(County Letterhead)

MODEL

GLASSY-WINGED SHARPSHOOTER (GWSS)
NURSERY COMPLIANCE AGREEMENT

Name and Mailing Address:	Location of Growing Ground:

Regulated Articles:

California Department of Food and Agriculture (CDFA) list of host plants (Appendix A) destined for counties with GWSS restrictions.

---

1. The nursery shall conduct an ongoing GWSS detection, monitoring and /or treatment program and shall maintain records, demonstrating the nursery's monitoring and/or treatment activities for GWSS. These records shall be made available to the Agricultural Commissioner upon request. The program shall include all of the following:

    a. All regulated articles shall be produced and maintained in a manner that is consistent with CDFA established protocols (Appendix B). When there is evidence that GWSS is present on host plants, eradicative treatments should be performed on a regular basis to eliminate all GWSS life stages with a pesticide registered for that use.

    b. Incoming regulated articles shall be segregated into a holding area of the nursery until inspected and determined to be free from GWSS or treated in a manner, consistent with CDFA established protocols, to prevent contamination of the nursery with GWSS.

2. The Agricultural Commissioner shall conduct a minimum of one inspection every two months for GWSS each year at times when GWSS may be detected and shall monitor compliance with this agreement on a regular basis.

3. Shipments of regulated articles destined for counties with GWSS restrictions shall:

a. Originate from nurseries free from GWSS based on adherence to CDFA established protocols; or,

b. Be treated with a pesticide, consistent with CDFA established protocols. The treatment must have sufficient residual activity to eliminate any life stages of the pest that may emerge subsequent to shipment; and,

c. Be accompanied by shipping documents which are endorsed with the nursery's assigned GWSS certification stamp.

4. Upon notification by any destination county that any live GWSS was discovered in a shipment, all shipments from the nursery shall cease until the Agricultural Commissioner completes an investigation and determines the pest risk has been adequately mitigated.

5. This Agreement may be suspended or revoked under the following circumstances:

a. The nursery's representative has failed in material respects to properly keep and maintain the records of monitoring/treatment or in any other way fails to comply with the requirements of this Agreement, or

b. The nursery's representative fails in any other respect to comply with the lawful orders of the Agricultural Commissioner.

The affixing of both signatures will validate this Agreement which shall remain in effect until canceled, but this Agreement may be revised as necessary or revoked for noncompliance.

Nursery Representative's Name _____
(Please type or print)

Representative's Signature _____

Title _____ Date Signed _____

Compliance Agreement Number: _____ Date of Agreement _____

Agricultural Commissioner's Signature _____

APPENDIX A

GLASSY-WINGED SHARPSHOOTER

OVIPOSITION(*) AND FOOD HOSTS

Woody Plants:

Almond	*Prunus amygdalus*
Apple	*Malus sylvestris*
Apricot	*Prunus armeniaca*
Arborvitae	*Thuja* spp.
Ash*	***Fraxinus* spp.**
Avocado*	***Persea* spp.**
Birch	*Betula* spp.
Blackberry	*Rubus* spp.
Blackgum	*Nyssa sylvatica*
Bottlebrush*	***Melaleuca* spp.**
Bougainvillea	*Bougainvillea* spp.
Boxwood	*Buxus* spp.
Camellia	*Camellia japonica*
Camphor tree*	***Cinnamomum camphora***
Carob*	***Ceratonia spp.***
Carrot wood*	***Cupaniopsis anacardioides***
Catalpa	*Catalpa bignonioides*
Cherry	*Prunus avium*
Cherry laurel	*Prunus caroliniana*
Chinese Elm	*Ulmus parvifolia*
Chinaberry	*Melia azedarach*
Citrus*	***Citrus* spp.** (Note: GWSS is known to oviposit on lemon peel)
Coral tree*	***Erythrina caffra***
Cotoneaster	*Cotoneaster* spp.
Crape myrtle*	***Lagerstroemia* spp.**
Elaeagnus	*Elaeagnus* spp.
Elderberry*	***Sambucus* spp.**
Escallonia*	***Escallonia* spp.**
Eucalyptus*	***Eucalyptus* spp.**
Euonymus*	***Euonymus* spp.**
Fig	*Ficus* spp.
Grape*	***Vitis* spp.**
Hardenbergia*	***Hardenbergia* spp.**

