00	85.00	70.00
A tetrazolium (TZ) test is accepted as a measure of total viability for Indian Ricegrass (CO).								
Lovegrass								
Sand (*Eragrostis trichodes*)	S	3.00	3.00	0.50	1.50	97.00	97.00	80.00
Weeping (*Eragrostis curvula*)	S	3.00	3.00	0.30	0.50	97.00	97.00	80.00
Orchardgrass (*Dactylis glomerata*)	C	15.00	15.00	0.30	0.50	85.00	85.00	80.00
Spike Muhly (*Muhlenbergia wrightii*)	C	15.00	15.00	0.50	0.50	85.00	85.00	85.00
Switchgrass (*Panicum virgatum*)	C	10.00	10.00	0.50	1.50	90.00	90.00	60.00

B. Specific *(cont.)*

1. Nonchaffy-seeded species**

Species	Type of reproduction*	% inert matter (maximum) F&R	% inert matter (maximum) C	% weed seed (maximum) F&R	% weed seed (maximum) C	% pure seed (minimum) F&R	% pure seed (minimum) C	% total viability (germination + dormancy) (minimum) F, R & C
Tall Oatgrass (*Arrhenatherum elatius*)	C	15.00	15.00	0.30	0.50	85.00	85.00	70.00
Timothy (*Phleum pratense*)	C	3.00	3.00	0.30	0.50	97.00	97.00	80.00
Wheatgrass								
Beardless (*Pseudoroegneria spicata*)	C	15.00	15.00	0.30	0.50	85.00	85.00	80.00
Crested (*Agropyron cristatum, desertorum*)	C	10.00	10.00	0.30	0.50	90.00	90.00	80.00
Intermediate(*Elytrigia intermedia subsp. Int.*)	C	10.00	10.00	0.30	0.50	90.00	90.00	80.00
Newhy (*Elymus hoffmannii*)	C	15.00	15.00	0.30	0.50	85.00	85.00	80.00
Pubescent (*Elytrigia intermedia subsp. Int.*)	C	10.00	10.00	0.30	0.50	90.00	90.00	80.00
Slender (Elymus trachycaulus subsp. trachy.)	S	15.00	15.00	0.30	0.50	85.00	85.00	80.00
Streambank (*Elymus lanceolatus subsp. lance.*)	C	10.00	10.00	0.20	0.30	90.00	90.00	80.00
Tall (Elytrigia elongata)	C	10.00	10.00	0.30	0.50	90.00	90.00	80.00
Thickspike(*Elymus lanceolatus,* subsp. *lanceolatus*)	C	10.00	10.00	0.20	0.30	90.00	90.00	80.00
Western (*Pascopyrum smithii*	C	15.00	15.00	0.30	0.50	85.00	85.00	60.00
Wildrye								
Basin (*Leymus cinereus*)	C	10.00	10.00	0.30	0.50	90.00	90.00	80.00
Canada (*Elymus canadensis*)	S	15.00	15.00	0.30	0.50	85.00	85.00	70.00
Mammoth (*Lymus racemosus,* subsp. *racemosus*)	C	10.00	10.00	0.30	0.50	90.00	90.00	70.00
Russian (*Psathyrostachys juncea*)	C	10.00	10.00	0.30	0.50	90.00	90.00	80.00

2. Chaffy-seeded species **

Species	Type of reproduction*	% weed seed (maximum) F & R	% weed seed (maximum) C	Pure live seed index*** F, R & C
Bluestem				
Big (*Andropogon gerardii*)	C	1.00	2.00	25
Caucasian (*Bothriochloa bladii*)	A or S	0.30	0.50	12
Little (*Schizachyrium scoparium*)	C	1.00	2.00	12
Sand (*Andropogon hallii*)	C	1.00	2.00	20
Yellow-Turkestan(*Bothriochloa ischaemum*)	A or S	0.30	0.50	12
Buffalograss [burs](*Buchloe dactyloides*)	C	0.30	0.50	8
Buffalograss [treated or dehulled] (*Buchloe dactyloides*)	C	0.30	0.50	60
Grama, Blue (*Bouteloua gracilis*)	C	0.30	0.50	24
Grama, Side-oats (*B. curtipendula*)	C & A	1.00	2.00	30
Indiangrass (*Sorghastrum nutans*)	C	1.00	2.00	25

* C = cross-pollinated species; A = apomictic species; S = self-pollinated species.
** In determining purity and germination for these species, the seed unit shall be defined by AOSA (Association of Official Seed Analysts) rules.
*** When pure live seed index is used as a basis for certification, label shall bear percent germination, dormant seed and purity. Pure live seed equals percent purity times percent total viability divided by 100.

IX. Seed Standards for Sod Quality

Kind	Pure seed (min.)	Germination (min.)	Other crop (max.)*	Weed seed (max)***
Kentucky bluegrass (Merion)	96%	80%	0.1%**	0.02%
Kentucky bluegrass (other varieties)	97%	80%	0.1%**	0.02%
Chewings fescue	98%	90%	0.1%	0.02%
Red fescue	98%	90%	0.1%	0.02%
Tall fescue	98.5%	80%	0.1%****	0.02%

* Must be free of alfalfa, ryegrass, orchardgrass, timothy, bentgrass, big bluegrass, rough bluegrass, smooth brome, reed canarygrass, tall fescue, clover and meadow foxtail.
** Other Kentucky bluegrass: 2% maximum allowable.
*** None of the prohibited noxious weeds listed in the General Standards, nor any dock, chickweed, crabgrass, plantain, short-awn foxtail, black medic, annual bluegrass, velvetgrass or rattail fescue allowed in any class of seed. A minimum of 50 grams will be tested for the noxious weed exam.
**** Orchardgrass seed in tall fescue seed shall not exceed 20/lb based on analysis of a 5 gram sample.

Grass varieties eligible for this special sod quality program shall follow the regular certification specific standards as listed in the above table. Also, a distinct sod quality tag will be attached to the container along with the regular certification tag on eligible seed meeting the added requirements of this high quality program. Growers are to note on the application any fields intended for sod quality certification.

