

D301.81-10 **Imported Fire Ant (*Solenopsis invicta* and *S.richteri*)**

Used Soil Moving Equipment

D301.81-10(1)

Treatment: D301.81-10(1) — Cleaning Treatment

Used soil moving equipment is eligible for movement when an inspector determines that **one** of the following procedures has been done:

- ◆ It has been brushed free of noncompacted soil
- ◆ It has been washed free of noncompacted soil
- ◆ Noncompacted soil has been removed with air pressure equipment using compressors designed specifically for this purpose. Such compressors must provide free air delivery of no less than 30 ft³ per minute at 200 pounds per in².

Certification Period: The certification will be valid as long as the equipment remains free of noncompacted soil.

Limitations: Regardless of the type of cleaning equipment used, all debris and noncompacted soil must be removed unless it is steam-heated by a “steam jenny” to disinfest the articles. Used soil-moving equipment, such as bulldozers, dirt pans, motor graders, and draglines, are difficult to clean sufficiently to eliminate pest risk.



Steam may remove loose paint and usually is not recommended for use on equipment with conveyor belts and rubber parts.

D301.81-10(2)

Hay and Straw

Baled hay and straw stored in direct contact with the ground is ineligible for movement from the quarantined area to an area outside the quarantine, unless inspected, found free of IFA, and issued a certificate.

D301.81-10(3)

Nursery Stock—Balled or in Containers

There are four application methods for plants in containers or balled and burlaped. The methods are:

- ◆ Method A-Immersion
- ◆ Method B-Drench
- ◆ Method C-Topical
- ◆ Method D-Granular Incorporation

Method A—Immersion

Equipment: You will need an open-top, watertight container sufficiently large to accommodate the treating solution and plants

Procedure: Follow these steps to treat the plants:

Step 1 Choose an appropriate site.

Locate the immersion tank in a well-ventilated place. The location should be covered if possible. Do not remove burlap wrap or plastic containers with drain holes before immersion.

Step 2 Immerse the plants.

Immerse the soil balls and containers, singly or in groups, so that the soil is completely covered by the insecticidal solution. Allow the plants to remain in the solution until bubbling ceases.



Thorough saturation of the plant balls or containers with the insecticide solution is essential!

Step 3 Remove the plants from the dip.

After removal from the dip, set the plants on a drainboard until adequately drained.

Step 4 Add treating mixture.

As treating progresses, add freshly prepared insecticide mixture to maintain the liquid at immersion depth.

Step 5 Dispose of solution.

Dispose of tank contents 8 hours after mixing. Disposal must comply with state and local regulations.



Do not permit runoff of the solution from the treatment area! Dispose of excess and unused solution in accordance with state and local regulations.



Wear rubber gloves, boots, and apron during this operation.

Insecticides, Dosages, and Certification Periods

Refer to **Table 5-8-2** for dosages and certification periods for approved insecticides.

Table 5-8-2 Insecticides for Immersion Treatment of Balled or Containerized Plants

Insecticide (liquid)	Dosage (lb. active ingredient per 100 gallons water)	Certification period (days)
Chlorpyrifos	0.125	30
Bifenthrin	0.115	180
	0.05	120
	0.025	60

Exposure Period: Plants certifiable immediately upon completion of treatment.



Environmental factors significantly affect phytotoxicity. Dwarf yaupon, some varieties of azaleas, camellias, poinsettias, rose bushes, and variegated ivy may show phytotoxicity to chlorpyrifos. It is recommended that a small group of plants be treated at the recommended rate under the anticipated growing conditions and observed for phytotoxic symptoms for at least seven days before a large number of plants are treated.



The professional user assumes responsibility for determining if bifenthrin is safe to treat plants under commercial growing conditions.

Method B—Drench

Equipment: You will need the following pieces of equipment to drench the plants:

- ◆ A large-capacity bulk mixing tank, either pressurized or gravity-flow for mixing and holding the insecticide solution
- ◆ Properly equipped hoses and watering nozzles that can be attached to the mixing tank and used to thoroughly saturate the plant balls with insecticide solution

Containerized Plants

Step 1 Prepare the solution

The volume of the treating solution must be at least 20 percent (1/5) of the volume of the container.

Insecticides and Dosages

Table 5-8-3 Insecticides and Dosages for Drenching Plants in Containers

Insecticide (liquid)	Dosage
Chlorpyrifos (4EC)	4 fl. oz. per 100 gal water
Chlorpyrifos (2EC)	8 fl.oz. per 100 gal water
Bifenthrin	25 parts per million (ppm) ¹

1 Dose rate for bifenthrin is 25 ppm based on dry weight bulk density of the potting media. Refer to Table 5-8-4 for bulk density calculations.

Table 5-8-4 Bifenthrin calculations based on Bulk Density

Potting Media Bulk Density (lb/yd ³)	Oz. bifenthrin/100 gal water
200	2.4
400	4.8
600	7.2
800	9.6
1,000	12.0
1,200	14.4
1,400	16.8

Step 2 Apply the solution

Apply solution to the point of saturation one time only. The volume of the solution should be one-fifth the volume of the container.



