



Systems Approach To Nursery Certification (SANC)

Facility Manual



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Staff

Systems Approach To Nursery Certification (SANC) Management Policy

It is the policy of _____ to sell and ship only plants of the highest quality standards and to be free of injurious pests and diseases. The company has put into place documented procedures that monitor all aspects of plant production and growing in order to reasonably mitigate the transmission of regulated pests or pathogens to or from our facility and throughout all nursery operations. _____ will continuously improve our internal procedures and to work with the authorities to contain any regulated pests. The company will adhere to the SANC Standard to certify shipments of our products to our customers.

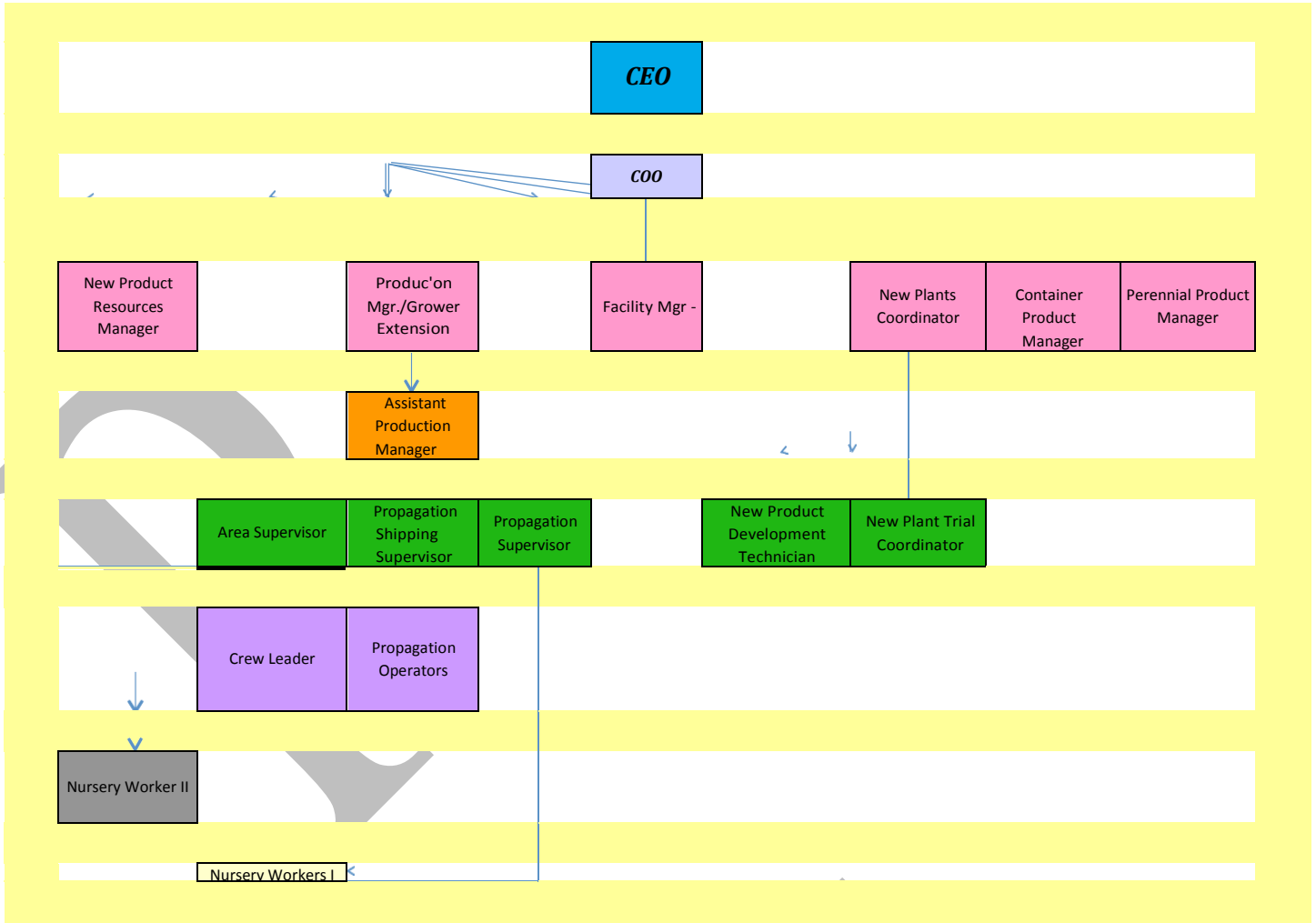
A Pest Management Plan for the facility and its operations has been developed and is maintained. This plan is based on the risk assessment conducted, and the identification of critical control points. Best Management Practices (BMP's) were used that defined how to best mitigate those risks and includes provisions for scouting, documenting and managing the potential risk for plant pest introduction or spread into or within the facility.