INDUSTRIAL HEMP STANDARDS

I. APPLICATION OF GENETIC CERTIFICATION STANDARDS

A. The Genetic Certification Standards in Chapter 1 are basic.

B. The Genetic Standards are modified as follows:

1. All production of industrial hemp crops are subject to license application approval that may be required by regulatory authorities.
2. Only varieties of industrial hemp approved by regulatory authorities are eligible for certification.
3. The allowable area of an industrial hemp research area or production field may be determined by state or local agencies.
4. Growers may be required by regulatory agencies to obtain THC test results according to applicable regulations. Growers may be required to submit these results to the seed certifying agency before a crop certificate is issued.

II. LAND REQUIREMENTS

A. Crops should not be planted on land where volunteer growth from a previous crop may cause contamination.

B. Fields for Foundation and Registered classes of industrial hemp seed must not be planted on land which in the previous 5 years grew a crop of industrial hemp or tobacco.

C. Crops for Certified seed must not be grown on land which in the preceding 3 years produced a crop of industrial hemp or tobacco.

D. Weeds

1. Fields may be refused certification due to excessive weeds.
2. The presence of Broomrape (*Orobanche spp.*) in an industrial hemp field may be cause for declining certified status.

III. FIELD STANDARDS

A. CROP INSPECTION

1. It is the grower's responsibility to ensure that fields are inspected by an authorized inspector at least twice prior to swathing or harvesting, except in the case of Foundation and Registered monoecious type and unisexual female hybrids, in which 2 inspections are required.
2. Fields will be planted to facilitate inspection, roguing, and harvesting.
3. Fields will be planted in a manner that is easily accessible for frequent maintenance and to provide the maximum protection from outside sources of contamination (such as roadways and building sites).
4. A field that is cut, swathed or harvested prior to crop inspection is not eligible for certification.
5. Fields must be inspected at a stage of growth when varietal purity is best determined. Crops not inspected at the proper stage for best determining varietal purity may be cause for declining certified status.
   a. First inspection must be made before female (pistillate) flowers of the inspected crop are receptive and after the formation of male (staminate) flowers, preferably before pollen is shed.
   b. Second inspection must be made during the receptive stage of the female plants in the inspected field, normally within 3 weeks of first inspection.
   c. If a third inspection is necessary, it must be made when off-type female flowers can be identified.
   d. Isolation areas will be inspected for volunteer plants and harmful contaminants on each inspection.

B. ISOLATION

1. Isolation areas must be kept free of any harmful plants that can cause contamination. Under optimum conditions, not more than 1 plant per 11 square feet of harmful contaminants (species that can cross pollinate with the inspected crop) are permitted within the required isolation distance(s) adjacent to the inspected crop. The conditions of each crop are assessed by the seed certifying agency which may alter this standard, usually by reducing the number of contaminant plants permitted per square yard, according to the contamination risks involved.
2. The required isolation as outlined in Table 1 must be in place prior to the time of flowering and crop inspection.
3. If dioecious male plants start flowering before removal from field, all plants around them should be destroyed for a radius of 10 feet for Foundation and 6 feet for Registered seed crops.

Table 1 -
Minimum Isolation Distances Required Between Inspected Industrial Hemp and Other Crops

Inspected Crop	Other Crops	Isolation Distance Required (feet)
Dioecious type – Foundation	- Different varieties of Industrial Hemp - Non-certified crop of Industrial Hemp	15,748
	- Lower certified class seed crop of same variety	6,460
	- Same class of certified seed crop of same variety	10
Dioecious type – Registered	- Different varieties of Industrial Hemp - Non-certified crop of Industrial Hemp	15,748
	- Seed crop of same variety that meets Certified standards for varietal purity	5249
	- Seed crop of same variety that meets Registered standards for varietal purity	3
Dioecious type – Certified	- Different varieties of Industrial Hemp - Non-certified Industrial Hemp	2624
	- Planted with certified seed of the same variety that meets Certified standards for varietal purity	656
	- Seed crop of same variety that meets Certified standards for varietal purity	3
Monoecious type – Foundation	- Dioecious variety of Industrial Hemp - Non-certified crop of Industrial Hemp	15,748
	- Other Monoecious varieties - Lower certified class seed crop of same variety	9.690
	- Same class of certified seed of same variety	16
Monoecious type – Registered	- Dioecious variety of Industrial Hemp - Non-certified crop of Industrial Hemp	15,748
	- Different varieties of the same type of Industrial Hemp (Monoecious or Female Hybrid)	6,460
	- Seed crop of same variety that meets Certified standards for varietal purity	3,230
	- Seed crop of same variety that meets Registered standards for varietal purity	3
Monoecious type – Certified	- Dioecious variety of Industrial Hemp - Non-certified crop of Industrial Hemp	3,230
	- Different varieties of the same type of Industrial Hemp (Monoecious or Female Hybrid) - Planted with certified seed of the same variety that meets Certified standards for varietal purity	656
	- Seed crop of same variety that meets Certified standards for varietal purity	3

C. IMPURITY STANDARDS

1. Impurities should be removed prior to crop inspection.
2. Any combination of impurities may be reason for declining certified status.
3. An Industrial Hemp crop for certified status, unless otherwise specified by the Breeder, must not exceed the limits, as outlined in Table 2., of harmful contaminants (species that can cross pollinate with the inspected crop), plants of other varieties or distinct types foreign to the variety being inspected, weeds or other crops with seeds that are difficult to separate from Industrial Hemp seed (e.g. Hemp Nettle).
4. Table 2 indicates the maximum number of impurities permitted by AOSCA in approximately 10,000 plants of the inspected crop. The inspector makes at least 6 counts (10,000 plants each) or the equivalent to determine the number of impurities. The resulting average of these counts must not exceed the maximum impurity standards in Table 2.

Table 2 - Maximum Impurity Standards

Plot Crop	**Maximum Impurity Standards per 10,000 plants in Industrial Hemp Seed Crops**	
	Maximum Number of Dioecious Male Plants Shedding Pollen	Maximum Number of Off-Types or Other Varieties
Dioecious type – Foundation	–	3
Dioecious type – Registered	–	10
Dioecious type – Certified	–	20
Monoecious type –Foundation	1	3
Monoecious type – Registered	2	10
Monoecious type – Certified	100	20

IV. SEED STANDARDS

INDUSTRIAL HEMP SEED STANDARDS

Standards for Each Class

Factor	**Foundation**	**Registered**	**Certified**
Pure seed (minimum)	98.0%	98.0%	98.0%
Inert matter (maximum)	2.0%	2.0%	2.0%
Weed seeds (maximum)	0.10%	0.10%	0.10%
Total other crop seeds (maximum)	0.01%	0.03%	0.08%
Other varieties (maximum)	0.005%	0.01%	0.05%
Other kinds (maximum)*	0.01%	0.03%	0.07%
Germination (minimum)	80.0%	80.0%	80.0%

*Other kinds shall not exceed 2 per lb. (454 grams) for Foundation; 6 for Registered; 10 for Certified.