Important

Thorough saturation of the plant balls or containers with the insecticide solution is essential. Do not permit runoff of the solution from the treatment area! Dispose of excess and unused solution in accordance with state and local regulations.

Exposure Period: Plants are certifiable immediately upon completion of treatment.

Certification period

Table 5-8-5 Certification period for Plants in Containers

Insecticide	Certification Period (days)
Chlorpyrifos	30
Bifenthrin	180

**Balled and
Burlapped (B&B)
Plants**

Step 1 Select a site for the treatment

Move the plants to a well-ventilated place normally used to maintain plants prior to shipment. The treatment locations should be covered, if possible. The treatment will be enhanced by adding any agricultural wetting agent or surfactant.

Step 2 Apply the solution

Do not remove burlap wrap or baskets from plants prior to treatment. The total volume of the treating solution must be 20 percent (1/5) the volume of the root ball. Treat plants singly or in groups with the chlorpyrifos solution twice in one day. Apply one-half the total drench solution, wait at least 30 minutes, then rotate the root ball and apply the second one-half drench solution. Rotating or flipping the root ball between drench applications is required to insure all sides of the root ball are sufficiently treated.



Wear rubber gloves, boots, and apron during this operation.

Dosage:

Table 5-8-6 Emulsifiable Chlorpyrifos Dosage for Balled Plants

Chlorpyrifos formulation	Amount of formulation to make 100 gallons of treating solution
1 EC	16 fl. oz. (472 ml)
2 EC	8 fl. oz. (236 ml)
4 EC	4 fl. oz. (118 ml)

Exposure Period: Plants are certifiable immediately upon completion of treatment.

Certification period: 30 days.

Method C—Topical Application

Bifenthrin liquid is the only insecticide and formulation registered for topical application. Use this method only with nursery stock in 3- and 4-quart containers. Penetration of the insecticide in larger containers does not provide sufficient residual activity. Prepare a mix with the appropriate amount of bifenthrin in 1,000 oz. of water based on the container size and the bulk density of potting media. Refer to Table 5-8-7 for calculations based on bulk density and container size.

Table 5-8-7 Potting Media Bulk Density

Potting Media Bulk Density (lb/yd ³)	Oz. Bifenthrin liquid/1,000 fl. oz. water	
	3-quart Pots	4-quart Pots
200	3.6	5.2
400	7.2	10.4
600	10.8	15.6
800	14.4	20.8
1,000	18.0	26.0
1,200	21.6	31.2
1,400	25.2	36.4

Apply 1 fluid ounce of the mix to each container evenly distributed over the surface of the potting media.

Irrigate all treated containers with 1.5 inches of water following application.



Important

Do not permit runoff of the solution from the treatment area! Dispose of excess and unused solution in accordance with state and local regulations.

Certification period: 180 days.

Method D—Granular Incorporation

There are three granular insecticides registered and approved for incorporation into potting media:

- ◆ Granular bifenthrin
- ◆ Granular tefluthrin
- ◆ Granular fipronil

Use soil mixing equipment that will adequately mix and thoroughly blend the required dosage of insecticide throughout the potting media.

Dosage is based on the bulk density of the potting media and the desired certification period. Dosage is expressed as parts per million (ppm) and calculated by the following formula:

$$\frac{\text{Bulk density of media} \times \text{desired ppm}}{\text{concentration of pesticide}} = \text{lbs. insecticide needed per cubic yard of media}$$

Table 5-8-8 Application Rates for Incorporation of Granular Insecticides into Potting Media

Insecticide	Dosage (ppm)	Certification period (months after treatment)
Bifenthrin	10	0-6 months
	12	0-12 months
	15	0-24 months
	25	Continuous ¹
Tefluthrin	10	0-18
	25	Continuous ¹
Fipronil	10	0-6 months
	12	0-12 months
	15	0-24 months
	25	Continuous ¹

¹ Continuous certification with 25 ppm dosage when all other provisions of the Imported Fire Ant detection, control, exclusion, and enforcement program for nurseries producing containerized plants are met (7 CFR 301.81-11)

D301.81-10(5)

In-Field Treatment For B&B Stock Prior to Harvest

This in-field treatment is based on a sequential application of abamectin, fenoxycarb, hydramethylnon, metaflumizone, methoprene, or pyriproxyfen bait followed by a broadcast application of chlorpyrifos. The combination treatment is necessary since broadcast application of chlorpyrifos (or other short-term residual insecticides) usually does not eliminate large, mature IFA colonies, and baits are not capable of providing a residual barrier against reinfestation by new queens. Therefore, the approved bait application will drastically reduce the IFA population while chlorpyrifos, applied approximately five days later, will destroy any remaining weakened colonies and also leave a residual barrier against reinfestation by new queens for at least 12 weeks.

