

**Two Spot Cotton Leafhopper (TSCL)
Compliance Agreement for Production Nurseries, Shipping out of State**

Agreement #: _____

Establishment Name: _____

Establishment Address: _____

City: _____ **State:** _____ **Zip:** _____

Contact Person for location(s) under compliance: _____

Phone#: _____ **Email:** _____

Upon signing, this Compliance Agreement (CA) remains in effect for one (1) year unless revoked by the State Certifying Authority or canceled by the establishment. If there is a change in establishment ownership, or any persons identified as the primary contact for the establishment, then a new agreement must be signed. If the Contact Person changes, please contact your State Certifying Authority to update this agreement.

This CA expires on _____ or at the discretion of the State Certifying Authority.

REGULATED ARTICLES

Plants, shipped out of state.

APPLICABLE LAW/REGULATION

[INSERT State Regulation]

[INSERT Federal Order or Regulation]

PURPOSE OF AGREEMENT

To limit the artificial spread of the Two-Spot Cotton Leafhopper (*Amrasca biguttula*), establishments agree to abide by the following conditions in this compliance agreement as required by the [INSERT State Certifying Authority] (XXXXXX (XXXX)).

AGREEMENT SUMMARY

This Compliance Agreement (CA) provides conditions required for the interstate movement of plants from infested areas (states with confirmed populations of the two-spot cotton leafhopper (TSCL)) to states and/or areas without populations of TSCL. This CA does not preclude the inspection, sampling, and testing of plants by State or Federal authorities.

The establishment must implement, or be currently using, a systems approach for growing plants. The approach must include multiple mitigation protocols to reduce the risk of spreading TSCL from infested or regulated areas, as outlined below. An establishment is in compliance if they perform Option 1 or Option 2, below.

The signer, on behalf of the establishment named, agrees to handle, pack, process, and move regulated articles in accordance with applicable plant quarantines; use all permits and certificates in accordance with instructions; maintain and offer for inspection such records as may be required; and abide by the stipulations of this CA and in accordance with the provisions of applicable Federal and State regulations.

OPTION 1: SANC, USNCP, or GCP EXEMPTION

There are a number of certification programs in the United States that may satisfy the requirements of this compliance agreement. The three (3) programs accepted in the place of a compliance agreement include the following:

Systems Approach to Nursery Certification (SANC),
United States Nursery Certification Program (USNCP), and
United States-Canada Greenhouse Certification Program (GCP).

Establishments that have achieved certification in these programs and are maintaining their certifications may be excluded from additional Required Actions outlined in this compliance agreement.

If an establishment has a certification listed above, they may provide their certification number/documentation to the State Certifying Authority in their state, with their Pest Management Plan (PMP) or Protocol, which must include information on how the establishment is scouting for, treating, and inspecting plants for TSCL.

Please check the box below and sign.

- ☐ I attest that I have achieved certification in one of the above-listed programs and have provided my State Certifying Authority with documentation indicating our establishment is actively scouting for and controlling leafhoppers throughout our production facility.

Signature of Establishment's Responsible Party

Date

State Certifying Authority

Date

If a State Certifying Authority has evidence that an establishment is not taking steps to mitigate TSCL, within their PMP or Protocol for their certification program, this exemption is null and void, and the establishment must adhere to all the Compliance Agreement - Required Actions below.

If an establishment has not achieved a SANC, USNCP, or GCP certification, the establishment will need to enroll in this compliance agreement prior to shipping plants to uninfested states. See Option 2 below.

If SANC is not recognized by some states, the establishment will need to enroll in Option 2 and meet all conditions listed through the compliance agreement.

