Oregon Seed Certification Service
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Designating Field Boundaries for Isolation and Excluded Areas

-A Guideline for Small Grains-

For small grains seedling and crop inspections, the area to be inspected is the entire planted area, except where portions of the field have been properly identified and clearly marked to define the boundary of the certified area (Oregon Seed Certification Service Handbook, Section IV. E. 1.e.) Portions of seed fields may be excluded from the certified harvest to:

- Establish mechanical separation between fields.
- Provide genetic isolation from other pollen sources.
- Exclude portions of a field due to excessive weeds.
- Provide a buffer against weed intrusions from adjacent areas.
- Exclude areas seeded to ineligible seed sources or areas having insufficient field history (Small Grains Certification Standards, Special Requirements).

Mechanical separation prevents the inadvertent harvest of seed heads from plants in an adjacent field, especially lodged plants leaning over from an adjacent field. Genetic isolation minimizes gene flow through pollen dispersal from adjacent areas; the isolation requirements for small grain crop-types are specified in the Small Grains Certification Standards, Special Requirements.

When the boundary of a certified field is not the same as the planted field, then the boundary of the portion of a field to be inspected for seed certification must be marked so as to be readily seen, recognized and understood by the inspector; there must be no doubt regarding the area to be inspected, if there is doubt then the inspection will continue to the edge of the planted area. The grower of record holds responsibility for ensuring that the field is marked at the time of inspection and in a manner to successfully convey boundary information to the inspector.

Years ago, the boundaries of isolation zones and excluded areas were marked with tall stakes, which were burdensome in large fields; currently these boundaries are most commonly designated with spray painted patches or with brightly colored flagging tape tied to taller seed heads. When using spray paint, shiny dark blue spray paint is recommended because it contrasts well with mature chaff color of the crop

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and avoids being confused for seed treatment if the seed gets into food channels, and avoids problems associated with red-green color vision deficiency. To satisfy the standard of being readily observed and understood, the spacing and size of painted patches, or intervals between flagging tape, must result in two or three consecutive markers being visible from one location, whether the inspector is following a line of markers, or approaching the boundary markers at a right angle. From experience in wheat and barley crops, the painted patches should be no more than 20-30 paces apart; in taller crops, the spacing of markers must be much, much closer (three or four feet apart) in order to meet the requirement of being easily seen (imagine yourself in a Triticale or forage oat crop taller than you are; how far away could you readily see the next spray mark or flagging tape?) At 20-30 paces, a spray painted patch needs to be about 1½-2 feet in diameter, densely painted, crossing a couple of adjacent rows, and including taller seed stalks. Where a boundary takes a sharp turn, then the paint patches or flagging tape should be about ten feet apart going into, and out of the corner. When spacing between markers is reduced to 5-10 feet, then the paint patches can be reduced to a string of ~6 inch diameter patches (one quick spray blast made in passing). Various conditions, such as topography, stand density, crop height, a boundary following a drill row vs. crossing rows, all may necessitate or permit changes in spacing between spray paint patches or flagging tape markers; always apply the objective that as the boundary is being marked, if the person doing the marking can no longer see the previous mark, then the spacing is too great and needs to be shortened. The color, distances, sizes and heights mentioned above are based on effective marking currently being done by small grain seed growers.

Mature chaff color is a variety characteristic and for this reason, certification inspections are made at the time of mature chaff color. Spray painting should be done after chaff color has begun to turn; some spray paints can fade and if painting is done too early the patches can disappear resulting in insufficient markings for the inspector to see.

Tall stakes and tall wire flags (2-3 feet taller than the mature height of the crop), can still be used to mark boundaries, and must meet the same criteria for being readily observed and their purpose understood. Their spacing should not exceed 300 feet, and often they must be closer together so that two or three consecutive stakes/flags can be readily seen.

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For a field planted on a center pivot irrigation system, wheel tracks may be designated as field boundaries.

Most often, boundaries are marked due to weeds that the grower intends to avoid during the certified harvest.

Jointed goatgrass and Rush skeletonweed are prohibited in, or at the edge of certified small grain seed fields - plants within two feet of the outside drill row, that could be caught by the combine header, are reason for rejecting the field. If either Jointed goatgrass or Rush skeletonweed are found during any visit to a field for seed certification purposes, then the field must be rejected; marking boundaries to exclude areas containing these two weeds must be done prior to inspection, no re-inspection is allowed if either weed is found.

Cereal rye and Triticale are not allowed in a certified small grain field, but the field may be rogued or areas excluded and the field applied for re-inspected if either is found. [Exception, see Small Grains Certification Standards, Field Standards for tolerance for Cereal rye in Certified class of Triticale.]

Canada thistle, Field bindweed and Quackgrass are limited to three small patches (10 ft. by 10 ft.); one of each weed species or three patches of one. Patches of these weeds may be excluded by marking boundaries around them.

A field may be Rejected, Subject to Reinspection for common weeds if their presence prevents making an adequate inspection. Examples include Cheatgrass which may be so dense as to make it impossible to inspect for Jointed goatgrass, and Bedstraw which can be so extensive as to make it very difficult or impossible to penetrate portions of a field.

Any of these weed patches can be excluded from the certification inspection by effective field marking.