

## **Quarantine Against European Corn Borer**

**603-052-0126**

### **Quarantine; European Corn Borer**

A quarantine is established effective October 15, 1969, against the following pest, its hosts, and possible carriers:

(1) Pest. European corn borer (*Ostrinia nubilalis*).

(2) Area Under Quarantine. All states and districts of the United States, except the States of Alaska, Arizona, California, Hawaii, Idaho, Nevada, New Mexico, Utah, and Washington.

(3) Commodities Covered. (Restricted Products) Corn, broomcorn, sorghums, and Sudan grass, plants and all parts thereof (including shelled grain and stalks, ears, cobs, and all other parts, fragments, or debris of said plants); beans in the pod; beets; celery; peppers (fruits); endive; Swiss chard; and rhubarb (cut or plants with roots); cut flowers and entire plants of aster, chrysanthemum, calendula, cosmos, hollyhock, marigold, zinnia, Japanese hop, dahlia (except tubers without stems), and gladiolus (except corms without stems), are hereby declared to be hosts or possible carriers of the pest herein quarantined against.

(4) Restrictions:

(a) Definitions. As used in the quarantine and section:

(A) "Portions of Plants or Fragments Capable of Harboring Larva of European Corn Borer" means any portion of a host plant of any shape or size which cannot be passed through a 1/2-inch square aperture, and any completely whole, round, uncrushed section, portion, or piece of cob, stalk, or stem of one inch or more in length and 3/16-inch or more in diameter;

(B) "Official Certificate" means a document, issued by a duly authorized representative of the designated state, district, or federal department of agriculture, evidencing compliance with the provisions of this regulation and setting forth all information and facts hereinafter required;

(C) "Department" means the Department of Agriculture of the State of Oregon;

(D) "Shelled Grain" means the seeds or kernels separated from all other plant parts of corn, broomcorn, sorghum, and Sudan grass.

(b) Certification required on all shelled grain from area under quarantine. Except as provided in section (5) of this rule, each lot or shipment of shelled grain of corn, broomcorn, sorghums, and Sudan grass grown in or shipped from the area under quarantine described in section (2) of this rule, imported or brought into this state, must be accompanied by an official certificate evidencing compliance with one of the following conditions:

(A) Certificates on shelled grain grown in or shipped from the infested area described in section (2) of this rule, must either affirm that said grain has been passed through a 1/2-inch mesh screen or less, or otherwise processed prior to loading and is believed to be free from stalks, cobs, stems, or portions of plants or fragments capable of harboring

larva of the European corn borer, and further, that the car or truck was free from stalks, cobs, stems, or such portions of plants or fragments at time of loading, or affirm that said grain has been fumigated by a method and in a manner prescribed by the Department, and setting forth the date of fumigation, dosage schedule, and kind of fumigant used;

(B) Certificate on shelled grain grown in and shipped from states under quarantine not listed in section (2) of this rule, must be issued by the proper official of the state wherein such grain was produced, affirming that all such grain covered by said certificate is a product of said state wherein no European corn borer is known to exist and that its continued identity has been maintained to assure no blending or mixing with grain, plants, or portions thereof produced in or shipped from infested areas described in section (2) of this rule;

(C) Any lot or shipment of shelled grain arriving in this state which is not accompanied by an official certificate as herein before required, or which is certified on the basis of freedom from contamination with portions of plants or fragments capable of harboring larva of European corn borer as defined above, and which is found to be so contaminated, shall be deemed to be in violation of this quarantine and regulation and subject to disposal as provided by law and by section (15) of this rule quarantine;

(D) All certificates issued in compliance with paragraph (A) or (B) of this subsection must also set forth the kind and quantity of the commodity constituting the lot or shipment covered thereby, the initials and number of the railway car, or license number in the case of truck, and the names and addresses of the shipper and consignee.