Guidelines for the Production of Certified Industrial Hemp Seed

1. Definitions
   - Industrial Hemp (*Cannabis sativa L.*) includes varieties of these kinds:
   - Dioecious type: with male and female flowers on separate plants.
   - Monoecious type: with male and female flowers on the same plant.
   - (Unisexual Female) Hybrids: with sterile male and fertile female flowers on the same plant.
   - "Approved Cultivar" means any variety designated as eligible for production by federal or local regulatory authorities
   - "THC" means delta-nine (Δ9) tetrahydrocannabinol, which is the component of Industrial Hemp regulated by federal or local regulatory authorities.
   - Although traditionally a crop with a dioecious plant type (similar to open pollinated corn), many monoecious varieties of hemp (*Cannabis sativa L.*) have been developed. Hemp is sexually polymorphic and often produces many different ratios of intersexual plant types that can increase roguing requirements. Variety descriptions normally define these ratios.

2. Foundation Seed Production

   Any means of processing or conditioning of seed from a Foundation production area which may contaminate the varietal purity of the seed is prohibited

   Area of Foundation Fields

   When unforeseen circumstances do not permit proper maintenance of the entire field, it is recommended that the area be reduced by destroying part of the field or by isolating a part to meet the requirements of a lower status of certified seed. The remainder of the field must meet the requirements for Foundation field production.

   The area of a Foundation field includes the "walkways" provided within the field to facilitate effective roguing.

3. Recommended Production Procedures

   Field Planting

   a) Fields will be planted to facilitate inspection, roguing and harvesting.
   b) Fields will be planted in areas easily accessible for frequent maintenance and to provide the maximum protection from outside sources of contamination, such as roadways and building sites.
   c) Regulations for land requirements are minimum standards and caution is necessary in choosing land, as volunteer growth from previous crops may vary according to local conditions.
   d) The regulations for isolation are minimum standards. It is always to the grower's advantage to provide more isolation than required. When planting Foundation fields, specific requirements may influence the location and size of the field. It is a safeguard if adjacent crops are the same variety as the field and are inspected for certified status.

   Roguing

   a) The field must be thoroughly and intensively rogued many times throughout the crop season.
   b) Off-type male flowers must be removed before the receptive stage of female flowers in the inspected crop.
   c) The numbers and kinds of plants removed should be recorded and described on the appropriate forms.

d) All male flowers rogued from the crop must be removed from the production area and burial is recommended.

e) Regrowth of rogued flowers or plants must be prevented.

Harvesting, Cleaning and Storing

a) A seed grower should have access to the necessary equipment for harvesting and cleaning the seed from the field in such a manner as to ensure that the varietal purity of the seed is maintained.

b) The seed should be stored, in compliance with federal or local regulations, in a clean, cool, dry area.

c) The seed containers should be labelled for identification.

It is recommended that not more than one variety of Industrial Hemp be grown under the management of one grower.

SELF-POLLINATED MILLET STANDARDS
(Proso Millet and Foxtail Millet)

I. Application and Amplification of General Certification Standards

The General Seed Certification Standards, as adopted by the Colorado Seed Growers Association, are basic, and together with the following specific standards, constitute the standards for certification of millet seed.

II. Land Requirements

Millet shall be grown on land on which the preceding crop was of another kind or planted to a Certified crop of the same variety of an equal or higher seed class.

III. Handling of Crop Prior to Inspection

Roguing to remove off-type plants, other varieties, other crops and inseparable weeds is required prior to field inspection.

IV. Field Inspection

Fields shall be inspected after the seed begins to mature.

V. Field Standards

A. General

1. Unit of Certification - A portion of the field may be accepted for certification provided the remainder of the field within the isolated distance meets the certification standards for varietal purity.
2. Isolation - Fields shall be separated by a strip at least 10 feet wide. A greater separation will be required if necessary to prevent mechanical mixtures. The strip may be mowed, uncropped or planted to some crop other than the kind being certified.

B. Specific

	Maximum permitted ratio of plants		
Factor	Foundation	Registered	Certified
Other varieties (maximum)	1:3,000	1:2,000	1:1,000
Inseparable other crops (maximum)	1:10,000	1:10,000	1:2,000
Noxious weeds	None	None	None

VI. Sampling for Laboratory Analysis

A representative one-pound sample shall be submitted to the Colorado Seed Growers Association for analysis. This sample shall represent the seed which will be sold. If lots of different quality are offered for sale, a sample of each lot must be submitted for analysis.

VII. Seed Standards

	Standards for each class		
Factor	Foundation (%)	Registered (%)	Certified (%)
Pure seed (minimum)	98.00	98.00	98.00
Inert matter (maximum)	2.00	2.00	2.00
Weed seeds (maximum)	0.05	0.25	0.25
Noxious weeds	None	None	None
Other crops (maximum)	0.06	0.11	0.22
Other varieties (maximum)	0.05	0.10	0.20
Other kinds (maximum)*	0.01	0.01	0.02
Germination (minimum)	70.00	70.00	70.00

* Kind refers to proso, foxtail, etc.

SMALL GRAIN STANDARDS
(Wheat, Oats, Barley, Triticale and Rye)

I. Application and Amplification of General Certification Standards

The General Seed Certification Standards, as adopted by the Colorado Seed Growers Association, are basic, and together with the following specific standards, constitute the standards for certification of small grain seed.

II. Land Requirements

A. A crop of small grain will not be eligible for certification if planted on land on which the same variety was grown the previous cropping year, unless the previous crop was grown from any class of Certified seed of the same variety. A crop of small grain will not be eligible for certification as Foundation or Registered class if planted on land where the same crop kind but different variety was grown in either of the last two cropping seasons. For Certified class the restriction shall be one year, with the exception of two cropping seasons when a white wheat variety follows a red wheat variety or vice versa.

III. Handling Crop Prior to Inspection

Roguing to remove off-type plants, other varieties, other crops and inseparable weeds is required prior to field inspection.

IV. Field Inspection

Field inspection shall be made after the crop is fully headed when varietal and crop mixtures can be determined.