OPTION 2: COMPLIANCE AGREEMENT – REQUIRED ACTIONS

SCOUTING

1. The establishment must conduct routine scouting of production areas where plants are grown. Scouting must occur weekly and year-round. Staff should look at the underside of leaves for nymphs or adults.
 - a. A list of high-potential host plants is available in Table 1; however, this list is not all inclusive or exhaustive. As more is learned about TSCL, more plant species may be found to harbor TSCL.
 - b. Scouting should be performed in areas of production, as well as areas not in production, as they can serve as population centers and threats of reinfestation.
2. The establishment must deploy yellow sticky cards where high-potential host plants are being grown, at a minimum. The sticky cards should be replaced weekly. Visual scouting can be performed at time of yellow sticky card replacement.
3. Beat sampling can be performed if leafhoppers are discovered or if the staff observe “hopperburn”/TSCL feeding damage. To collect a beat sample, hold a tray or tub filled with a small amount of alcohol (enough to cover the entire bottom of the tray) under branches and tap with a stick to dislodge insects into the alcohol-filled tray. The alcohol and fumes will incapacitate and kill the insects. Once the insects are collected in the tray, pour the liquid and any specimens into a vial and label
4. Plant scouting in production areas must be conducted by establishment personnel who have been trained to detect the life stages and signs associated with TSCL.
5. If TSCL is not known to be present within or in the environment surrounding the establishment, the first detection of TSCL signs or life stages must be reported immediately to the State Plant Regulatory Official (SPRO) within two (2) business days.
6. If TSCL is observed during scouting or a suspect TSCL is found on a yellow sticky card, the establishment must begin or be actively treating for TSCL.

An identification and scouting guide for TSCL can be found here: <https://caps.ceris.purdue.edu/wp-content/uploads/2025/07/Amrasca-biguttula-CAPS-Datasheet-for-PDF.pdf>.

INSECTICIDE TREATMENT

Once the establishment confirms TSCL on plants, the establishment must begin treating infested plants and ongoing treatment must occur.

1. The establishment must have a Pest Management Plan (PMP) that has been approved by the SPRO or SPRO designee. The PMP does not have to be a stand-alone, TSCL-specific document and can be incorporated into existing PMP’s or treatment programs.

The PMP must include specifics of how the establishment will:

- a. Treat plants infested with TSCL. See Table 2 for a list of options for insecticide treatments. The establishment must incorporate a pesticide that is labeled for leafhopper control. The list in Table 2 can be used as a reference for producers to use. ***Note: There may be additional IRAC Class pesticides options (not on the list in Table 2) that are labeled for use on leafhoppers, and they may be suitable for TSCL control.***

- b. The establishment must confirm state and crop registration, use rates, and site restrictions prior to setting up any management program. The establishment must follow all applicable state and federal laws for the application of insecticides.
 - c. Schedule treatments of plants so the pesticides are applied within seven (7) days of initial capture for that season. Treatments must be repeated in accordance with the labeled specifications and timelines.
 - d. Rotate pesticide products (to prevent biological resistance), since TSCL is a polyphagous, leafhopper and can have multiple generations per year. The PMP should list which pesticides the establishment will use. The establishment should attempt to rotate as many IRAC modes of action as frequently as possible. The PMP must be updated to reflect any changes made to the treatment plan.
2. The establishment must maintain records of all treatments for a minimum of twenty-four (24) months. If your state pesticide regulations require a longer pesticide record retention period, please follow your state's record retention requirements for pesticide applications.
3. The establishment must perform pre-shipment treatments of infested plants, prior to those plants being shipped out of state.
 - a. Insecticide must be applied to any infested plants leaving the establishment within two (2) to seven (7) days prior to shipping. If plants cannot be shipped within the seven-day period, the shipment must be re-treated.
 - b. A list of insecticides for pre-shipment is available in Table 2, however, more treatment options are available, so long as they are approved for use on leafhoppers. Please defer to your pest management plan and your state regulating authority of pesticide products to determine what products are available to you.

