

FORM OF ORDER AND TRANSMITTAL BY AGENCY HAVING SINGLE HEAD

State of Washington

Department of Agriculture

(agency name)

Administrative Order No. 1852

(1) I, Mike Schwisow, deputy, director of

the Department of Agriculture, WA

do promulgate and adopt at Olympia, Washington (place)

the annexed rules relating to:

WAC 16-316 Corn Seed Certification Standards

(2) ALTERNATIVE A. Use only for Adoption of Permanent Rules.

This action is taken pursuant to Notice No. WSR 85-07-058 filed with the code reviser on 3/20/85. These rules shall take effect: [X] thirty days after they are filed with the code reviser pursuant to RCW 34.04.040(2). [ ] at a later date, such date being

(2) ALTERNATIVE B. Use only for Adoption of Emergency Rules.

I, find that an emergency exists and that this order is necessary for the preservation of the public health, safety, or general welfare and that observance of the requirements of notice and opportunity to present views on the proposed action would be contrary to public interest. A statement of the facts constituting the emergency is:

These rules are therefore adopted as emergency rules to take effect upon filing with the code reviser.

(3) Pursuant to the requirements of RCW 34.04.026<sup>1</sup> that "every agency shall incorporate the most specific, but in no case omit all, of the following language alternatives when adopting or amending rules" fill in statement (a), (b), or (c) as appropriate:

[X] (a) This rule is promulgated pursuant to RCW 15.49 and is intended to administratively implement that statute. [ ] (b) This rule is promulgated pursuant to RCW which directs that the

(agency) has authority to implement the provisions of (name of act or RCW citation)

[ ] (c) This rule is promulgated under the general rule-making authority of the (agency)

as authorized in RCW

(4) The undersigned hereby declares that the agency has complied with the provisions of the Open Public Meetings Act (chapter 42.30 RCW), the Administrative Procedure Act (chapter 34.04 RCW) and the State Register Act (chapter 34.08 RCW) in the adoption of these rules.

(5) This order, after being first recorded in the order register of this agency, is herewith transmitted to the Code Reviser for filing pursuant to chapter 34.04 RCW and chapter 1-12 WAC.

APPROVED AND ADOPTED April 30 1985

STATE OF WASHINGTON FILED

By [Signature]

MAY 2 1985

Deputy Director Title

CODE REVISER'S OFFICE WSR 85-11-002

AMENDATORY SECTION (Amending Order 1831, filed 6/15/84)WAC 16-316-906 CORN SEED CERTIFICATION FEES.

- (1) Fees for applications for each separate combination and/or isolation..... \$15.00
- (2) Acreage fee:
- (a) First acre..... \$25.00
- (b) Each additional acre..... \$10.00
- except for hybrid corn seed each additional acre..... \$ 3.50
- (3) Due date for applications is June 1.

AMENDATORY SECTION (Amending Order 1831, filed 6/15/84)WAC 16-316-911 CORN SEED ELIGIBILITY (~~--FOUNDATION--CORN--INBRED LINES~~).(1) Foundation corn inbred lines:

(a) For the purposes of certification, the propagation of male sterile inbred lines shall be subject to the same requirements and rules as apply to foundation single crosses.

~~((2))~~ (b) An inbred line ~~((must))~~ shall be a relatively true breeding strain of corn resulting from ~~((a))~~ at least five successive generations of controlled self-fertilization; or ~~((b))~~ at least five generations of backcrossing to a recurrent parent with selection; or ~~((c))~~ its equivalent.

~~((3))~~ Inbred seed must meet one of the following requirements:

~~(a)~~ Be in the hands of the originator:

~~(b)~~ Be a line obtained directly from a state agricultural experiment station:

~~(c)~~ Be a line obtained from the United States department of agriculture:

~~(d)~~ Be certified: Evidence of eligibility shall be a certification tag taken from the seed planted:

~~(4))~~ (c) Inbred lines increased by hand pollination will be eligible for certification.

~~((5))~~ (d) An inbred used as a pollinator in a foundation single cross production field may be certified provided all the seed parents in the isolated field are inspected for certification and meet all field requirements for certification.

~~((6))~~ (e) Addition of specific genetic factors to a line.

~~((7))~~ (i) When a specific genetic factor(s) is added to an inbred line, the line ~~((must))~~ shall have been backcrossed to its recurrent parent at least five generations. The line ~~((must))~~ shall be homozygous for the specific genetic factor(s) except for ~~((it))~~ the pollen restoration factor(s), and ~~((it))~~ the genic male sterile maintainer line.