V. Field Standards

A. General

1. Unit of Certification - The field shall be considered the unit of certification; a field cannot be divided unless adequately marked. A border strip at least 10 feet from another crop or variety must not be harvested until all Certified seed has been removed from the field. The grain from this strip must not be used for seed.
2. Isolation
   a. Wheat, oats, barley, triticale - A field shall be separated by a strip of ground adequate to make positive identification of the field boundary. At harvest, a 10-foot border strip must be left when next to another crop or variety for the Certified, Registered and Foundation classes of seed. When a white wheat variety is planted next to a red wheat variety, a 30-foot border strip must be left in each field for the Registered class, and a 60-foot border strip must be left in each field for the Foundation class.
   b. Rye - A field producing any class of Certified seed must be isolated by at least 600 feet from rye fields of any other variety or fields of the same variety that do not meet the varietal purity requirements of the class of seed inspected and are of the same chromosome number. Isolation between diploid and tetraploid rye shall be at least 15 feet.

B. Specific

Factor	Maximum permitted ratio of plants/heads		
	Foundation	Registered	Certified
Other varieties	1:3,000	1:2,000	1:1,000
Inseparable other crops*	1:10,000	1:10,000	1:2,000
In malt barley	None	1:100,000	1:50,000
Rye in wheat, triticale, barley and oats	None	None	None
Triticale in wheat	None	None	1:2,000
Noxious weeds whose seeds are inseparable**	None	None	None
Wild oats***	None	None	1 plant/10A
Loose smut****	1:5,000	1:2,000	1:1,000

* Inseparable other crops shall include crop plants, the seed of which cannot be thoroughly removed by the usual methods of cleaning. Barley in oats is a well known example.

** Noxious weeds are designated in the Colorado State Seed Law. Any field found to contain jointed goatgrass plants (that have set seed) at an average density of greater than one plant per 100 square feet shall require a 30 lb (pound) seed sample and shall be subject to bin inspection. Any field found to contain jointed goatgrass plants (that have set seed) at an average density of greater than three plants per 100 square feet shall be rejected. Bin inspections shall be assessed at a minimum of $50, but may be charged actual cost per CSGA Office discretion. A field found to contain bindweed may pass inspection if the weeds are plowed under, pulled out, mowed,or suppressed by chemical treatment to the point no seed can be set. If the bindweed plants are suppressed by chemical treatment after seed has set, the area must be staked off by posts prior to completion of inspection. These areas shall not be harvested for seed.

*** This tolerance is permitted because late wild oats continue to appear after each roguing. Growers must continue roguing fields until harvest time. No tolerance is permitted in the seed standards.

**** Fields exceeding this limit will require seed treatment.

VI. Sampling for Laboratory Analysis

A representative two pound sample shall be submitted to the Colorado Seed Growers Association for analysis. This sample shall represent the seed which will be sold. If lots of different quality are offered for sale, a sample of each lot must be submitted for analysis.

VII. Seed Standards

Factor	Standards for each class		
	Foundation %	Registered %	Certified %
Pure seed (minimum)	95.00	98.00	98.00
Inert matter (maximum)	5.00	2.00	2.00
Noxious weeds (maximum)*	None	None	None
Jointed Goatgrass seed (maximum)	None	None	None
Total weed seed (maximum)	0.10	0.10	0.10
Total other crop seed(maximum)	0.06	0.12	0.25
Other small grains(maximum)	1 per lb.	1 per lb.	6 per lb.
Rye in wheat, barley and oats	None	None	None
Triticale in wheat	None	None	0.25
Other small grains in malt barley	None	None	1 per lb.
Other varieties (maximum)			
Wheat, barley, rye and triticale	0.05	0.10	0.20
Oats	0.20	0.30	0.50
Other kinds (maximum)	0.01	0.02	0.05
Diseases**	NS	NS	NS
Ergot (maximum)	0.05	0.05	0.05
Red wheat in White-seeded varieties (max.)***	0.05	0.10	0.20

(Continued)

Seed Standards (continued)

Factor	Standards for each class		
	Foundation %	Registered %	Certified %
Germination (minimum)			
Wheat, barley, oats and triticale	NS	85.00	85.00
Rye	NS	80.00	80.00
Durum wheat	NS	85.00	85.00

* Noxious weeds are designated in the Colorado State Seed Law.
** If chemically controlled seed-borne diseases are noted upon field inspection or laboratory analysis, seed treatment may be required.
*** Based on potassium hydroxide (KOH) testing of white wheat seed samples for the presence of red wheat seed. If the breeder's description for a variety allows for red seed variants, those variants are not included in the maximum for that variety.
NS = No Standard

VIII. Additional Standards

All seedlots of Clearfield™ wheat varieties, described as tolerant to the imazamox herbicides, such as Beyond and Clearmax, are required to be tested for tolerance to those herbicides according to the BASF protocol for herbicide tolerance testing as it exists at the time of testing.

All seedlots of CoAXium™ wheat varieties, described as tolerant to the Aggressor™ herbicide, are required to be tested for tolerance to that herbicide according to the CoAXium™ Wheat Production System Stewardship Agreement protocol for herbicide tolerance testing as it exists at the time of testing.

WOODY SPECIES AND FORBS

I. The Purpose of Seed and Plant Certification

The purpose of seed and plant certification is to maintain and make available to the public high quality seed and cuttings of tree and shrub varieties and species so produced, handled, and distributed as to insure proper identity and genetic purity.

II. Eligibility Requirements for Certification of Woody Varieties and Species

A. Only those varieties and species that are accepted by the Colorado Agricultural Experiment Station and/or the Colorado Seed Growers Association will be eligible for certification. Application forms for acceptance of privately developed varieties are available from Colorado Seed Growers Association.

B. For the Tested, Selected and Source-Identified classes, the applicant shall submit to the certifying agency, prior to the start of collections, an identification log (provided by CSGA) as follows:

1. Collector's name, address and telephone number.
2. Permit number, contract number, private land designation, etc.
3. Species and common name.
4. Location (State, County and elevation). It is strongly recommended additional information, such as soil type, aspect and associated species, be given, as this information would be extremely useful to the end user.
5. Date(s) collected.
6. Amount collected.
7. Lot designation (must be indicated on bag or container, also).
8. Signature of collector that the information is correct.
9. Signature of seed broker that to his knowledge the information is correct.
10. Description of plant with picture or drawing, if possible, or a document from an identification authority verifying the identity of the species.