A document and records system has been developed to ensure that processes and procedures are consistent, are being utilized and that plants certified meet the requirements of the SANC Standard. To control the traceability of plant material, records are maintained and documentation is available from when and how sourcing material is received, put into inventory, and up until shipping to our customers. These records are made available to the state certifying agency upon request and are maintained according to requirements.

_____ has defined and written SANC duties into all job descriptions with SANC responsibilities. The company maintains training and orientation records for all employees as necessary to meet SANC requirements. Internal and external systems audits are in place for the SANC program; these audits verify that our systems are functioning properly and serve to identify situations that may indicate needed changes to the pest management plan document, and to document process improvements through corrective actions.

Staff

Organizational Chart



Job Title	SANC Responsibility
COO	SANC Program Manager
Production Manager	Manages Pest Management Plan Maintains Audit Records Maintains Risk Assessment Maintains Compliance Agreements and Regulatory Documents
New Product	Lead Scout Chemical Applications
Shipping Supervisor / Scout	Scouting
Assistant Production Manager	Chemical Applications
Propagation Supervisor	Scouting Chemical Applications

Staff

Position	SANC Responsibilities	Qualifications / Training	Continuous
SANC Program Manager Chief Operating Office	Has been assigned the authority and accountability to develop and implement the SANC management system that meets the SANC requirements	Attends NPB SANC Meetings	Meets with appropriate authorities on a regular basis
	Responsible for assuring that the SANC requirements are carried out throughout the entire operation	Has a working knowledge about Systems Approaches	SANC Participation
	Ensures SANC compliance through the Pest Management Plan, internal audits, and program recordkeeping of the facility	Is an officer of the company	Auditing and review of SANC manual and continuous improvement system
	Ensures that employees with SANC responsibilities have the necessary expertise in performing those tasks and are adequately trained		
	Communicates to the certifying authority any reportable non-conformance and or manual changes.		
SANC Pest Management Production Manager	Has a complete understanding of the SANC Program and is the alternate to manage the requirements of SANC	Meets with state authorities on a regular basis to maintain an up to date knowledge of regulated pests	Attends industry events to stay current on updated BMP's
	Implements and administers the Pest Management Plan and is accountable for pest control mitigation	Certified Pesticide Applicator Certification	Auditing and review of SANC manual and continuous improvement system
	Acts as alternate to the SANC Program Manager		
	Responsible for conducting internal audits and reporting completed audits to the SANC Program Manager		
	Establishes and implements corrective action plans for identified non-conformances	Attends industry sponsored short courses to accrue credits to maintain Pesticide Applicator Certification	Participates in NPB SANC Meetings
	Maintains all records pertaining to pest management, and mitigation	Adheres to WPS as per required	Continuing education on pest detection, IPM, receives updates from extension and state agencies
	Reports occurrence of any new regulated pests on inbound plant material to state authorities	Has a working knowledge of pest detection procedures, entomology, plant pathology and weed management	
	Trains all Production Department Employees in their related SANC job description responsibilities		
SANC Pest Scout New Product Development Tech	Scouts crops on a biweekly basis in all growing areas and maintains copies of scouting reports	Meets with state authorities on a regular basis to maintain an up to date knowledge of regulated pests	Continuing education on pest detection, IPM, receives updates from extension and state agencies
	Communicates pest and pathogen findings with indication of pest pressure to all departments	Attends industry events to stay current on updated BMP's	
	Scouts treated areas to monitor efficacy	Has a working knowledge of pest detection procedures, entomology, plant pathology and weed management	
	Recommends retreatment if necessary	Has a working knowledge of the SANC Program Requirements and receives in house training by Production Manager on SANC requirements related to Scouting	
	Is trained in conducting internal audits		
	Send suspected virus samples to approved labs for virus panel tests		
SANC Pest Mitigation Propagation Supervisor Assistant Production Manager	Certified to complete mitigation control measures	Certified Pesticide Applicator Certification	Internal Audit
	Acts as additional alternate for managing the Pest Management Plan	In House training by Production Manager on SANC requirements related to mitigation controls	
	Scouts crops on a biweekly basis in all growing areas and maintains copies of scouting reports	Propagation Supervisor and Assistant Production Manager are trained by Production Manager to recognize common signs and symptoms of pest and diseases	
		Has a working knowledge of the SANC Program Requirements	
	Adheres to WPS as required, also mixing loading company procedures, and respirator fit testing		