~~((8))~~ (ii) For a recovered pollen restorer inbred line, selection ~~((must))~~ shall be relative to a specific cytoplasmic male sterile source.

~~((9))~~ (iii) Proof of the genetic nature of a recovered line ~~((will))~~ shall be supplied by the originator.

~~((10))~~ (iv) A genic male sterile maintainer line, consisting of duplicate-deficient and male-steriles in an approximate one to one ratio, shall be no more than two generations removed from breeder's seed. The maintainer shall be designated according to generation as:

~~((11))~~ (A) Breeder seed: The hand pollinated selfed seed from a known duplicate-deficient plant heterozygous at a particular male sterile locus.

~~((12))~~ (B) Foundation I seed: The product of random-mating among fertile plants arising from breeder seed.

~~((13))~~ (C) Foundation II seed: The product of random-mating among fertile plants arising from foundation I seed.

~~((14))~~ (v) A genic male sterile line shall be a strain homozygous for a particular male sterile recessive allele.

~~((#))~~ (vi) The genic male sterile lines shall be identified as to the recessive genes they carry, e.g., B37 ms-1, N26 ms-10. The maintainer lines shall be identified not only for the male sterile gene for which it is heterozygous, but for the specific translocation from which it was derived, e.g., B37 Mt-1 ms-1, N28 Mt-1 ms-10.

(2) Foundation corn single crosses:

(a) Foundation single cross. A foundation single cross shall consist of the first generation of a cross between: Two inbred lines an inbred line and a foundation back cross; or two foundation back crosses.

(b) Foundation back crosses:

(i) A first generation foundation back cross shall be the first generation cross between a foundation single cross of related inbred lines and an inbred line which shall be the same as one of the inbreds in the foundation single cross.

(ii) A second generation foundation back cross shall be made by using a first generation back cross as the seed parent and the pollinating parent shall be an inbred line. The inbred line shall be the same as the inbred parent used in making the first generation back cross seed parent.

(c) A male sterile line may be substituted for its fertile counterpart as one parent of a foundation single cross: PROVIDED, That the male sterile line has been backcrossed for not less than five generations to its fertile counterpart, or the male sterile line is the same in other characteristics as its fertile counterpart.

(d) Male sterile lines propagated by hand pollination will be eligible for certification.

(e) A pollen restoring line may be substituted for its nonrestoring counterpart in a foundation single cross: PROVIDED, That the pollen restoring line is the same in other characteristics as its nonrestoring counterpart.

(3) Hybrid corn seed:

(a) Hybrid corn seed is seed to be planted for the production of feed or for use other than seed. It may be any one of the following:

(i) Double cross - the first generation cross between two foundation single crosses.

(ii) Three-way cross - the first generation cross between a foundation single cross as one parent and an inbred line or a foundation back cross as the other parent.

(iii) Single cross - shall consist of the first generation of a cross between: Two inbred lines; an inbred line and a foundation back cross; or of two foundation back crosses.

(b) Foundation single cross seed and foundation back cross seed planted for the production of double cross, single cross, or three-way cross hybrid corn seed shall have been completely certified by a recognized seed certifying agency.

(c) Inbred line seed planted for the production of single cross or three-way cross hybrid corn seed to be used for grain or forage production shall meet the requirements for the definition of an inbred line (as provided for in subsection (1)(b) of this section) and be certified.

(d) Only the class "certified" is recognized.

(4) Inbred seed and the seed of each parent for single crosses shall meet one of the following requirements:

(a) Be in the hands of the originator;

(b) Be a line obtained directly from the originator;

(c) Be a line obtained from a state agricultural experiment station;

(d) Be a line obtained from the United States department of agriculture; or

(e) Be certified. Evidence of eligibility shall be a certification tag taken from the seed planted.



AMENDATORY SECTION (Amending Order 1831, filed 6/15/84)

WAC 16-316-921 FIELD STANDARDS. (1) Isolation requirements:

(a) An inbred ~~((must))~~ shall be so located that it is not less than six hundred and sixty feet from other corn except when the inbred is grown as a pollinator in a single cross production field. In this case any ear parent(s) in the same isolated field ~~((must))~~ shall be entered for certification, inspected, and meet all field requirements for certification.

~~((f+i))~~ (b) A specific foundation single cross shall be located so the seed parent is not less than six hundred and sixty feet from other corn for pollinator rows and other seed parent(s) in the same isolated field. In this case, all seed parent(s) in the same isolated field shall be applied for certification, inspected, and meet all field requirements for certification.