C. Source-identified seed, or plants, cannot be collected from irrigated areas, unless predetermined to be of proven genetic origin.

III. Classes of Certification

A. Six classes of certification shall be recognized: Foundation, Registered, Certified, Tested, Selected and Source-Identified.

1. Foundation (white tag). Foundation seed or plant material shall be so handled to most nearly maintain specific genetic identity and purity, and which may be produced by an Agricultural Experiment Station, or originator. Foundation stock shall be the source of Registered and/or Certified stock.
2. Registered (purple tag). Registered seed or plant materials shall be the progeny of Foundation seed or plant material. Registered stock is the parent stock for the production of Certified stock.
3. Certified (blue tag). Certified seed or plant materials shall be of known genetic identity, obtained from woody species of proven superiority, as defined by the Colorado Seed Growers Association.
4. Tested (blue tag). Tested propagating materials shall be the progeny of plants whose parentage has been tested and has proven genetic superiority or possesses distinctive traits for which the heritability is stable, as defined by the certifying agency, but for which a variety has not been named or released. This seed must be produced so as to assure genetic purity and identity from either:
   a. Rigidly controlled and isolated natural stands or individual plants.
   b. Seed fields or orchards.
5. Selected (green tag). Selected propagating materials shall be the progeny of phenotypically selected plants of untested parentage that have promise but not proof of genetic superiority or distinctive traits, produced so as to insure genetic purity and identity from either:
   a. Natural stands or seed production areas.
   b. Seed fields or orchards. This definition is equivalent to the OECD "Untested Seed Orchard" category and may be labeled as such by special tag if required.
6. Source-Identified (yellow tag). Source-Identified propagating materials are seed, seedlings or other propagating materials collected from natural stands, seed production areas, seed fields or orchards where no selection or testing of the parent population has been made.

IV. Handling the Crop Prior to Inspection

Roguing of off-type plants, objectional crop plants, and weeds is required prior to field inspection and will be the responsibility of the grower and/or collectors.

V. Field Inspections

A. Field inspection for Foundation, Registered, Certified, Tested, Selected and Source-Identified classes shall be made by representatives of CSGA prior to collection or harvest of seed. Additionally, field standards prescribed below for the Source-Identified class are required.

B. Inspection of stands, designated sites, collection areas, etc. for Tested, Selected and Source-Identified classes shall be sufficient to determine geographic source, location, and elevation in increments of 500 feet, for each species being collected.

C. Conditioning and warehouse inspections (see Section VIII) shall be made to assure proper identity and compliance with field standards.

D. All conditioning records involved in receiving, conditioning, storage, labeling, and shipping shall be available for inspection by the certifying agency.

E. The certifying agency reserves the right to reject from certification any lot of seed that has not been properly protected from contamination or is not properly identified.

VI. Establishing the Source

A. Evidence, such as certification tag, sales record, Certified seed site identification log, etc., must be submitted to the certifying agency to establish source of seed or plant materials.

B. The exact source of the parent plants by legal description and the stand history must be known and will be shown (geographic, elevation, etc.) on the certification tag or label.

VII. Sampling of Seed and Plant Inspection

A. A representative sample of each lot of seed as it is offered for sale shall be taken and submitted to an approved Lab to be tested for purity and germination.

B. Plant materials must be inspected by the Colorado Seed Growers Association prior to offering for sale.

VIII. Conditioning and Warehouse Inspection

Conditioning of all classes of Certified seed must be done by a Colorado Approved Certified Seed Conditioner. Refer to the Certified Directory or call the CSGA office for a list of approved conditioners. Inspection of seed or plant materials may be made at any time and any lot not properly protected from loss of identity may be rejected.

IX. Field Standards

A. General

1. Minimum isolation distances will be construed to refer to only genetically related species. A minimum isolation radial distance will be required except for elm which will be 1320 feet.
2. Seed plants must be true to type and must possess desirable qualities of growth, form, and vigor. Off-type plants must be removed.
3. Fruit collecting and seed cleaning shall be under the supervision of the Colorado Seed Growers Association.

B. Length of stand requirement

1. The life of the stand shall be unlimited, as long as 75% of the plants present in the stand are those that were planted originally.
2. Exceptions may be otherwise specified by the originator of the variety or his designee.

C. Isolation

1. Isolation of Certified or Selected classes shall be adequately maintained and free of off-type plants and other species which might cross pollinate the plants being considered for certification. The distance and specifications shall be established for each species as they become available.

2. There shall be no isolation requirements for the Source-Identified class.
3. Minimum distance from a different variety or non-certified same kind shall be:

Class	Minimum of isolation (feet)*	
	Fields less than 2 acres	Fields greater than 2 acres
Foundation & Registered	400	200
Certified & Select	200	100

* Except Rocky Mountain Penstemon: Minimum isolation all classes is 990 feet.

4. Specific

Factor	Ratio of off-types		
	Foundation	Registered	Certified and Selected
Other varieties and types	1:1000	1:500	1:250
Other kinds (Inseparable other species)	1:2000	1:1000	1:500
Noxious weeds	None	None	None

C. Land Requirements

A field to be eligible for the production of Certified classes of seed must not have grown or have been present to the same species or natural wild plants during the previous four (4) years for Foundation, two (2) for Registered or one (1) year for Certified, except for seed of the same variety of equal or higher classification. Land to be used for the production of Certified seed classes must be free from volunteers.

