Trecise™ Field Application – ArborBiotic™ SOP

Version 5
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1. Policy Statement

The Trecise™ Field Application - ArborBiotic™ (SOP) provides an overview of Invaio Sciences, Inc. (Invaio) management and methodology for installing Trecise™ onto trees in the field, per Florida SLN N°. FL230002.

1.1 Document Purpose

The following procedure aims to ensure the safety of all handlers and the quality of Trecise™ Device installation (Device). This SOP will:

- define the equipment required to apply the Trecise™ Device in the field;
- provide instructions on how to safely and properly install and remove Trecise™ Devices;
- provide pre- and post-operational instructions; and
- define requirements for Federal Regulations compliance for pesticide application.

1.2 Document Scope

This document is intended solely for the use of Trecise™ and will outline the installation process for the Trecise™ device.

1.3 Document Definitions

Term	Definition
Agent	Any 3rd party entity contracted by Invaio to carry out activity related to the Trecise™ System and end use product.
Application Solution	Aqueous solution comprised of ArborBiotic™ and water for use with Invaio Trecise™ Device System.
ArborBiotic™	End use product comprised of Oxytetracycline Hydrochloride and other inert ingredients. Florida SLN No. FL230002 and EPA Reg. No. 88482-1.
EasySet™ Installation Tool	Handheld tool paired with a power drill used to insert Trecise™ device into the truck of the trees, at the precise depth.
End Use Product	A pesticide product whose labelling includes directions for use of the product (as distributed or sold, or after combination by the user with other substances) for controlling pests or defoliating, desiccating or regulating growth of plants, and does not state that the product may be used to manufacture or formulate other pesticide products.
Safety Data Sheet (SDS)	A document used to provide information such as chemical properties, physical health and environmental hazards, protective measures, PPE requirements, first aid procedures, spill clean-up procedures, safety precautions for handling, storing and transporting of the chemical.

Term	Definition
Personal Protective Equipment (PPE)	Protective clothing and equipment used to minimize exposure to hazards that may cause injury or illness.
Pesticide Label / Product Label	Label containing detailed information on how to use the product correctly and legally.
Re-Entry Interval (REI)	The time after the end of a pesticide application during which entry into the treated area is restricted.
Rinsate	Water containing low concentrations of contaminants, resulting from the cleaning of containers and equipment.
Secondary Container	Containers, such as spray bottles, jugs, drums, buckets or jars that chemicals are transferred to from the primary container once within the workplace.
Secondary Containment	Any system, device or control measure used to stop chemical spills and leaks from leaving a specific area, limiting exposure to people and the environment.
Trecise™ Device System	Invaio's patented, fully enclosed formulation / pesticide application system.
Worker Protection Standard (WPS)	The Environmental Protection Agency (EPA) federal regulation designed to protect employees on farms, forests, nurseries, and greenhouses from occupational exposure to agricultural pesticides related to the production of agricultural plants.
Bearing Trees	Trees that do produce edible fruits.
Non-Bearing Trees	Trees that do not produce edible fruits.

1.4 Associated Documents

- Invaio ArborBiotic™ Product Label Florida SLN N°. FL230002
- ArborBiotic™ Safety Data Sheet (SDS)
- ArborBiotic™ Product Label EPA Reg. N°. 88482-1

1.5 Responsibilities

It violates the State and Federal law to use agricultural products in a manner inconsistent with its labelling. Persons using agricultural products must comply with all applicable directions, restrictions, and precautions found on the labelling and the label of the federally registered product upon which this amendment is based. The labelling must be in the user's possession at the time of preparation.

Handlers and supervising management are responsible for using appropriate Personal Protective Equipment (PPE) to avoid personal injury. PPE should be worn according to the instructions on the product label and safety data sheet (SDS) when handling, applying, and removing the Trecise™ device.

Invaio has provided this SOP for your informational purposes only and personal use. While every effort has been made to ensure the accuracy and reliability of the information or recommendations, no guarantee is given, nor is responsibility taken by Invaio for the accuracy or the applicability to your particular circumstances.

Always read and follow the label before purchasing or using any Invaio Sciences, Inc. products.

2. Equipment Requirements

To ensure the safe, quality application of the Trecise™ device, Invaio recommends using the equipment types, which may vary based on availability, described below:

Type	Use/Detail
EasySet™ Installation Tool (Installer Tool)	Handheld tool paired with a power drill used to insert Trecise™ device into the trunk of the trees, at the precise depth.
Device Removal Tool (Remover Tool)	Handheld tool that grabs the inserted tip assembly and removes it from the trunk.
Hand Power Drill	Any handheld power drill with compatible size for use with the installer tool.