(c) Differential maturity dates are permitted for modifying isolation distances for inbred lines or male sterile inbred line increases provided there are no receptive silks in the ear or seed parent at the same time pollen is being shed in the contaminating field.

~~((f+i))~~ (d) Foundation inbred or single cross production fields of dent sterile popcorn need not be isolated from yellow dent field corn.

~~((f+b))~~ (e) Corrections for improper isolation ((must)) shall be made by one of the following methods:

(i) By completely destroying or by detasseling((r)) the necessary contaminating corn before silks appear in the ear or seed parent in the field to be certified; or

(ii) By completely destroying, before the final field inspection, the plants which are improperly isolated from the contaminating corn.

(2) For single crosses, the maximum distance a seed parent row shall be from a pollen parent row is nine feet.

(3) For single crosses, the minimum population of pollen shedding plants per acre shall be two thousand. Ineffective pollen parent plants shall not be counted.

(4) Single cross fields being inspected for certification shall contain not less than four hundred pollen plants per acre that are actively shedding pollen when more than twenty-five percent of the seed parent silks are apparently receptive.

(5) Single cross detasseling or pollen control. More than five percent of the seed parent shall have apparently receptive silks for the following provisions to apply. Apparently receptive silks are emerged silks which are not wilted or brown.

(a) An isolation of a specific foundation single cross shall not be accepted for certification if at one inspection more than one percent of the stalks of the seed parent have shed pollen, or if the total number having shed pollen on any three days of inspection exceeds two percent.

(b) Cytoplasmic male sterile seed parent plants - detasseling (cutting or pulling) to control plant pollen shall be permitted.

(6) Roguing:

(a) Definitely off-type plants ((must)) shall be destroyed completely so that suckers will not develop. Plants showing definite hybrid vigor or a definitely different type from the inbred or parent being inspected shall be classified as definitely off-type.

(b) For inbred lines, an isolation in which more than one-tenth of one percent (one per one thousand) of definitely off-type plants have shed pollen, when at the same time more than five percent of the plants have apparently receptive silks, shall not be certified.

(c) For single crosses, an isolation in which more than one-tenth of one percent of definitely off-type plants are present in the seed parent, when the silks have turned brown, shall not be eligible for certification.

(d) Sucker tassels and portions of tassels of off-type plants ((will)) shall be counted as shedding pollen when two inches or more of the central stem, the side branches, or a combination of the two has the anthers extended from the glumes.

NEW SECTION

WAC 16-316-945 FIELD STANDARDS--HYBRID CORN SEED. (1)

Isolation:

(a) A specific hybrid shall be located so that the seed parent is not less than six hundred and sixty feet from corn of a different color or texture with the following exceptions:

(i) Hybrid seed production fields of dent sterile popcorn need not be isolated from yellow dent field corn; or

(ii) When the contaminating corn is of a different color or texture aggregating less than one-fourth acre on one exposure, the isolation distance may be modified in accordance with the table listed in this section.

(2) A specific hybrid shall be located so that the seed parent is not less than four hundred and fifteen feet from other corn of the same color or texture. This distance may be modified by the planting of pollen parent border rows and the size of the crossing field according to the following table.

<u>Field Size* = 1-20 Acres</u>		<u>Field Size* = 21 Acres or more</u>	
<u>Distance from other corn in feet</u>	<u>Minimum border rows required</u>	<u>Distance from other corn in feet</u>	<u>Minimum border rows required</u>
415	0	415	0
395	1	375	1
375	2	330	2
355	3	290	3
330	4	250	4
310	5	210	5
290	6	165	6
270	7	125	7
250	8	85	8
230	9	45	9
210	10	less than 45	10
185	11		
165	12		
145	13		
125	14		
105	15		
85	16		

\*Different dates of planting will not divide a field for isolation purposes but may divide the field for detasseling inspection.

(a) The border rows and pollen parent rows shall be planted with certified first generation seedstock, shall be shedding pollen simultaneously with silk emergence of the seed parent and shall not be separated from the seed parent by more than thirty-three feet.

(b) A field planted with the same eligible pollen parent may be used as an isolation buffer: PROVIDED, That it is applied for certification, inspected and meets field requirements for certification.

(c) Full credit shall not be given where poor stands of border corn exist, where the border rows have been detasseled, or where, for any reason, the border rows are not shedding pollen as plentifully as the pollen parent rows. Because of the difficulty of obtaining and maintaining a good stand of corn, the planting of more than the minimum number of border rows is recommended.