X. Seed Standards

A. Specific Seed Standards

Species	Germ. & dormancy (minimum) F	Germ. & dormancy (minimum) R&C	Purity (minimum) F&R	Purity (minimum) C	Inert matter (maximum) F&R	Inert matter (maximum) C	Weed seed (maximum) F&R	Weed seed (maximum) C
Antelope Bitter Brush *(Purshia tridentata)*	10	80	95	95	5	5	0.10	0.2
Desertwillow (*Chilopsis linearis*)	60	50	80	60	20	40	0.25	0.5
Forestiera, New Mexico (*Forestiera neomexicana*)	30	30	90	80	10	20	0.25	0.5
Lewis Flax (*Linum lewisii*)	10	70	95	95	5	5	0.10	0.2
Louisiana Sage (*Artemesia ludoviciana*)	10	30	80	80	20	20	0.25	0.5
Mountain Big Sagebrush (*Artemsia tridentata*)	60	70	50	10	50	90	0.25	0.5
Mountain Mahogany (*Cercocarpus montanus*)	60	60	90	90	15	15	0.15	0.3
Penstemon, Palmer (*Penstemon palmerii*)	75	75	85	85	15	15	0.25	0.5
Penstemon, RockyMtn* (*Penstemon strictus*)	60	60	85	80	15	20	0.10/0.30	0.5
Saltbush, Fourwing *(Atriplex canescens)*	40**	35**	80	70	20	30	0.50	1.5
A tetrazolium (TZ) test is accepted as a measure of total viability for Fourwing Saltbush (CO).								
Small Burnet (*Sanquisorba minor)*	80	80	95	95	5	5	0.10	0.2
Sumac, Skunkbush (*Rhus trilobata*)	65	50	80	70	20	30	0.25	0.5
Winterfat (*Ceratoides lanata*)	NS	40	60	60	40	40	0.25	0.5

* A field must not have been planted to the same species during the previous 4 years for Foundatio n, 3 years for Registered, or 2 years for Certified, except for seed of the same variety of equal or higher classification.

** The Tetrazolium test may be substituted for normal germination test. Minimum tetrazolium test of 50% acceptable.

X. Seed Standards (continued)

B. General

Properly drawn representative seed samples shall meet the following general standards for all species

	Maximum permitted in each class		
Factor	Foundation (%)	Registered (%)	Certified (%)
Total other crops	0.40	0.75	1.25
Other varieties	0.25	0.50	0.75
Other kinds	0.15	0.25	0.50
Noxious weeds	None	None	None

XI. Disease and Insect Standards

Seed or plant materials will be inspected and shown to be free from disease and insects.

XII. Miscellaneous Standards

A. Seed

1. Specific Requirements
   a. Other distinguishable species or cultivars (maximum by weight) 0.05%
   b. Additional standards for specific species and/or group of species will be included as they become available.

STANDARDS FOR OTHER CROPS

In addition to the standards listed in this book, Colorado Seed Growers Association has also approved a set of standards for each of the following additional crops: Cicer Milkvetch, Clover, Corn, Cross-pollinated (Pearl) Millet, Hybrid Small Grains, Hybrid Sorghum, Sorghum, and Hybrid Sunflowers. Please contact the CSGA Office for the Standards for Other Crops.

The Association of Official Seed Certifying Agencies maintains minimum standards for **all** crops Certified. In the event that certification is requested for a crop for which Colorado certification standards will be used or Colorado certification standards are not listed in this handbook, AOSCA standards will be used or Colorado certification standards will be developed providing a request for certification standards is submitted to the Colorado Seed Growers Association by May 1st of the year certification is requested.

For additional information contact: **Colorado Seed Growers Association, Department of Soil and Crop Sciences, Colorado State University, Fort Collins, Colorado 80523-1170. 970-491-6202**

POTATO CERTIFICATION

In Colorado, a separate agency conducts potato seed certification. For information contact: **Andrew Houser, Manager, Colorado Potato Certification Service, San Luis Valley Research Center. 0249 East Road 9 North, Center, CO 81125. Phone: (719) 754-3496 and Fax: (719) 754-2619.**

WATERMELON CERTIFICATION

For information regarding Watermelon Certification in Colorado, please contact **Dr. Michael Bartolo at the Arkansas Valley Research Center. 27901 Road 21, Rocky Ford, CO 81067. Phone: (719)-254-6312.**

APPENDIX I

COLORADO SEED GROWERS ASSOCIATION

Credit Policy

The Colorado Seed Growers Association is a "not for profit" organization which performs a service to its members. The CSGA endeavors to hold down costs while delivering the best service possible. It is therefore the policy of the CSGA to deal with its accounts in the following manner.

Payment for services is due upon the request of those services. Each step in the certification process must be paid for before the next step begins.

Membership fees must be paid before field application forms will be processed.

Field inspection fees must be paid before the field will be inspected. If a grower wishes to add a field to those already applied for during inspection season, and his account is not delinquent, it may be charged to his account.

Approved conditioner fees are due before certifiable seed will be conditioned.

Payment for tags is due 30 days from date of invoicing. The CSGA management has the right to refuse to print tags, test seed or progress in any step of the certification process if the applicant's account is not current.

After 60 days from the original date of invoice, a 1.5% late payment fee may be added to overdue accounts.

CSGA now accepts credit card payments. Please call the CSGA Office to pay with a credit card. A 3% service fee may be charged for the transaction.

APPENDIX II

CLASS I APPROVED CONDITIONER STANDARDS FOR CONDITIONING CERTIFIED SEED IN COLORADO

The seed certification system was developed in insure the purity of seed (both mechanical and varietal) from breeder to farmer. To maintain this purity of seed, all the steps of production and handling must be monitored. Therefore, the purpose of these guidelines is to insure that seed is properly conditioned and to reduce the possibility of contamination during the process.

I. Approved Certified Seed Conditioners

A. Class I approved conditioner of Certified seed is defined as an individual, partnership or corporation that:
   1. Conditions Colorado certifiable seed on a custom basis for a fee and/or
   2. Produces and/or purchases Colorado certifiable seed and conditions that seed as part of the process to certify the seed.

B. Seed conditioners who wish to condition certifiable seed must apply in writing to the Colorado Seed Growers Association for approval at least thirty (30) days before they begin conditioning of certifiable seed. A fee to be specified by the Board of Directors to cover inspection, records, and training is to accompany the application, and must be paid before conditioning of certifiable seed begins. All approved conditioners will be subject to a yearly inspection of bins, handling equipment, conditioning equipment, necessary records, practices and buildings by the management of Colorado Seed Growers Association, or its designee. Approval will be given by the manager of CSGA and subject to the CSGA Board of Directors. Annual applications will be sent to the conditioner in subsequent years on or about January 1. Failure to pay the fee by March 15 will cause the conditioner to lose his approved status and be subject to resubmittal of his application.

II. Facilities and Equipment

A. Air screen cleaners are required and shall be equipped with ample screens to allow for at least three different separations to be accomplished. Cleaners shall be equipped with an automatic method of screen cleaning such as, but not limited to brushes, ball trays or rollers. Cleaners shall also be equipped with two (2) variable air blast or vacuum aspiration systems used to remove light or fluffy trash. A selection of screens with appropriate perforations must be available to completely dress the machine for each crop seed to be conditioned. The cleaner shall be installed in a manner to allow room for complete cleanout, both around and inside the machine.