Staff

Position	SANC Responsibilities	Qualifications / Training	Continuous
Shipping Supervisor	Shipping Logistics	In House training by Production Manager on SANC requirements for In Bound and Out Bound Shipments	Internal Audit
	Scouting on saleable crops during order assembly	Shipping Supervisor is trained by Production Manager to recognize common signs and symptoms of pest and diseases	
		Has a working knowledge of the SANC Program Requirements	
SANC Record Keeping Human Resources Manager	Maintains records of all employee SANC training and orientation	Organizes training sessions and is involved in document control of all related company procedures	Internal Audit
All General employees in Production Department	Responsible for taking healthy cuttings to reproduce plants, and also work on consolidating crops and pulling orders for shipping	Training provided by Production Manager to recognize common signs and symptoms of pest and diseases	Annually receives general orientation in SANC program
		Receives general orientation in the SANC Program	
All Employees in Non-production Departments	No direct SANC responsibilities	Management Policy on SANC program is explained annually	Annually receives general orientation in SANC program through the Management Policy including any updates
Breeding Department NPD	Maintains records of sourced material Records indicate if sourced material meets SANC standards	Responsible parties trained in SANC standards	Internal audit

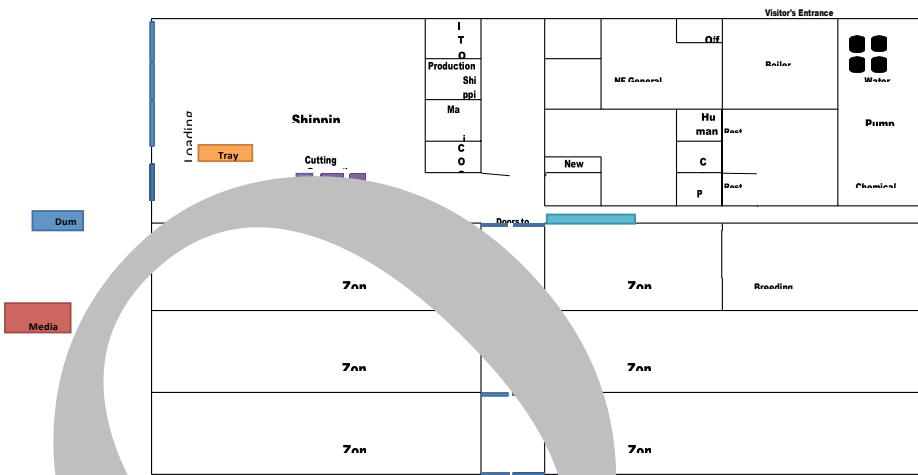
Staff

External Facility Map



Staff

Internal Facility Map



Pest Management Plan

Systems Approach To Nursery Certification (SANC) Pest Management Plan

Incoming Plant Material

- All plants coming into the greenhouse are received on the loading dock. Once at the dock all plants are inspected by the Production Manager. PM conducts a visual inspection of roots, media and foliage utilizing a hand lens.
- All material grown at internal locations outside of the greenhouse structure follows the incoming plant material procedures.
- If pests are identified, plants are isolated and corrective treatment is assigned. Plants are inspected again by PM to measure efficacy of treatment.
- If treatment is successful plants are released into greenhouse, if treatment is not successful corrective action is assigned.
- Plants are received on racks marked "new arrival."
- After successful treatment, sign is changed to "okay to move" and then product is moved into inventory.
- If pathogen is not identified, a sample plant is sent to a reputable lab for identification. Any plants remaining from this group are isolated in headhouse area until lab results are returned. Corrective action is assigned after pathogen is identified.
- Upon confirmation of finding a regulated pest/pathogen PM will contact _____ Dept of Ag. To report finding.