PRE-SHIPMENT INSPECTION

1. The establishment must visually inspect all outbound shipments, after treatment (see INSECTICIDE TREATMENT above and Table 2), for life stages of TSCL and "hopperburn" symptoms.
 - a. Inspections must be completed by trained personnel identified in the PMP.
 - b. Inspections must be completed no more than 24 hours before shipments leave the establishment.
 - c. Plants showing "hopperburn" symptoms, easily identifiable signs of infestation, or with TSCL life stages must not be moved from the establishment until the plants are re-treated and found to be free of TSCL.
2. Shipments that have been inspected by the establishment and found to be free of TSCL are allowed to leave the establishment, with an accompanying certificate.

CERTIFICATION

1. Plants may only be shipped out of state if accompanied by a certificate from the State Certifying Authority.
2. The State Certifying Authority may issue the certificate for movement to the establishment operating under a compliance agreement for use with subsequent shipments of plants.
3. A certificate may be issued for movement of plants if:
 - a. It is determined upon examination that the plants may be moved in accordance with this CA.

- b. It is determined that the plants may be moved in accordance with all other applicable state and federal domestic plant quarantines and regulations.
4. The certificate required for the movement of the plants must be attached to the accompanying waybill or other shipping documents at all times during the movement of the plants.
5. The carrier must furnish the certificate to the consignee at the destination of the shipment.

NOTIFICATION

1. At a minimum, the establishment shall submit weekly shipment notifications of any plants that had been shipped under this compliance agreement and that were treated for TSCL (at any point during production) to the receiving state.
2. Other states may require the establishment under this compliance agreement to provide them with notifications, indicating the name of any plants that were shipped to their state, their destination, and quantity of plants shipped to their state.
3. The establishment must contact receiving states to determine if any additional notification protocols are required. It is the responsibility of the establishment to agree on the additional notification protocols, if required.
4. A list of SPRO's contact information is available at <https://www.nationalplantboard.org/members.html>.

TRAINING

1. The establishment must educate and train personnel on the following:
 - a. Basic identification of leafhoppers and signs of leafhopper damage.
 - b. Recognizing signs and symptoms of TSCL.
 - c. Host list for TSCL.
 - d. Proper trapping and scouting techniques for TSCL.
 - e. Identification of life stages of TSCL.
 - f. Proper sanitation and treatment protocols for control of TSCL.
 - g. All stipulations and requirements of this TSCL compliance agreement.
 - h. Knowledge of existing TSCL regulations and/or infested areas.
2. Training resources are available at the Horticultural Research Institute's webpage here: <https://www.hriresearch.org/understanding-and-managing-the-two-spotted-cotton-leafhopper>.
3. Training Records:
 - a. A record of training is documentation of training material used for training, date of training, and names of personnel who were trained.
 - b. Newly hired scouting personnel must receive training before monitoring/scouting for TSCL.
 - c. Scouting personnel names and dates of training must be listed in the establishment's PMP.

RECORD KEEPING

1. All records must be maintained for a minimum of twenty-four (24) months, or in accordance with whatever your state's record retention policy is.

2. The establishment shall make all records available to the State Certifying Authority, their staff, or USDA APHIS Plant Protection and Quarantine (PPQ), upon request. The Certifying Authority shall have access to all necessary records and protocols to ensure compliance with the above-mentioned requirements. Interviews of employees responsible for this compliance agreement may also be conducted to ensure compliance with training requirements.
3. Required records to be maintained include:
 - a. Personnel training for identification, scouting, compliance, etc. (i.e., dates, attendees, training material, trainer).
 - b. Complete Bill of Lading for all incoming plants certified under this compliance agreement.
 - c. Complete Bill of Lading for all outgoing plants certified under this compliance agreement. (Must include shipment date, plants shipped, quantity of plants shipped, physical address of destination, invoices, or other documentation).
 - d. Scouting (i.e., personnel, dates, monitoring observations).
 - e. Treatment (i.e., personnel, dates, rates, locations).
 - f. Trapping (i.e., personnel, dates, number of insects detected, and control activities).
 - g. Plant movement (i.e., location(s) throughout crop cycle).
 - h. Records of all inspections conducted by the establishments' staff (i.e., location, bulk quantity, quantity inspected, any TSCL discovered, who inspected).
 - i. Notification protocols and notifications.
4. Records of any pesticide applications must be kept and retained in accordance with the pesticide law or regulations for your state.