(d) The maximum distance a seed parent row shall be from a pollen parent row is fifteen feet.

(3) Corrections for improper isolation shall be made by one of the following methods:

(a) By completely destroying or by detasseling the necessary contaminating corn before silks appear in the seed parent in the field to be certified; or

(b) By completely destroying, before the final field inspection, the seed producing plants which are improperly isolated from contaminating corn.

(4) Detasseling or pollen control. More than five percent of the stalks of the seed parent shall have apparently receptive silks for the following provisions to apply. Apparently receptive silks are emerged silks which are not wilted or brown.

(a) An isolation will not be accepted for certification if at one inspection more than one percent of the stalks of the seed parent have shed pollen, or if the total number having shed pollen on any three days of inspection exceeds two percent.

(b) When more than one combination is being grown in the same isolation and the seed parent of one or more of them is shedding pollen in excess of one percent, all seed parents having five percent or more apparently receptive silks at the time shall be disqualified unless adequately isolated from the shedding seed parent.

(c) Sucker tassels and portion of tassels will be counted as shedding pollen when two inches or more of the central stem, the side branches, or a combination of the two have the anthers extended from the glumes.

(5) A male sterile seed parent can be used to produce certified hybrid corn seed by either of two methods:

(a) Seed of the normal fertile seed parent shall be mixed with the seed of the male sterile seed parent of the same pedigree either by blending in the field at harvest or by size at conditioning time. The ratio of male sterile seed parent seed to normal seed parent seed should not exceed two to one.

(b) The male parent shall involve a certified pollen restoring line or lines so that not less than one-third of the plants grown from the hybrid corn seed produce pollen which appears to be normal in quantity and viability.

(6) Roguing:

(a) Definitely off-type plants in a parent line planted for the production of single cross or three-way cross hybrid corn seed to be used for grain or forage production shall be completely destroyed so that suckers will not develop.

(b) Plants showing definite hybrid vigor or a definitely different type from the parent being inspected shall be classified as definitely off-type.

(c) An isolation in which more than two-tenths of one percent of definitely off-type plants in the parent or parents have shed pollen, at a time when more than five percent of the seed parent plants have apparently receptive silks, shall be disqualified for certification.

#### NEW SECTION

WAC 16-316-950 SEED INSPECTION--FOUNDATION CORN SINGLE CROSSES AND INBRED LINES. When excessive off-type or different textured kernels are observed at the time of ear inspection and the off-type kernels are detectable in the shelled seed, the applicant may have the option of shelling the ears to attempt to remove the kernels by mechanical or other means. The sampled seed after conditioning shall not contain in excess of three-tenths of one percent of the off-type kernels.

NEW SECTION

WAC 16-316-955 SEED INSPECTION AND STANDARDS--HYBRID CORN SEED.

## (1) Genetic

Factor	Standard Certified Class
Other varieties and off-types (maximum)	0.5%
Off-textured kernels in opaque 2, flowery 2 and waxy (maximum)	1.0%

## (2) Quality

Factors	Standards
Pure seed (minimum)	98.0%
Total other crops - including other varieties (maximum)	0.5%
Total weed seed (maximum)	None
Total inert matter (maximum)	2.0%
Germination (minimum)	90.0%
Moisture (maximum)	14.0%

NEW SECTION

WAC 16-316-960 EAR INSPECTION AND WINTER GROWOUTS--FOUNDATION CORN SINGLE CROSSES AND INBRED LINES. (1) Foundation single crosses and inbred lines shall be either inspected in the ear or included in a winter growout.

(2) Foundation single crosses and inbred lines to be ear inspected shall be inspected after the applicant indicates they are sorted and ready for inspection.

(3) A seed lot shall not contain in excess of one-tenth of one percent of definitely off-type ears or more than five-tenths of one percent of ears with off-colored or different textured kernels which would not exceed a total of twenty-five off-colored seeds or different textured kernels per one thousand ears.

(4) Winter growouts:

(a) When differential maturity dates or detasseling within the required isolation distance are permitted for modifying isolation distances for foundation male sterile inbred line increases or foundation inbred lines, winter growouts are required in addition to other standards.

(b) The applicant may choose to have a winter growout in lieu of ear inspection.

(c) Seed shelled before ear inspection shall be included in a winter growout.

(d) Standards for winter growouts are:

(i) Percentage of off-types allowed shall not exceed one percent.

(ii) Growouts shall be made on one round and/or flat separation, or on individual grade sizes.

(iii) The inspection fee for winter growouts shall be charged to the applicant at actual cost.