Domestic Treatments

Imported Fire Ant (*Solenopsis invicta* and *S. richteri*)

Method: Apply approved bait only when ants are actively foraging using a granular applicator capable of applying the labeled rates (1.0–1.5 lb (0.45–0.68 kg)) of bait per acre. Three to five days after the approved bait application, apply chlorpyrifos broadcast at 6.0 lb (2.7 kg) active ingredient (a.i.) per acre. Treatment area must extend at least 10 feet beyond the base of all plants that are to be certified.

Dosage: Apply approved baits at 1.0–1.5 lb (0.45–0.68 kg) bait/acre. Apply granular chlorpyrifos at 6.0 lb (2.7 kg) a.i./acre.

Exposure Period: 30 days. Plants are certifiable 30 days after treatment.

Certification Period: 12 weeks; an additional 12 weeks of certification can be obtained with a second application of granular chlorpyrifos.

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Blueberries and Other Fruit and Nut Nursery Stocks

Certain states have special local need labeling in accordance with section 24(c) of FIFRA for D-z-n Diazinon AG-500 and D-z-n Diazinon 50W, which APHIS will recognize as a regulatory treatment for containerized nonbearing blueberries and fruit and nut plants. Follow the label directions for use.

D301.81-10(7)

Greenhouse Grown Plants

Greenhouse grown plants are certifiable without treatment if the inspector determines that the greenhouse is constructed of fiberglass, glass, or plastic in such a way that IFA is physically excluded and cannot become established within the enclosure. No other treatment of the plants will be necessary if they are not exposed to infestation.

D301.81-10(8)

Grass—Sod

Method:

Step 1 Apply the insecticide.

- ◆ Chlorpyrifos: apply a single broadcast application of chlorpyrifos with ground equipment
- ◆ Fipronil or bifenthrin: apply two sequential broadcast applications one week apart of granular fipronil or liquid bifenthrin

Table 5-8-9 Pesticide Dosages for Grass Sod

Material	Dosage (lb. a.i. per acre)	Exposure Period	Certification period (after exposure period)
Chlorpyrifos	8.0	48 hours	6 weeks
Fipronil-granular	Apply 0.0125 two times, one week apart for a total dosage of 0.0250.	30 days	20 weeks
Bifenthrin-liquid	Apply a dosage of 0.2 two times, one week apart for a total dosage of 0.4. Apply the first dosage of 0.2 and then 7 days later apply a second dosage of 0.2 (total dosage of 0.4)	4 weeks (28 days)	16 weeks

EXAMPLE: You are applying liquid bifenthrin to 1 acre of fire ant infested grass sod. Using a broadcast applicator, apply 0.2 lb. a.i. per acre and then 7 days later, apply a second dosage of 0.2 lb. a.i. per acre. After 28 days exposure period, you may harvest and ship sod for 16 weeks. After that time to continue harvesting from the same area, you would need to re-treat.

Step 2 Water the treated areas.

Immediately after treatment, water the treated areas with at least ½ inch of water.

D301.81-10(9)

Soil—Bulk

Method: Bulk soil is eligible for movement when heated either by dry or steam heat after all parts of the mass have been brought to the required temperature.

Temperature: 150°F (65.5°C).

Certification Period: As long as protected from recontamination.

Domestic Treatments

Sugarcane Leaf Scald and Gummosis disease (*Xanthomonas albilineans* and *X. vasculorum*)

D301.81-10(10) Soil Samples

Soil samples are eligible for movement when heated or frozen as follows:

Method: Soil samples are heated either by dry heat or steam heat. All parts of the mass must be brought to the required temperature.

Temperature: 150°F (65.5°C).

Certification Period: As long as protected from recontamination.

Method: Soil samples are frozen in any commercial cold storage, frozen food locker, or home freezer capable of rapidly reducing to and maintaining required temperature. Soil samples will be placed in containers, such as plastic bags—one sample per bag. The containers will be arranged in the freezer in a manner to allow the soil samples to freeze in the fastest possible time. If desired, the frozen samples may be shipped in one carton.

Temperature: -10° to -20°F (-23° to -29°C) for at least 24 hours.

Certification Period: As long as protected from recontamination.

D301.87-10 Sugarcane Leaf Scald and Gummosis disease (*Xanthomonas albilineans* and *X. vasculorum*)

Seed pieces

D301.87-10(a) Treatment: D301.87-10(a) Hot water
(equivalent to T514-1)

Presoak in water at room temperature for 24 hours then immerse in water at 122 °F for 3 hours.

True seed (fuzz)

D301.87-10(b) Treatment: D301.87-10(b) Chemical Treatment
(equivalent to T514-2)

Immerse in 0.525 percent sodium hypochlorite solution for 30 minutes followed by at least 8 hours air drying before packaging. (Dilute 1 part Clorox or similar solution containing 5.25 percent sodium hypochlorite; if using “ultra strength” chlorine bleach, use only 3/4 as much bleach).