NON-COMPLIANCE

1. Non-compliance with this agreement may result in its suspension or revocation by the issuing state/entity.
2. Non-compliance involving the shipment of live TSCL will be at the discretion of the receiving state and may result in treatment, returns, holds, treatment orders, reconditioning, reinspection, or plant destruction.

SIGNATURES

The business agrees to perform the following all required actions in this compliance agreement listed above.

Signature of Establishment's Responsible Party

Date

State Certifying Authority

Date

APPENDICES

Table 1. High-potential host plants species in nurseries for *Amrasca biguttula* scouting. See [Cotton-Jassid-screening-aidv4.pdf](#) for scouting techniques and screening guidance. This is not an all inclusive list of hosts for TSCL.

Host Name	References	Ornamental/ Nursery Status	Host Status	Notes
<i>Abelmoschus esculentus</i> (okra)	(Saeed et al., 2015)	Crop/ Home Garden	Reproductive Host	Seedlings likely in nurseries during planting season.
<i>Calendula officinalis</i> (marigold)	(Singh et al., 2018)	Ornamental	Incidental Host	A non-native, annual herb grown throughout the U.S., as well as for ornamental value in gardens and containers.
<i>Capsicum annum</i> (pepper)	(Al-Hamdany and Al-Karboli, 2017)	Crop/ Home Garden	Incidental Host	Seedlings likely in nurseries during planting season.
<i>Capsicum frutescens</i> (chilli)	(Saeed et al., 2015)	Crop/ Home Garden	Incidental Host	Seedlings likely in nurseries during planting season.
<i>Citrullus lanatus</i> (watermelon)	(Saeed et al., 2015)	Crop/ Home Garden	Reproductive Host	Seedlings likely in nurseries during planting season.
<i>Cordia dichotoma</i> (fragrant manjack)	(Saeed et al., 2015)	Ornamental	Reproductive Host	Grown in tropical/ subtropical gardens; rare in U.S. trade but occasionally sold online.
<i>Corianderum sativum</i> (cilantro/coriander)	(Saeed et al., 2015)	Crop/ Home Garden	Incidental Host	Seedlings likely in nurseries during planting season.
<i>Cucumis melo</i> (muskmelon)	(Saeed et al., 2015)	Crop	Reproductive Host	Seedlings likely in nurseries during planting season.
<i>Cucumis sativus</i> (cucumber)	(Saeed et al., 2015)	Crop/ Home Garden	Reproductive Host	Seedlings likely in nurseries during planting season.

<i>Gerbera jamesonii</i> (gerbera)	(Saeed et al., 2015)	Ornamental	Incidental Host	A popular annual at most nurseries, can overwinter in subtropical U.S.
<i>Grewia asiatica</i> (Phalsa)	(Saeed et al., 2015)	Ornamental	Reproductive Host	Present in FL (GBIF.org, 2025; USDA NRCS, 2025). Available online from nurseries, mostly tropical.
<i>Helianthus annuus</i> (sunflower)	(Kamble and Sathe, 2015; Saeed et al., 2015)	Crop/ Home Garden	Reproductive Host	Widely cultivated crop, but also common in nursery/ ornamental trade for garden varieties.
<i>Hibiscus rosa-sinensis</i> (China-rose)	(Kamble and Sathe, 2015)	Ornamental	Reproductive Host	A popular container plant in most of the U.S., can grow as an ornamental shrub in subtropical U.S.
<i>Hibiscus sabdariffa</i> (Indian-sorrel)	(Raju and Rao, 1985)	Crop	Reproductive Host	Sometimes sold by specialty nurseries for tea.
<i>Lagenaria siceraria</i> (= <i>L. vulgaris</i>) (bottle gourd)	(Saeed et al., 2015)	Crop	Reproductive Host	Present in multiple states (GBIF.org, 2025; USDA NRCS, 2025). Seedlings likely in nurseries during planting season.