(5) Certain Grain Products Conditionally Exempt from Certification. Certification requirements of subsection (5)(b) of this rule, are hereby waived on shelled popcorn, seed for planting, and on individual shipments or lots of one hundred pounds or less of other clean, shelled grain, or comprised of packages of less than ten pounds, subject to inspection and freedom from portions of plants or fragments capable of harboring European corn borer.

(6) (a) Stalks, ears, cobs, or other parts, fragments, or debris of corn, broomcorn, sorghums, and Sudan grass admitted under disinfection or treatment certificate. Stalks, ears, cobs, or other parts, fragments, or debris of corn, broomcorn, sorghums, and Sudan grass grown in or shipped from the area under quarantine imported as such or as packing or otherwise, will be admitted into the State of Oregon only provided each lot or shipment is accompanied by an official certificate of the state from which shipped, affirming that all stalks, ears, cobs, or other parts, fragments, or debris of such plants accompanied thereby have been disinfected or sterilized by a method and in a manner prescribed by the Department, and setting forth the date and full particulars of treatment applied, except that stalks, ears, cobs, or other parts, fragments, or debris of said plants grown in and shipped from states under quarantine not listed in the infested area described in section (2) of this rule will be admitted into the State of Oregon provided each shipment or lot is accompanied by an official certificate of the state where produced, affirming that such product is a product of said state wherein no European corn borer is known to exist, and that continued identity of the product has been maintained to assure no handling or storage in association with stalks, ears, cobs, or other parts, fragments, or debris of such plants grown in or shipped from infested areas herein described;

(b) All certificates issued in compliance with this section (6) of this rule must also set forth the kind and quantity of the commodity constituting the lot or shipment covered thereby, the initials and number of the railway car, or license number in the case of truck, and the names and addresses of the shipper and consignee.

(7) (a) Certification required on certain vegetable and ornamental plants and plant products produced in or shipped from infested area. Except as provided in section (5) of this rule, beans in the pod, beets, celery, peppers (fruits), endive, Swiss chard, and rhubarb (cut or plants with roots); cut flowers and entire plants of aster, chrysanthemum, calendula, cosmos, hollyhock, marigold, zinnia, Japanese hop, dahlia (except tubers without stems), gladiolus (except corms without stems) produced in or shipped from the infested area described in section (2) of this rule, will be admitted into the State of Oregon only provided each lot or shipment is officially certified by an inspector of the Plant Quarantine Division of the U.S. Department of Agriculture or by the duly authorized official of the state where produced, evidencing that such plants, products, or cut flowers have been inspected or that the greenhouse or growing grounds where same were produced were inspected and no European corn borer was found, or that such plants, products, or cut flowers have been fumigated by a method and in a manner prescribed by the Department and setting forth the date of fumigation, dosage schedule, and kind of fumigant used;

(b) No restrictions are placed by this regulation on the entry into this state of such vegetable and ornamental plants and plant products produced in and shipped from any state not listed in section (2) of this rule.

(8) Certain Restricted Products Conditionally Exempt from Certification. Certification requirements of section (7) of this rule, are hereby waived on individual shipments or lots of certain restricted vegetables, ornamental plants, and plant products described therein, under and subject to the following conditions:

(a) In lots or shipments of ten pounds or less, beans in the pod, beets, peppers (fruits), endive, Swiss chard, and rhubarb (cut or plants with roots);

(b) During period November 30 to May 1, divisions without stems of the previous year's growth, rooted cuttings, seedling plants, and cut flowers of aster, chrysanthemum, calendula, cosmos, hollyhock, marigold, zinnia, and Japanese hop.

(9) Manufactured or Processed Products Exempt from Restriction. No restrictions are placed by this proclamation upon the movement of the restricted products herein defined which are processed or manufactured in such a manner as to eliminate all danger of carrying the pest herein quarantined against.