B. Secondary Equipment - A gravity table and/or length grader must be available for use in the seed conditioning line. This equipment must be adequate in size to allow for a continuous flow of seed from the air-screen cleaner without backup, or a surge bin must be supplied adequate in size to hold seed from two hours continuous running of air screen cleaner. This equipment must be installed in a manner to allow complete cleanout both inside and around machine. Other equipment, i.e. spirals, velvet rolls, etc. may also be used but must be installed with adequate clean-out provisions. All certifiable bean seed must be conditioned over an approved gravity table.

C. Horizontal conveying equipment, i.e., vibrating conveyors and dump pits, drag conveyors and non-porus belt conveyors, shall be of the design to allow complete self-cleanout and to prevent damage to seed. Augers are not recommended to move certifiable seed in the plant, but may be used to remove tailings. If augers are used, they should be equipped with a drop bottom gate which would allow for complete cleanout, and/or a reversing mechanism and drop bottom boot for augers in inclined tubes. Conveyors should be covered when possible to prevent contamination, and any dump pit or underfloor conveyors must be installed to allow access to clean and inspect. Floor grates must be built to allow for all seeds to pass through without any remaining on the grate.

D. Vertical Conveying Equipment - shall be of the design to allow for easy and complete cleanout of the boot between lots. Elevator belt pulleys shall be of the open type to insure that no seed becomes lodged

between belt and pulley or inside the pulley. Buckets shall be spaced away from the belt with washers to allow for self-cleanout. Belt speeds shall be within manufacturer's guidelines for seed handling to minimize seed damage. Turnheads, valves, pipes and deadends are to be of the type which will not allow seed to be trapped and should be self-cleaning. No elevator that lifts unconditioned seed or tailings shall be used for conditioned seed. Elevators shall be installed to allow easy access for cleaning and inspection.

E. Seed treaters, seed treatments and accessories - shall be kept separate from other conditioning equipment to prevent contamination of untreated seed. Treater shall be installed to allow for complete cleanout and washing. No conveying equipment or bins used to handle treated seed will be used to handle untreated seed.

F. Bagging and/or weighing equipment - scales shall be in compliance with state regulations for the protection of both buyer and seller. Bagging equipment shall be self cleaning and the bagging line shall provide for a method of adequately sealing, marking and tagging the bags.

G. Bins and other seed storage - shall be cleaned completely before use and set up to exclude contaminants i.e. other lots of dirt, from entering either through bin tops or filling pipes. A system must be used to adequately mark the bins as to seed type or variety. A system to control rodents and weeds around bins must be used. Bins with edges or inside bolts (i.e. corrugated bins) are discouraged for certifiable seed use. All bins used for handling certifiable beans will be equiped with an approved let down device if drop distance of the seed is greater than 18".

H. Cleanup equipment - such as brooms, shovels and compressed air/vacuum system shall be available to clean less accessible areas in equipment and facilities.

III. Records

A record of each seed lot conditioned shall be maintained by the conditioner (or grower) for the period of two years from the date of conditioning. Records shall include, but not be limited to grower name, lot number, date of conditioning, storage bins used, a sequence designation which would give an accurate accounting of the flow of seed lots through the plant and a record of sale and shipping. A two pound sample of each raw and cleaned seed lot shall be maintained and available for use by CSGA for two years after the sale of the last seed.

IV. Procedures for Conditioning Certifiable Seed

A. The seed grower is responsible for the cleanliness of the equipment used to harvest, transport and store the seed before conditioning. In the case of custom conditioning it is also the growers responsibility to deliver his seed to a conditioner who is a CSGA approved conditioner who is aware of these standards.

B. The approved conditioner shall make every attempt to thoroughly clean all areas which certifiable seed shall contact.

C. All certifiable seed must be conditioned over an approved air-screen cleaner. In addition, all winter wheat shall also be conditioned over an approved length grader and/or gravity table.

D. All seed subject to certification must be conditioned by an approved conditioner and the conditioner's name must appear on the Application Form D. It is the responsibility of the seed grower to have his seed conditioned by a CSGA Approved Conditioner. Any certifiable seed conditioned by a conditioner not approved by CSGA is subject to be rejected for certification.

E. If a grower cannot locate an approved conditioned within thirty miles of his farm, a non-approved conditioner may be used on a one-time basis. CSGA office must be contacted before application for conditioning, and any special dispensations are at the option of CSGA management. The grower is liable for all costs incurred for special inspections.

F. The conditioner is responsible for the maintenance of identity of the seed lot throughout his plant, including, but not limited to marking of clean seed and dirty seed bins and tagging or marking bags.

G. The seed conditioner is responsible for the training of those operating seed conditioning equipment. New conditioners to CSGA will be required to attend training within 12 months of initial approval. This training shall include, but not be limited to attendance of at least (1) one person involved in the conditioning process at a CSGA or other associations' conditioning workshop or training provided at the time of a seed conditioner inspection.

H. When bagging seed, all bags used are to be new.

V. Approval of Conditioners

A conditioner shall be considered approved after the application is made, fees are paid, training is completed and approval is made through the CSGA office. Interpretation of these rules for approval is at the discretion of the CSGA management. Upon approval a certificate shall be issued by CSGA and displayed in a prominent place at the conditioning plant. The certificate shall indicate which crops the conditioner is authorized to clean. Revocation of the certificate for cause may be made by the CSGA management with approval of the CSGA Board of Directors. The conditioner may request a hearing with the Board to present evidence and be heard. Approval of conditioners is on an annual basis.

VI. Implementation of Standards

These standards shall be in effect as of the day of approval by the Colorado Seed Growers Board of Directors. Applicants for Approved Conditioner status who file after the effective date must conform to all standards as written.

VII. Disciplinary Action: Seed Complaints

When a seed complaint with documentation is received by CSGA office a notification letter is to be sent to the following persons within (3) three working days.

A. The conditioner of the seed lot.
B. The grower of the seed lot.
C. The director(s) of the district in which the conditioner is located.
D. The chairman of the approved conditioner committee.
E. The chairman of the applicable commodity committee.

The conditioner then has (10) ten working days to respond to the complaint by certified letter or fax to:

A. Buyer or user of the seed lot in question.
B. The grower of the seed lot.
C. The director(s) of the district.
D. The chairman of the approved conditioner committee.
E. The chairman of the commodity committee.
F. CSGA office.