Heavenly bamboo*	***Nandina domestica***
Holly	*Ilex* spp.
Japanese jasmine	*Jasminum mesnyi*
Laurel sumac*	***Rhus* spp.**
Loquat*	***Eriobotrya japonica***
Macadamia*	***Macadamia* spp.**
Magnolia*	***Magnolia* spp.**
Maidenhair-tree	*Ginkgo biloba*
Mulberry*	***Morus* spp.**
Myoporum*	***Myoporum* spp.**
Oak*	***Quercus* spp.**
Oleander	*Nerium* spp.
Orchid tree*	***Bauhinia purpurea***
Peach	*Prunus persica*
Pear	*Pyrus communis*
Philodendron	*Philodendron* spp.
Photinia*	***Photinia* spp.**
Pine	*Pinus* spp.
Pittosporum	*Pittosporum* spp.
Plum, chicksaw	*Prunus angustifolia*
Plum, cultivated	*Prunus* spp.
Podocarpus*	***Podocarpus* spp.**
Privet*	***Ligustrum* spp.**
Pyracantha/Firethorn	*Pyracantha coccinea*
Redbud*	***Cercis* spp.**
Sassafras	*Sassafras albidum*
Silk tree	*Albizia julibrissin*
Strawberry tree*	***Arbutus unedo***
Sumac*	***Rhus* spp.**
Sweetgum	*Liquidambar styraciflua*
Sycamore*	***Platanus* spp.**
Tristania*	***Tristania laurina***
Trumpet creeper	*Campsis radicans*
Trumpet flower*	***Gelsemium sempervirens***
Tung	*Aleurites fordii*
Tupidanthus*	***Tupidanthus calyptratus***
Umbrella tree*	***Schefflera* spp.**
Walnut	*Juglans* spp.
Willow, Corkscrew	*Salix matsudana 'Tortuosa'*
Wisteria	*Wisteria* spp.

Viburnum*	***Viburnum* spp.**
Yaupon	*Ilex vomitoria*
Yucca	*Yucca aloifolia*

Herbaceous Plants:

Asparagus	*Asparagus officinalis*
Boneset	*Eupatorium perfoliatum*
Cocklebur	*Xanthium* spp.
Coffeeweed*	***Cassia occidentalis, C. tora***
Corn	*Zea mays*
Cotton	*Gossypium* spp.
Cowpea	*Vigna sinensis*
Dogfennel	*Eupatorium capillifolium*
Evening-primrose	*Oenothera laciniata*
Gladiolus	*Gladiolus* spp.
Goldenglow	*Rudbeckia laciniata*
Goldenrod	*Solidago* spp.
Hibiscus*	***Hibiscus* spp.**
Hollyhock*	***Althaea* spp.**
Horseweed	*Erigeron canadensis*
Johnsongrass*	***Sorghum halepensse***
Lambsquarter*	***Chenopodium* spp.**
Lettuce, wild	*Lactuca canadensis*
Mallow	*Malva* spp.
Milkweed	*Asclepias* spp.
Okra*	***Hibiscus* spp.**
Philodendron	*Philodendron* spp.
Pigweed	*Amaranthus hybridus, A. spinosus*
Pokeweed	*Phytolacca americana*
Ragweed	*Ambrosia* spp.
Sowthistle	*Sonchus oleraceus*
Sunflower*	***Helianthus* spp.**
Tree Tobacco*	***Nicotiana* spp.**
Wild bergamot	*Monarda fistulosa*

California Department of Food and Agriculture
Plant Health and Pest Prevention Services
Permits and Regulations
March 5, 2000

APPENDIX B

Monitoring for GWSS in Commercial Nurseries

Guidelines prepared by

R. A. Redak, J. A. Bethke, T. D. Paine, J. N. Kabashima, and M. Blua.
Department of Entomology
University of California,
Riverside, CA 92521

March 24, 2000

1. **Be familiar with the basic identification of Glassywinged Sharpshooters**. You must be able to recognize egg masses, nymphs, and adults. Identification references can be obtained from the

    a. Online Media Kit from the University of California, Division of Natural Resources internet site (http://danrcs.ucdavis.edu/Special/gwss/default.shtml), also available from, UC County Extension Offices, County Agriculture Commissioner's Offices, and California Association of Nurserymen

    b. California Department of Food and Agriculture internet site (http://www.cdfa.ca.gov/gwss)

    c. California Department of Food and Agriculture publication, California Plant Pest & Disease Report Volume 18, Nos.3-4, June-September, 1999

    d. your local University of California, Cooperative Extension Farm Advisor.

2. **Know where you are**. If you are in a urban environment in Southern California or adjacent to citrus groves (in San Diego, Imperial, Riverside, Orange, Los Angeles, San Bernardino, Ventura, Santa Barbara, and Kern Counties, as of Jan. 20, 2000), you should assume your inventory has a high probability of carrying glassywinged sharpshooters and active monitoring and control procedures are warranted. This is especially true if your property is near or adjacent to housing developments, parks, agricultural, or natural areas planted with shrubs and trees. Glassywinged sharpshooters are strong flyers; they can easily disperse into nurseries from nearby trees and shrubs.