(10) Certification Waived on Small Lots. Under section (15) of this rule and the European Corn Borer Exterior Quarantine, the Department may release small lots of shipments which may be adequately inspected in lieu of origin certification provided no living stage of European corn borer is found or the lot or shipment may be treated in an approved manner under official supervision. It is intended that this disposition will only apply to lots or shipments of a size which will permit a 100 percent inspection involving less inspection time and effort than would be required to issue rejection notices and hold for origin certification. Rejection notices need not be filed on the lots or shipments which are adequately inspected and released in lieu of origin certification.

(11) Fumigation Instructions. The articles listed in this quarantine will be admitted to the State of Oregon if they are accompanied by an official certificate as set forth in section (5) of this rule, showing they have been fumigated or treated under the supervision of the certifying official:

(a) With the dosage schedule and under the conditions set forth in sections (13) to (15) of this rule and in compliance therewith; or

(b) Under the dosages, schedules, conditions, manner, time, and in compliance with a special written order or instruction issued by the Department.

(14) Gas-Tight Chamber Fumigation:

(a) Broomcorn and articles made of broomcorn. (Gas-tight chamber fumigation):

(A) Vacuum fumigation (HCN) three lbs. liquid hydrocyanic acid or its equivalent per 1,000 cu. ft. of air space at a temperature of not less than 60°F, the gas to be injected in not less than a 28-inch vacuum sustained for a period of not less than three hours;

(B) Steam sterilization under vacuum. Air pressure in chamber shall be reduced to 25-inch vacuum. Steam shall then be introduced until positive pressure of ten pounds is obtained. This pressure to be sustained until constant temperature in all parts of the chamber is attained;

(C) Atmospheric fumigation in a gas-tight chamber using a dosage schedule of 2-1/2 lbs. of methyl bromide per 1,000 cu. ft. of chamber space for a period of six hours at temperatures of 70° F or above.

(b) Ear corn. (Dry) (Gas-tight chamber fumigation):

(A) Ears of corn to be heated in a chamber at an air temperature of not less than 168°F for a period of not less than two hours. Ears of corn to be spread out on slat or wire shelves, not more than one layer deep. Air temperatures shall be taken at three points in the chamber and the time of sterilization shall begin when all thermometers reach 168°F after corn has been placed in the chamber;

(B) Atmospheric fumigation in a gas-tight chamber using a dosage schedule of two pounds of methyl bromide per 1,000 cu. ft. for a period of six hours at temperatures of 70°F or above.

**CAUTION:** Dosage schedules, temperatures, and time of exposure herein indicated should not be exceeded if corn is to be planted.

(c) Ear corn (green), green beans, beets, celery<sup>1</sup>, bell peppers<sup>2</sup>, endive<sup>1</sup>, Swiss chard<sup>1</sup>, cut rhubarb<sup>1</sup>, also cut flowers, and plants for propagation. (Gas-tight chamber fumigation).

<sup>1</sup>No information as to tolerance.

<sup>2</sup>Peppers injured following experimental tests at normal temperatures. When held under cold storage following fumigation, color is better and texture firmer and ripening retarded, but apparently break down rapidly on removal from cold storage.

(d) Atmospheric fumigation in a gas-tight chamber using methyl bromide at the following rates for the period specified to be determined by the temperature of the product and interior of the fumigation chamber (see requirements for dosages):  
Temperature, lbs. per 1,000 cu. ft., exposure (hrs), respectively:

(A) 73°F and above -- 2.0 -- 2.5;

(B) 67-72°F -- 2.5 -- 2.5;

- (C) 62-66°F -- 2.5 -- 3.0;
- (D) 58-61°F -- 2.5 -- 3.5;
- (E) 54-57°F -- 2.5 -- 4.0;
- (F) 50-53°F -- 3.0 -- 4.0;
- (G) 46-49°F -- 3.0 -- 4.5;
- (H) 42-45°F -- 3.5 -- 4.5;
- (I) 38-41°F -- 3.5 -- 5.0.

(14) Freight Car Fumigation: Bulk Ear Corn and Baled Broomcorn (only).