- If plants are received from an international delivery all applicable APHIS regulations are followed. Inspections by _____ Department of Agriculture used to confirm compliance with permit regulations.

Scouting

- Scouting is performed in all growing zones on a regular basis. Scouting is done by IPM scout (this responsibility is part of the New Product Development Technician and the Assistant Production Manager). Findings are published and distributed via email. PM reviews report and walks with IPM scout to review findings. PM assigns corrective action. PM scouts treated areas to monitor efficacy. Re-treatment is assigned as necessary.
- If suspected virus is found, sample plant is sent to a reputable lab for virus panel test. Upon receipt of lab results plants are either discarded or cleared for movement into growing zones.
- Scouting reports are managed electronically by the Production Manager.
- Sticky cards are used in zone 3 and BGH to monitor pest and beneficial populations.

Pest Management Plan

- Monitor pH and EC levels in container media on a regular basis.
- Beneficial insects, mites and nematodes are applied on a regular basis during the growing season to suppress Thrips, Aphids, Shore Fly, Fungus gnats and mites.
- Fungicides are applied on a regular schedule to suppress the growth of fungal pathogens in all growing zones.
- Pesticide application records are maintained by the Production Manager according to federal and state requirements.

Shipping

- When plants are pulled for delivery to customers the shipping supervisor assigns pull locations after walking crops.
- Shipping crew then grades plants to ensure uniformity and visually inspects plants to make sure they are apparently free of pest and disease.
- Plants are then loaded onto racks to bring to shipping dock for packaging.
- PM and/or Shipping Manager walks racks at dock to visually observe outgoing material. Upon passing inspection, PM or Shipping Manager marks shipping paperwork that plants have been inspected and are approved for shipment.
- Shipping racks are disinfected on a regular basis during year.
- Any culled plants are discarded and thrown away in a dumpster (tray media and plant).
- Any plants identified during the shipping process as having pest/disease pressure are downgraded in inventory by Inventory Manager.
- All attempts are made to schedule dock pickups on days when outgoing shipments are not occurring.
- Customers are not allowed to unload material from receiving trucks onto _____ shipping dock to accommodate loading.

Media and Containers

- New media is used for all canning and propagating tasks.
- Media is stored out of direct contact with weather (rain, snow and ice).
- Media is delivered on pallets to prevent contact with ground during storage.
- New containers are used for all canning and propagating tasks.
- Containers are stored on pallets to prevent contact with ground during storage.