3. **Detection of Glassywinged Sharpshooters.** Currently, there are no satisfactory sharpshooter monitoring methods that are effective AND are easily adaptable for grower use. The following series of detection methods are suggested to monitor glassywinged sharpshooters in commercial nurseries.

    a. **Standard yellow sticky card insect monitoring traps.** Standard yellow sticky cards should be placed at approximately canopy height at a density of not-less than 1 card per one-half acre. If multiple plant canopies are present,

then multiple cards should be used to detect insects from each of the canopies present. Cards should be checked for sharpshooters no less than once per week. Sticky cards will only detect adult sharpshooters at relatively high population densities. Lack of detection on sticky cards DOES NOT necessarily mean that sharpshooters are not present, but trapped adults are solid evidence of a problem. Sticky card will not detect sharpshooters in the juvenile or egg stages nor are they likely to detect adult sharpshooters at low densities.

b. **Beat sheets, beat trays, or sweep nets**: When the ambient temperature is cool (below approximately 60°F), beat or sweep sampling may be an effective way to detect adult and juvenile sharpshooters. **For beat sampling,** place a white, two foot by two foot sheet of fabric, wood , stiff paper or other suitable material underneath the vegetation canopy to be sampled. Strike or shake vigorously the foliage overhanging the white sheet (be careful not to damage the foliage). Glassywinged sharpshooters will fall from the foliage and can be easily seen on the white sheet. Beat sampling will not detect sharpshooters in the egg stage, nor will it be effective at warmer temperatures. At warmer temperatures, the insects will either jump or fly away (and not fall onto the detection sheet) when disturbed. **For sweep sampling:** Simply sweep insect nets through foliage and examine bag contents. Detection of sharpshooters by sweep sampling may also be performed successfully during warmer (greater than 60°F) periods of time.

c. **Visual Inspections**: Visual inspections of foliage is perhaps the best method for detecting all stages of the sharpshooter. Carefully examine leaf petioles, twigs and small branches for the presence of nymph and adult sharpshooters. Be aware that the insects will try and hide from observation by moving to the far side of any available stem. Once scouts learn to recognize the characteristics, egg masses can easily be detected by visually inspecting the underside of leaves. Leaves should be backlit against a sunny sky to properly detect egg masses. All materials scheduled for transport out of Southern California should be closely examined.

4. **Disinfestation of Glassywinged Sharpshooter.** Upon detection, reasonable efforts should be made to eradicate all stages of the glassywinged sharpshooter on plant material scheduled to be shipped to areas north of Santa Barbara, Ventura, Los Angeles, Kern, and San Bernardino Counties. Three strategies should be considered for treating plant material infested with sharpshooters:

a. treating for active adult and juvenile infestations,

b. treating for juvenile infestations arising from egg hatch at point of destination,

c. treating for viable egg masses prior to shipment.

Treating for Active Adult and Juvenile Infestations:

As adults and juveniles may infest nursery material at any time, right up to the period of shipment, treatments for these stages of the insect should be performed as near to the time of shipping as is reasonably possible. **Any registered insecticide suitable for leafhopper control may be used. For any compound used, follow all label directions carefully.**

Treatments involving non-systemic materials should be thoroughly applied with a reasonable expectation that contact with the insect is made. Such treatments should be performed immediately prior to shipment. Following treatment, plants should be loaded (as rapidly as re-entry requirements allow) and shipped to prevent post-treatment infestation.

Treatments involving systemic insecticides must allow sufficient time for the distribution of the insecticide throughout the plant. Note, that several days to weeks (depending on compound) after treatment applications may be required to allow materials to distribute throughout the plant and achieve effective control.

Treatments for Juvenile Infestations Arising from Egg Hatch at the Point of Destination

If sharpshooter eggs masses are detected, plants should be treated with a systemic or long-acting insecticide so that newly hatched and feeding juvenile sharpshooters are killed. Again, from several days to weeks after the application has been made may be required for effective control. **For any compound utilized, follow all label directions carefully.**

Treatments for Viable Egg Masses prior to shipping

Currently, there are no registered insecticides that have been demonstrated to kill the egg masses of glassywinged sharpshooters. Studies are currently underway at the University of California to determine the efficacy of various insecticides against sharpshooter egg masses. As such information is developed, it will be released. Direct treatments of egg masses will reduce the need for systemic applications of materials to control juveniles emerging from egg masses at the destination point of the shipment.

Warning on the Use of Chemicals

Pesticides are poisonous. Always read and carefully follow all precautions and safety recommendations printed on the container label. Confine chemicals to the property being treated. Never use chemicals in a manner that will result in runoff into storm or sewer drains, which will contaminate water supplies or natural waterways.

Dispose of empty containers carefully. Follow label instructions for disposal and never reuse containers. Make sure children and animals cannot reach empty containers. Do not pour unused or excess chemicals down the sink or toilet.

Consult your county agricultural commissioner for correct ways to dispose of excess pesticides. Never burn pesticide containers.

No endorsement of named or illustrated products is intended, nor is criticism implied of similar products that are not mentioned or illustrated.