**CAUTION:** All freight cars must be properly tested for leaks and made gas-tight for the duration of exposure. Also see section (15) of this rule for other commodities.

Atmospheric fumigation for a period of 16 hours using methyl bromide at the following rates to be determined by the temperature of the product and interior of the car during the period of exposure: Temperature, lbs. per 1,000 cu. ft.:

- (a) 60°F and above -- 3.0;
- (b) 50-59°F -- 3.5;
- (c) 40-49°F -- 4.0;
- (d) 30-39°F -- 4.5 (Hot gas method of application must be used at temperatures below 40°F);
- (e) 20-29°F -- 5.0.

(14) Freight and Railway Car, or Van-Type Truck Fumigation: Fumigation Procedure for Treating Bulk Shelled Corn, Sorghums, and Sudan Grass, in Loaded Freight or Railway Cars or Van-Type Trucks, as a Basis for Certification from European Corn Borer:

(a) Except as otherwise approved in writing by the Department, the following method as described in this section shall be the only method employed as a basis for issuing fumigation certificates on bulk shelled grain treated in freight or railway cars or trucks, to meet the requirements of this Oregon quarantine;

(b) All metal cars and vans. Only all metal freight cars or all metal trucking vans shall be used as fumigation chambers. The doors must be single doors and not over seven feet in width. Doors and other apertures must be sealed in a manner to make them gas-tight;

(c) Air circulation system:

(A) Each loaded railway car or trucking van shall be prepared so that air can be withdrawn from beneath grain and returned to the space above the load. This shall be provided by a system of probes inserted in the grain and connected by flexible tubing to a portable blower outside of the car which will return the air to the space above the load;

(B) The probe system (see Diagram 1) shall consist of ten probes six feet in length inserted equidistant in a line down the center of the car so that the perforated tips are near the floor level. The probes are to be connected by flexible tubing proportioned so that there is equal suction on each probe. One doorway shall be sealed with gas-tight laminated paper. The ducts shall lead through this paper seal to the portable blower;

(C) The blower shall have a capacity of not less than 625 c.f.m. against 5" static pressure and shall be of design that can be made gas-tight. The gas can be introduced as a spray or through a volatizer into the exhaust duct at any point between the blower and the car or van, or introduced directly into the space above the load.

(d) Details of duct system:

(A) The intake side of the blower unit is connected to the inside duct system by a 15' length of 6" neoprene-coated flexible tubing. Another 15' length of 8" tubing is attached to the exhaust side of the blower and the other end inserted into a metal collar inserted into the paper grain door above the load;

(B) The inside probe and duct system is constructed of neoprene-coated flexible tubing. Two similar systems extend from the center to each end of the car or van and are connected by a Y section to a 5' section of 6" tubing which extends toward the door. The end of this section is fitted with a 6" diameter sheet metal tubing that extends through the paper grain door for connection to the intake side of the blower (see Diagram 1);

(C) A set of ten probes 6' in length are required. Probes are made from 1-1/4" I.D. hard-drawn aluminum tubing. Each probe is fitted with a heavy sheet metal point having four slots 1/16" wide by 5" long through which air is taken into the duct system. Each probe is attached to the duct system by a section of 1-1/2" flexible tubing (see Diagram 1).

(e) Procedure. Lay out the inside probe and duct system on top of the load. Insert probes down the center of the load at 4' intervals to a depth near the floor (both end probes to be placed 2' from the end of the car). Seal door of car through which intake and exhaust tubes from the blower will connect to the probe-duct system as follows:

(A) Heavy laminated paper is placed in the doorway on the outer side of the wooden grain door and sealed to the doorfacing and doorsill by Scotch masking tape. The top edge of this paper is lapped over and fastened to the top edge of the wooden grain door. The remainder of the door opening is covered by a paper grain door to the ceiling of the car;