Before using any equipment, and as a pre-operational measure, all handlers should ensure that the equipment is calibrated, clean, free of debris, and in working condition.

3. Trecise™ Device System Composition

The Trecise™ Device System is an Invaio-patented system used to apply treatments in agricultural environments to reduce disease and improve the health of trees and plants. The Trecise™ Device System is fully enclosed and requires the proper management of installation operations to ensure safe and quality use of the product. The device is comprised of the following elements:

1. The Device tip assembly combines the tip and actuator. Once filled, it is assembled into one unit and ready to connect to cans.
2. The can, which has been pre-labelled with the Invaio secondary container label and pressurized to the required specification, contains a bag-on-valve (BOV) insert.
3. The application solution is the aqueous solution containing the end-use product.

The tool types recommended in Section 2 may be used to apply the devices to tree trunks. The installer tool is designed to clamp around the tree trunk, and the blade of the device tip is inserted horizontally into the tree to the prescribed depth. Once the device is applied to the tree, gentle force activates the actuator. Upon activation, the application solution is released by the internal air pressure of the canister acting against the BOV, forcing the liquid contents through the BOV and into the tree.

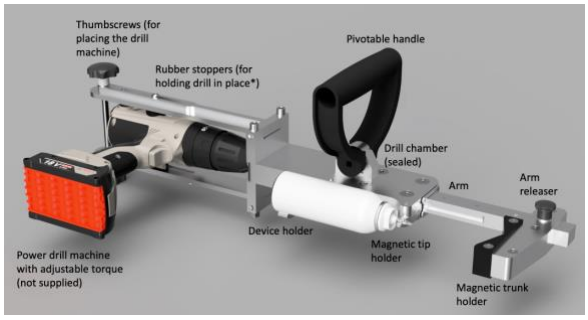

Figure 1: EasySet™ Installation Tool

Figure 2: Trecise™ Device

4. Pre-Operational Set Up and Inspection

Before starting the device application process, handlers and supervising management will inspect and ensure that all pre-operational measures are taken to ensure the application's safety and quality.

4.1 Warning and Precautions

Each Trecise™ device will contain a prescribed amount of ArborBiotic™ application solution associated with several warnings and precautions, as noted on the label and the SDS. Handlers of the material should read and understand these precautions or discuss further with someone who can assist them.

1. Always observe safety policies and procedures.
2. Review the label and SDS before working with materials.
3. Due to potential exposure to hazardous materials when performing this procedure, personal protective equipment must be worn.
4. According to the organization's policy, all waste must be disposed of in the proper waste receptacles.

Consult the label and SDS for additional information.

4.2 WPS and Personal Protective Equipment

Following the Worker Protection Standard 40 CFR part 170, all handlers applying and removing devices will be trained and have access to the product SDS, product label, and emergency action information. They will also be required to use the PPE prescribed on the pail label.

Additional PPE, such as chemical suits, sleeve protectors, shoe covers, or the like, may be used if preferred.

4.3 Working Environment

The working environment for handlers using devices may vary. It is crucial to inspect all environments and ensure they comply with the Invaio Site Assessment Checklist requirements. All measures should be taken to minimize the risk of environmental exposure.

4.4 Equipment

Before using any equipment, all handlers must ensure that it is set up according to instructions. The EasySet tool should be clean, debris-free, and in proper working order. If a replacement is needed, spare equipment and/or parts should be available. When working in non-temperature-controlled environments, cooling equipment may be used to maintain the temperature of the filled devices.

4.5 Secondary Containers and Containment

ArborBiotic™ residual quantities, residual application solutions, and rinsates from cleaning operations should be managed following proper waste stream practices and environmental exposure precautions. The end-use product should be stored in a trailer. The canisters will be placed in a cardboard box and stored in the trailer on pallet bunds. All secondary containment equipment must be able to hold 110-125% of the contained volume. Each secondary container will require an ArborBiotic™ product label, and a copy of the original MGF Scientific product label will be available.

4.6 REI Signage

Within 24 hours before applying Trecise™ devices at a field location, REI signage must be posted at all area entry points, following the EPA's Worker Protection Standard 40 CFR part 170. A restricted entry interval (REI), or re-entry time, is the period following a pesticide application during which entry into the treated area is prohibited. An employee is responsible for recording the chemical used, the date of application, and the date by which any person must remain out of the treated area on each REI sign.

Refer to the Product Label for the REI time. Once the Trecise™ Devices have been removed from the field, the REI period will begin, and the signage must remain in place until the interval is complete.