Pest Management Plan

Production Practices

- Propagation trays are stored on pallets, protected from direct contact with weather (Rain, snow and Ice).
- Under trays may be reused once they are disinfected and stored on pallets.
- Propagation tables and pruners are disinfected at the start of each workday, and in between varieties during day.
- When cuttings are to be taken from growing zones PM or Assistant Production Manager walks crop and assigns harvest location from pest/disease free stock.
- PM walks assigned area with Propagation supervisor to review cutting stock before harvest begins.
- Pruners are sprayed down with disinfectant at regular intervals during harvest procedure.
- Cuttings are brought to preparation area in clean bags (no re use of bags is allowed).
- When cuttings are processed they are dipped to disinfect and then stored in cooler before sticking into rooting trays.
- Large scale trimming is accomplished in zones 1 and 2 with a motorized trimming machine that runs across the top of the crop. Blade and deck of trimming machine are washed manually after each trimming pass. Cuttings are collected in bag and discarded.
- Trimming on New Plant Development stock pants in zone 3 is done utilizing 1 new razor blade per plant.
- On other New Plant Development and breeding plants, pruning is accomplished with hand shears that are regularly disinfected during pruning.
- Watering in all growing zones is executed daily to give the most efficient drying time possible.

Sanitation and Disposal

- All tables in zone 3 are disinfected in between crops.
- Floors in zone 3 and Breeding Greenhouse are disinfected on regular basis during the year.
- Weeding and grading of plant material in all growing zones is done on a regularly scheduled basis during the year. Any culls are discarded in dumpster and reported to inventory.
- A small portable dumpster is used to move culls from growing zone to outside dumpster.
- Trash cans are provided in all growing zones, each can has a tight fitting lid that is kept in place at all times.
- Hose ends are kept off the floor in all growing zones.
- All tables in zone 3 and Breeding Greenhouse are disinfected on a regular basis during the year, typically in-between crop cycles

Pest Management Plan

Facility and Security

- An outside contractor is hired annually to maintain outside grounds, including mowing of lawn and field areas and string trimming greenhouse perimeters to suppress weed growth.
- Greenhouse and evaluation fields are secured by locking gates to prevent unsupervised visitors from gaining access.
- Growing zones are vented automatically via automated controllers to control temperature and protect crop from rain and snow events.
- Fans in all growing zones circulate air constantly to help suppress fungal pathogen development.
- Crops are grown on raised benches (zone 3 and BGH) or on stone floor to avoid tray contact with standing water. (Zones 1 and 2)
- No equipment that is used outside the greenhouse is allowed into the growing zones of the greenhouse, this includes forklift, tractors, wagons and pickup trucks.
- Thrips screening is utilized in Breeding Greenhouse.
- Greenhouse access is limited by locking doors (after hours). No unloading is done until Shipping Supervisor is contacted.

Water

- Water is provided from deep wells and pumped into cisterns in pump room. Well water is sampled from the pump room and sent to an approved lab for pathogen and quality testing. Samples are sent in on a regular basis.
- Hose ends are kept off the floor in all growing zones.
- Watering in all growing zones is executed daily to give the most efficient drying time possible.

Audits and System

Systems Approach To Nursery Certification (SANC) Internal Audit and Improvement Systems Procedures

Overview

- The standard procedure that will be used to audit and verify conformance to the SANC requirements established in the Program Manual is a series of system and surveillance audits.
- These audits will verify that the systems are functioning properly or to identify situations that may indicate needed changes to the Pest Management Plan

Types of Audits

- Systems audits will be completed to check whether all the main elements of the SANC system are in place. The systems audit will focus more attention to how the stated Facility Manual procedures are functioning, for example record keeping, staff training, document controls, etc., this audit will verify that the system really works. The systems audit may be completed by internal or external (certifying authority) auditors
- Surveillance Audits are directed to audit a specific part of the SANC process when the process is active; ex. shipping surveillance audit will occur as appropriate

Audit Frequency

- A systems audit of the SANC Facility Manual will be conducted as needed as determined by the Program Manager
- Surveillance audits will be conducted each year, management and the SANC Program Manager will develop a schedule of sufficient internal audits based upon operational activities that encompass the aspects of the annual systems audit

Audit Preparation

- The SANC Program Manager will develop and manage a schedule defining the scope and method
- Actual audits will be conducted by Internal Auditors. Prior to each audit the SANC Program Manager will review with the Internal Auditor, the relevant requirements of SANC in terms of what is being audited, and manage the process
- An Audit Observation Form will be used during the audit.