(B) Loosen the wooden grain door and slip the bottom edge of the paper door down so as to overlap the paper on the wooden door. Then, re-nail the wooden grain door in place. Seal this lap of paper grain door to the paper covering the wooden door using Scotch masking tape. Nail a 1" x 4" plank across the top of the paper grain door inside of the car, leaving a sufficient edge of paper above the plank to seal it with masking tape or "bug" putty\*. Seal the ends of the paper grain door to the inside wall of the car with masking tape. Cut holes in paper grain door (one 8" diameter, one 6" diameter). These holes should be cut just above the edge of the wooden grain door so that ducts will rest on the top of the wooden grain door. Seal an 8" collar inserted through the hole through which the exhaust duct may be inserted. Then insert the end of the inside duct system out through the 6" hole so as to protrude about 2" beyond the paper grain door and to which the intake duct from the blower may be attached. Close the opposite door and all other apertures in the car and seal with masking tape and "bug" putty so as to make the entire car gas-tight. Connect intake duct from blower to the end of the inside probe system

extending through the paper car door. Insert the end of the exhaust duct through the 8" collar in the paper grain door and seal with masking tape or "bug" putty. Start blower and introduce the required amount of fumigant. Allow blower to operate continuously for at least ten minutes after fumigant has been discharged. Disconnect intake and exhaust ducts, seal up openings, and close car door. Allow car to remain undisturbed for a period of 16 hours.

\*Available from fumigant supply companies, or can be made from 8 parts asbestos, 3 parts calcium chloride, and 4 parts water.

(f) Dosage schedule. Atmospheric fumigation for a period of 16 hours using methyl bromide at the following rates to be determined by the temperature of the product and interior of the car during the period of exposure: Temperature, lbs. per 1,000 cu. ft.:

(A) 60°F and above -- 4.0;

(B) 55-59°F -- 4.5;

(C) 50-54°F -- 5.0;

(D) 45-49°F -- 5.5;

(E) 40-44°F -- 6.0;

(F) 35-39°F -- 6.5;

(G) 30-34°F -- 7.0 (Hot gas method of application must be used at temperatures below 40°F);

(H) 25-29°F -- 7.5;

(I) 20-24°F (minimum) -- 8.0.

(g) Supervision. All fumigation treatments applied as a basis for certification to meet destination state European corn borer quarantines shall be under the direct supervision of the origin state entomologist or his official inspector. The origin state entomologist must also determine that all such fumigation equipment and materials used meet the standard established herein;

(h) Certification. Certificates must affirm that the grain or seed accompanied thereby has been fumigated using the approved "Forced Circulation Method" and set forth the date of fumigation, dosage schedule, kind of fumigant used, period of exposure, and temperature. Each such certificate must also set forth the kind and quantity of the commodity, the initials and number of the railway car or license numbers of vans or trailers and the name and address of the shipper and consignee;

(i) Caution. Methyl bromide (CH<sub>3</sub>Br) is a colorless, odorless, volatile liquid which when released at ordinary temperatures is a gas injurious to all forms of animal life. Proper precautions should be observed by all persons when handling it. For further information, consult the state entomologist.

(15) Disposition of Violations. Any or all shipments or lots of the quarantined articles enumerated in section (4) of this rule, arriving in Oregon in violation of this quarantine shall immediately be sent out of Oregon, or destroyed, or treated by a method approved

by the Department, all at the expense of the owner or owners. All of such procedures shall only be carried out under and at the direction and/or order of the Department. The provisions of this section do not prohibit the Department from taking any other action or procedure authorized by law against persons or commodities or articles that are in violation of law or this quarantine.

[ED NOTE: The Diagram referenced in this rule is not printed in the OAR Compilation. Copies are available from the agency.]

Stat. Auth.: ORS 561.190, ORS 561.510 - ORS 561.600, ORS 570.305, ORS 570.405 & ORS 570.410 - ORS 570.415

Stats. Implemented: ORS 561.190, ORS 561.510 - ORS 561.600, ORS 570.305, ORS 570.405 & ORS 570.410 - ORS 570.415

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