Failure to respond to the complaint will result in the following action or actions.

A. Notification of Colorado Department of Agriculture of possible violation of Colorado seed law.
B. To be placed on probation for a period of not less than (1) year. Probation may include but not be limited to:
    1. Independent third party sampling and testing of random seed lots.
    2. Quarterly inspections of facility and records.
    3. All costs of sampling, testing and inspections to be paid by conditioner on probation.
C. More than (4) four complaints or violations for separate lot numbers in one year shall be cause for immediate probation and review by the approved conditioner committee with their recommendation forwarded to the CSGA board of directors for appropriate action.

Further disciplinary action that can be taken against a conditioner:

A. Suspension of approved conditioner status for a period of not less than (2) two years for person and/or company with two thirds majority from the CSGA board.
B. Permanent revocation of approved conditioner status for person and/or company with three-fourths majority from the CSGA board.

APPENDIX III

CLASS V APPROVED CONDITIONER STANDARDS FOR CONDITIONING CERTIFIED SEED IN COLORADO

I. Approved Class V Certified Seed Conditioners

A. An Approved Class V Conditioner of Certified seed shall be defined as a conditioning plant operated by a seed grower which only conditions Certified seed grown by that conditioner. Class V Conditioners are not allowed to condition seed raised by other growers or transfer field approved unconditioned seed.

B. Seed conditioners who wish to condition their own certifiable seed must apply in writing to the Colorado Seed Growers Association for approval at least thirty (30) days before they begin the conditioning of certifiable seed. A fee designated by the Board of Directors to cover inspection, records and training is to accompany the application, and must be paid before conditioning of certifiable seed begins. All approved conditioners will be subject to an inspection of bins, handling equipment, conditioning equipment, necessary records, practices and buildings by the management of Colorado Seed Growers Association, or its designee. Approval will be given by the manager of CSGA and subject to the CSGA Board of Directors. Application forms will be mailed to the conditioner in subsequent years on or about January 1. Failure to pay the fee by March 15 will cause the conditioner to lose his approved status and be subject to resubmittal of his application.

II. Facilities and Equipment - Although there are no standards for type and quality of equipment in a Class V Conditioning Plant, the conditioner should be familiar with Section II of the Class I Approved Conditioner Standards and strive to upgrade to those standards whenever remodeling or purchasing new equipment.

III. Records - A record of each seed lot conditioned shall be maintained by the conditioner (or grower) for the period of two years from the date of conditioning. Records shall include, but not be limited to grower name, lot number, date of conditioning, storage bins used, a sequence designation which would give an accurate accounting of the flow of seed lots through the plant and a record of sale and shipping. A two pound sample of each raw and cleaned seed lot shall be maintained and available for use by CSGA for two years after the sale of the last seed.

IV. Procedures for Conditioning Certifiable Seed

A. The Class V Conditioner is responsible for the cleanliness of the equipment used to harvest, transport and store the seed before conditioning, and shall make every attempt to thoroughly clean all areas which certifiable seed shall contact.

B. A Class V Approved Conditioner may not condition any certifiable seed grown by anyone not under his control. Any certifiable seed conditioned by, but not grown under the control of a Class V Approved Conditioner is subject to be rejected for certification and the conditioner is subject to lose his approved status with CSGA.

C. The Class V Approved Conditioner shall be trained in the operation of conditioning equipment. This training shall include, but not be limited to attendance at a CSGA or other associations' conditioning workshop or training provided at the time of a seed conditioner inspection. The seed conditioner is responsible for the training of those operating seed conditioning equipment.

D. When bagging seed, all bags used are to be new.

E. The CSGA reserves the privilege of making inspections and taking samples without notice during or after the conditioning and labeling of seed.

V. Approval of Conditioners - A conditioner shall be considered approved after the application is made, fees are paid, training is completed and approval is made through the CSGA office. Revocation of the certificate for cause may be made by the CSGA management with approval of the CSGA Board of Directors. The conditioner may request a hearing with the Board to present evidence and be heard. Approval of conditioners shall be on an annual basis.

VI. Implementation of Standards - These standards shall be in effect as of the day of approval by the Colorado Seed Growers Board of Directors, except for Section IV, Article c) which shall become effective as of January l, 1992.

CSGA Grower In Good Standing Self Checklist

Seed Grower: _____

Yes

	Variety Selection, Planning, Planting	Does Grower follow the Land Use Requirements for the specific crop? See Land Requirements for each crop.
	Field Application – On Time, Complete, Fees Paid	Does Grower submit a timely and complete Field Application (including fees)? See pages 9 and 10.
	Field Management – Clean Fields, Problem Areas, Maps	Has the Grower managed the fields prior to inspection? Are problem areas clearly flagged prior to field inspection? Are maps of fields clear?
	Harvest	Has the Grower avoided problem areas discussed with field inspector and left adequate borders?
	Conditioning	Has the seed been conditioned by a CSGA Approved Conditioner? See back pages of Seed Directory or call CSGA Office for current list.
	Seed Sampling	Has the seed lot been adequately sampled? See page 14.
	Seed Testing	Has the Grower submitted seed sample(s) to an accredited seed lab for Germination, Purity, Seed Count, KOH (white wheat), and Clearfield Testing (if applicable)? Timing is important!
	Seed Sample ID Form – Form D	Has the Grower submitted a complete Form D with every seed sample?
	Final Certification	Has the Grower received a final Certification Certificate for the seed lot PRIOR to sale of the seed?
	Seed Labelling	Has the Grower procured the proper seed labelling PRIOR to the sale of the seed? This can include Bulk Sales Certificates (Online or Office printed), Bulk Tags, Tote Tags or Bag Tags.
	Seed Transfers	Has the Grower completed a Transfer Form for all seed being resold by a secondary Grower or Retailer? This should be done as soon as possible and submitted to the CSGA Office at time of seed Transfer.
	Colorado Department of Agriculture – Seed Labeler Registration (Annually)	Is Grower a Registered Seed Labeler with the CDA?
	CSGA Billing Statements	Does the Grower pay the monthly CSGA Statement within 30 days of receipt?
	CSGA Reporting	For Winter Wheat, has the Grower submitted a yearly Distribution Summary by the Deadline? Are copies of Bulk Sales Certificates included (Office printed only) AND is the Distribution Summary complete and clear?