Audits and System

Audit Initiation and Steps

- To initiate the internal audit, the auditor records objective evidence to verify conformance or non-conformance on the Audit Observation Form including
 - A description of the details of a non-conformance
 - The corrective action plan
 - Follow-up comments
 - Reference # for document control

Audit Completion

- Internal Auditor
 - Provides the completed Audit Observation Form to the Production Manager for document control in accordance to _____ Document and Record Procedures
- Production Manager
 - Conducts follow up audit to verify closure of non-conformances and to verify effectiveness of corrective actions and preventative measures, records those results and returns them to the SANC Program Manager
 - Communicates Audit Form findings to Management Team/Department Heads
 - Provides the Audit Form and Corrective Action Report to the Program Manager
- Program Manager
 - Reviews and approves the Audit Form and any Corrective Action Reports

Records and Documents

SANC Document Control, Traceability, and Record Keeping Procedure

1. SANC Facility Manual and Related Documents

- a. The official copy of the SANC Facility Manual will be stored electronically
- b. The Chief Operating Officer of the Company is the SANC Program Manager and is responsible for managing the SANC Facility Manual including
 - i. Only the SANC Program Manager has editing capabilities of the SANC Facility Manual on the official copy
 - ii. Documenting all changes and communicating changes when applicable to the certifying authority
 - iii. Maintaining revisions and maintaining a revisions log
 - iv. Informing HR Manager of revisions so that HR can update all paper copies and dispose of all obsolete manuals
- c. Paper copies of the SANC Facility Manual are located in the following locations:
 - i. Production Manager's office
 - ii. Employee information area
 - iii. Human Resources (HR) office
- d. It is the responsibility of the HR Manager to periodically check that the most current version of the manual is available at these locations
- e. All obsolete electronic copies will remain for two years
- f. Other documents that are used to meet the SANC standard are controlled by the New Product Coordinator

2. Record Control

- a. All SANC records are maintained by _____ for a minimum of two years.

3. Incoming Plant Material Records

- a. Paperwork for all plant material shipped into the facility from outside suppliers, breeders, or stock farms are maintained by the following department managers that purchased the inventory
 - i. Production Manager
 - ii. New Product Development Coordinator
 - iii. Breeding Manager
- b. Records maintained include but are not limited to the following
 - i. Certificates / Inspections
 - ii. Bills of Lading
 - iii. Origin of Products

Records and Documents

- iv. Applicable Phytosanitary Records
- v. Records applicable to quarantine status

4. **Out Bound Plant Material Records**

- a. All outbound plant material shipped regardless of the department is maintained by the Shipping Manager
 - i. Records maintained include but are not limited to
 - 1. Bills of Lading
 - 2. Phytosanitary certificates and Shipping Certificates
 - 3. Bill to and Ship to Locations

5. **Pest Management Plan Records**

- a. The Production Manager maintains the following records
 - i. The Pest Management Plan and scouting reports
 - ii. Chemical Application Records
- b. The New Product Development Technician maintains the following records
 - i. Diagnostic reports

6. **Training and Orientation Records**

- a. The HR Manager maintains the following records
 - i. Employee duties related to the SANC program
 - ii. Documentation of all employee training related to SANC

7. **Internal and External Audit Records**

- a. The Production Manager maintains all audit records for the SANC Program
 - i. Audit records are maintained for two years

8. **Risk Assessment Records**

- a. The Production Manager maintains this document and periodically reviews the document for changes in hazards, and critical control points
- b. All changes to Risk Assessment are reviewed by the Production Manager

9. **Compliance Agreements and Regulatory Documents**

- a. The Production Manager maintains and reviews all compliance agreements and regulatory documents for _____
- b. Copies of these documents are in the following locations:
 - i. NPD Office
 - ii. Production Manager Office
 - iii. Production Shipping Office

Records and Documents

- c. Production Manager is responsible for maintaining current versions of the compliance and regulatory agreements

10. Certifying Authority

- a. State Plant Regulatory Official
 Department of Agriculture

Phone: | Fax:

www.agriculture.state. .us