¹ Hosts on which both nymphs and adults are found, or hosts on which adults are identified on at least two survey dates in the same location (Saeed et al. 2015).

² Grape is mentioned as a heavily affected susceptible crop in Ghosh and Karmakar (2021), and Kulkarni (2020) notes it as an emerging pest of grapevine in Maharashtra, India; however, we currently consider grapes a minor host due to limited evidence of impacts.

Table 2. Insecticides for TSCL control.

Insecticides that are registered for use in the United States¹ and have reported efficacy against *Amrasca biguttula*. The establishment must incorporate a pesticide that is labeled for leafhopper control. The list below can be used as a reference for producers to use, but other IRAC Class pesticides may be used instead of those listed on Table 2. The establishment must confirm state and crop registration, use rates, and site restrictions prior to setting up any management program. NOTE: This is not an exhaustive list of pesticide options that are suitable for controlling TSCL. All pesticides used must be based on the current product label, crop/site registration, state registration, production setting, plant growth stage, and intended use.

IRAC Class (Mode of Action) ²	Active Ingredient ³	Efficacy ⁴	Labeled for use in greenhouse, nursery, or both	References
Organophosphates (1B)	Acephate	77%	Both	(Susheelkumar et al., 2020)
Organophosphates (1B)	Dicrotophos	>70%	N/A	(Roberts, 2025)
Organophosphates (1B)	Dimethoate	88%	Nursery	(Baladaniya et al., 2009)
Phenylpyrazoles (Fiproles) (2B)	Fipronil	>95%	N/A	(Sharma, 2022)
Neonicotinoids (4A)	Acetamiprid	>95%	Both	(Sharma, 2022)
Neonicotinoids (4A)	Clothianidin	>75%	N/A	(Anandhi et al., 2019)
Neonicotinoids (4A)	Dinotefuran	>75%	Both	(Anandhi et al., 2019; Mandal et al., 2013)
Neonicotinoids (4A)	Imidacloprid	75%	Both	(Singh Yadav et al., 2017)
Neonicotinoids (4A)	Thiamethoxam	>85%	Both	(Preetha et al., 2014)
Sulfoximines (4C)	Sulfoxaflor	>95%	Both ⁵	(Ghosh and Karmakar, 2021)
Butenolides (4D)	Flupyradifurone	69%	Both	(Halder et al., 2023)
Spinosyns (5)	Spinetoram	>95%	Greenhouse ⁵	(Ghosh and Karmakar, 2021)
Spinosyns (5)	Spinosad	71%	Both ⁵	(Singh Yadav et al., 2017)
Pyropenes (9D)	Afidopyropen	77%	Both	(Susheelkumar et al., 2020)

Buprofezin (16)	Buprofezin	>88%	Both	(Maji et al., 2015)
METI acaricides and insecticides (21A)	Tolfenpyrad	73%	N/A	(Halder et al., 2023)
Flonicamid (29)	Flonicamid	71%	Both	(Kodandaram et al., 2017)

¹ Registration status confirmed by Crop Data Management Systems (CDMS, 2025). Chemistries are listed by active ingredients only; check labels to determine approved usage, dosage, and availability for your state.

² IRAC, 2018.

³ Mention of compounds does not imply recommendation or endorsement by the USDA over others not mentioned. USDA neither guarantees nor warrants the standard of any product mentioned. Compound names are mentioned solely to report factually on available data and to provide specific information.

⁴ Efficacy reported from multiple trials which may vary in use rate, application details, and pest pressure. Efficacy values should be used as general indications of activity, not directly compared. See references for details.

⁵ Some products are not for use with leafy vegetables and/or fruiting vegetables for transplant (check label).