Figure 3: REI Signage

5. Device Installation

Upon completing the pre-operational setup and inspection, handlers may begin applying devices in the field. Filled Trecise™ devices can be installed immediately after filling or may be stored in designated storage areas. Please note the color of the label on the box, as they will either contain 150mg dose for bearing trees (labelled with an orange label on the box and can), 75mg dose for bearing trees (labelled with an orange label and light green label on the can), or 37.5mg dose for non-bearing tree doses (indicated by a white-labelled box and dark green labelled can). Devices should be used within 48 hours of filling and can be stored at temperatures up to 25°C (77°F).

While the EasySet™ Installation Tool is the preferred device installation method, Invaio may use other tools or installation methods. This SOP provides guidance for applying devices with the EasySet™.

5.1 Setup of EasySet™

The installation tool setup is a critical control point in the application process, as these steps determine the correct depth at which the devices should be inserted into the tree trunk. Deviations from this depth can result in the application solution leaking, ultimately affecting the uptake into the tree. Refer to the Trecise™ 3rd Party Installation Training for guidance on setting up the EasySet™ Installation Tool. Ensure that the power drill is fully charged and in working order.

5.2 Installation Operations For Non-Bearing and Bearing Trees

Tree installation can begin once the installation tool calibration and other set-up requirements are met.

<u>For Non-Bearing Trees:</u>

1. Load the Trecise™ device into the device holder, carefully placing the metal tip into the magnetic tip holder. Before placement, the device must be adjusted so that the tip is horizontal. The base of the can should rest on the device holder.

2. Ensure the power drill is set to rotate counterclockwise. Gently press the trigger to extend the arm, allowing it to fit around the tree trunk at the desired height.

3. Position the arm of the installer tool around the tree so that the trunk holder rests against the tree, aligned with the arm of the installer tool. The tip should be horizontal at a 90-degree angle to the tree.

4. Change the power drill setting to clockwise rotation and carefully press the trigger to retract the arm, bringing it into contact with the tree. According to the calibrated setting, the tip should penetrate the tree at the correct depth, where the shoulder at the base of the blade touches the tree. If the tip is not inserted deeply enough into the tree, increase the torque on the drill. If the tip is driven too far into the tree (see Figure 4), reduce the torque on the

drill. Continuously monitor the insertion depth during applications and adjust to ensure correct insertion depth.

Figure 4. Over-insertion of the tip into the tree.

5. Adjust the power drill setting to counterclockwise rotation, then carefully press the trigger to release the arm before slowly moving the installer tool downward. This will detach the EasySet™ from the installed Trecise™ device.

6. Firmly grip the canister and push toward the tree until a click is heard, signifying that the canister is actuated. The actuation indicator fins previously visible should no longer be seen above the crown of the actuator. See Figures 5a and 5b.

Figure 5a. Correctly actuated.

Figure 5b. Incorrectly actuated / not actuated.

For tree sizes <1 inch in scion diameter, support the back of the tree trunk during actuation to avoid the risk of tree damage. See Figure 6.

Figure 6. Support the back of the tree trunk while pressing the canister for actuation.

7. Inspect the device's placement in the tree and ensure no signs of leakage.

Do not inject trees with a scion size smaller than 0.5 inches. If you have concerns about misapplication or tree damage, promptly contact the crew leader or Invaio personnel.

For Bearing Trees:

1. Load the Trecise™ device into the device holder, carefully placing the metal tip into the magnetic tip holder. Before placement, the device must be adjusted so that the tip is horizontal. The base of the can should rest on the device holder.

2. Ensure the power drill is set to rotate counterclockwise. Gently press the trigger to extend the arm, allowing it to fit around the tree trunk at the desired height.

3. Position the arm of the installer tool around the tree so that the trunk holder rests against the tree along the arm. The tip should be horizontal at 90 degrees to the tree. If, at maximum extension, the device cannot go around the tree, switch from the straight trunk holder to the curved trunk holder by removing the two pull pins from the holder and replacing them with the other trunk holder.

4. Adjust the power drill setting to clockwise rotation and gently press the trigger to retract the arm, bringing it into contact with the tree. According to the calibrated setting, the tip should penetrate the tree at the appropriate depth, with the shoulder at the base of the blade making contact. If the tip is not inserted deeply enough into the tree, increase the torque on the drill. If you are over-driving the tip into the tree (see Figure 7), decrease the torque on the drill. Continuously monitor the insertion depth during use and adjust as necessary to ensure correct insertion depth.

Figure 7. Over-insertion of the tip into the tree.

5. Set the power drill to rotate counterclockwise, gently press the trigger to release the arm, and gradually lower the installer tool. This will detach the EasySet™ from the mounted Trecise™ device.

6. Grip the canister firmly and push it toward the tree until you hear a click, indicating that it has been actuated. The actuation indicator fins, previously visible, should no longer be seen above the crown of the actuator. Refer to Figures 8a and 8b.

Figure 8a. Correctly actuated.

Figure 8b. Incorrectly actuated / not actuated.

7. Inspect the device's placement in the tree and ensure no signs of leakage.

Do not inject trees with scion sizes larger than 6 inches. If you have concerns about misapplication or tree damage, promptly contact the crew leader or Invaio personnel.

5.3 Pesticide Application Record

According to the EPA's Worker Protection Standard and the USDA 1990 Farm Bill, pesticide applicators must record and maintain a two-year record of the following information:

- Product Name/Brand

- EPA Registration Number
- Total Amount of Pesticide Applied
- Date
- Location
- Crop
- Size of Area Treated
- Name of Certified Applicator
- Applicator Certification Number
- Active Ingredients
- Restricted Entry Interval

Any farm location must post these records in a central location. The personnel overseeing the application must record the information.

5.4 Quality Control Checks

Quality control checks may occur throughout the day to verify that the application process is completed per directions. The quality checks should cover:

- Direction of injection
- If there is any leaking
- Tip inserted correctly
- Insert happened in the Rootstock of the tree
- The actuator was actuated.

5.5 Storing

The filled Trecise™ devices should be stored at up to 25°C (77°F), and may be stored at the recommended temperature for up to 48 hours. Secondary containment should be used where required.

6. Device Removal

Once installed, the filled Trecise™ device may take several hours to several days to completely empty into the tree. Devices can remain on the tree for up to 14 days. Within the 14-day window, the installer can determine which day to start removing the devices. It is not recommended to remove the canisters within two days after application. Inspect a few trees for uptake first before removing all canisters.

1. Use either your foot or a long-handled tool to knock the can from the tree, keeping your body as far away as possible from the released device. The tip and middle section of the actuator will break away easily. The can with the actuator ring should be knocked off. This step is crucial for preventing unintended exposure. The device's actuator component is designed to close the valve upon separation to prevent any remaining application solution from being released and not taken by the tree.

2. If the valve does not close upon separation, let the device release any leftover application solution or pressure before handling.

3. As stated on the can label, handle the device with the proper PPE and place it in the designated waste removal container/area.

4. Using the device removal tool or any similar tool to grasp the remaining metal tip portion of the tip assembly, pull and remove the tip from the tree. Then, place the used tips in the designated waste removal area/container.

5. Once the devices are removed, the REI period will begin for the duration specified on the label. The REI starts after the last device is taken off.

6. After removing the device, the field should be scouted for any canisters Invaio or agent employees inadvertently left in the field. These should be collected for disposal.

7. Restricted entry signs may be removed after the 24-hour REI period after the last can removal.

8. If any remaining canisters are found in the field after the application and removal processes, workers should notify on-farm pesticide applicators. Invaio should also be notified of the presence of these devices and should work with on-farm personnel to collect and dispose of them per the waste stream document.

7. Post Operational Clean Up

Once the devices have been installed and removed, measures will be taken to ensure that all equipment is properly cleaned and ready for use. Waste will also be handled appropriately to mitigate further exposure. Waste should be disposed of in designated waste collection containers rather than general trash containers.

7.1 Clean-Up of Equipment and Environment

At the end of each use, the equipment will be wiped down with a soapy, lint-free wipe to remove any residues and prevent build-up. Once filled, the Trecise™ Device is fully enclosed and should pose minimal risk of exposure. Any application solution found in secondary containment or other areas will be wiped clean with a soapy, lint-free wipe or collected in a designated waste container. All contaminated wipes will be collected and placed in the designated waste container for waste stream management.

Tertiary containers like corrugated boxes may be discarded and do not require regulated waste removal. However, if there are visible signs of leakage and/or contamination, they should be placed in the designated waste area.

7.2 Contaminated PPE

All used disposable PPE will be collected in the designated waste container for waste stream management. Non-disposable PPE will be wiped with a soapy, lint-free wipe and/or laundered by a third-party linen service. Any wastewater or rinsate created on site will be collected in an assigned waste container for waste stream management.

7.3 Wastewater Collection

All liquid waste, application solution, or contaminated water rinsate must be collected in designated containers for proper waste removal.

8. Appendix: SOP History

FUNCTIONAL AREA	Operations
SOP#	CO.052.LS.OP.FL
PROCEDURE NAME	Trecise™ Field Application and Removal - ArborBiotic™ SOP
REVISION#	V5
EFFECTIVE DATE	03/17/2025
APPLICABLE REGIONS	US - FL
APPROVED BY	Phil Wright, VP Operations