

Strategic Implementation Plan for the National Clean Plant Network (NCPN)

Mission

The NCPN provides high quality asexually propagated plant material free of targeted plant pathogens and pests that cause economic loss to protect the environment and ensure the global competitiveness of specialty crop¹ producers.

Vision

The NCPN's regional centers of excellence are recognized leaders in the introduction of the highest quality, regionally adapted, true-to-type propagative plant materials that are free of targeted plant pathogens and pests, thus promoting a vigorous commercial environment and the opportunity for international trade while protecting the environment of North America. Translational research, education and extension initiatives are fully funded to maintain the network's high quality collections and strengthen its services. Industry, research and regulatory communities collaborate to ensure an abundant supply of healthy specialty crops. The economic, environmental and social sustainability of specialty crop industries and the improved economies of the communities that depend on these industries are the ultimate impacts of the NCPN's robust service delivery.

Goals, Objectives, Strategies and Actions

- 1. Enable the interaction among industry, research and regulatory communities to determine the resources and structure needed to ensure a viable and cully functioning clean plant system.**
 - 1.1. The NCPN will develop and implement a management/governance structure.**
 - 1.1.1.** The NCPN will create a governance board composed of industry stakeholders, academic and state and federal government representatives who will develop standard operating procedures to be followed throughout the network.
 - 1.1.2.** Board members will be invited based on recommendations from the NCPN Steering Committee. Board members will be invited based on geographic location to represent the specialty crops served by the NCPN.
 - 1.1.3.** Once established the Board will:
 - 1.1.3.1.** Create guidelines for the operation of the Board, including terms of office and nomination process;
 - 1.1.3.2.** Provide advice on policy for the network;
 - 1.1.3.3.** Provide leadership and direction for the network;
 - 1.1.3.4.** Ensure the network is adequately resourced;
 - 1.1.3.5.** Establish priorities for funding programs;

¹ Specialty crops are defined in the Specialty Crops Competitiveness Act of 2004 as “fruits and vegetables, tree nuts, dried fruits and nursery crops (including floriculture).”

- 1.1.3.6. Identify the roles and responsibilities of all components of the NCPN
 - 1.1.4. The Board will establish work groups as needed and will provide the work groups with guidelines for their operation.
 - 1.1.4.1. A modest budget will be provided to the work groups to facilitate participation
 - 1.1.5. All operating procedures will be published and provided to stakeholders for input. Stakeholder input will be used to modify operating procedures as needed and operating procedures will be validated prior to implementation.
 - 1.1.6. A full-time Director of the NCPN should be appointed and the board will clarify the role and responsibilities of the Director.
 - 1.2. The governance board will develop mechanisms for managing the scope of the network.
 - 1.2.1. Develop criteria to assess the scope of the network.
 - 1.2.2. Develop criteria for membership in the network.
 - 1.2.3. Create stakeholder work groups that will provide input for the development of working collections, research needs and best management practices.
 - 1.2.3.1. Work group members will be selected based on nominations from industry organizations and academic, state and federal agencies.
 - 1.2.3.2. A consultative process will be used that involves all stakeholders to ensure relevance of the material inventoried in working collections.
 - 1.2.4. Identify the gaps or needs for additional clean plant program activities.
 - 1.3. The governance board will insure the continual, unimpeded flow of information among the components of the network to facilitate the accomplishment of the NCPN mission.
 - 1.3.1. Establish a communications coordinator who will ensure communication occurs among all network components.
 - 1.3.2. Establish public and member-only websites.
 - 1.3.3. Provide links to existing clean plant programs.
 - 1.3.4. Hold annual meetings among network members.
 - 1.3.5. Investigate the electronic inter-connectivity of clean plant programs.
 - 1.3.6. Develop and maintain registries for plant material in the program.
 - 1.4. The NCPN will develop state-of –the-art administrative and record keeping assets, methods and service that will ensure the security, continuity and accuracy of all its activities, products and services.
 - 1.4.1. Exceptional attention will be paid to all aspects of record keeping in the processes of developing clean plant materials from point of entry to point of delivery.
 - 1.4.2. A sufficient administrative apparatus will be developed to service all of the business and science needs of the NCPN.
- 2. The NCPN will provide rapid and safe introduction and release of selections from foreign and domestic sources for commercial development.**
- 2.1. The NCPN will establish, maintain and enhance a network of facilities and expertise for testing and providing therapy for clones of specialty crops based on

- climatic suitability, current infrastructure and expertise, regional needs and disease and insect pest safety standards.
- 2.1.1.** Conduct a review of existing facilities to assess strengths and weaknesses.
 - 2.1.2.** Review state and federal regulations regarding facilities operations to determine where modernization is needed.
- 2.2. The NCPN will use the best available methods to release pathogen and insect pest tested planting material in a safe and timely fashion.
- 2.2.1.** Commodity working groups will:
 - 2.2.1.1.** develop risk assessment and risk management protocols;
 - 2.2.1.2.** agree on diagnostic protocols and diseases and insects being screened in facilities.
 - 2.2.2.** Develop a sharing system for positive controls.
 - 2.2.3.** Develop an audit process.
- 2.3. The NCPN will use reasonable methods to obtain desired accessions from reliable sources both within and outside the network.
- 2.3.1.** Develop a secure internet sharing system.
3. The NCPN will provide foundation stock to industry within prescribed state and federal certification schemes.
- 3.1. The NCPN will establish collections of cultivars that are tested and found to be disease and insect pest free in accordance with NCPN standards.
 - 3.1.1.** The NCPN will develop a process for prioritizing what will be in a collection.
 - 3.1.2.** The NCPN will develop a procedure for including new crops in the network.
 - 3.2. The NCPN will maintain collections in accordance with standards published by NCPN.
 - 3.2.1.** Standards will include site selection, site preparation, isolation distances, pest monitoring protocols, inspection and testing regimes, among other factors.
 - 3.2.2.** Standards will meet or exceed standards of any certification requirement needed for practical distribution of collection material.
 - 3.3. The NCPN will establish and coordinate working relationships with and among appropriate entities that certify plants for planting.
 - 3.3.1.** Engage entities that can facilitate communications, such as NPB and NASDA, to identify stakeholders to develop a communication plan.
 - 3.3.2.** Develop an inventory of existing capabilities, roles and authorities.
 - 3.3.3.** Clarify and catalogue existing certification schemes, making harmonization a priority.
 - 3.4. The NCPN will develop procedures and fee schedules specific to proprietary clones.
 - 3.5. The NCPN will develop a transparent prioritization process for orderly distribution of plant material when demand is greater than availability for a particular clone.
4. The NCPN will establish diagnostic guidelines and national standards for different crop species for certification and maintenance.

- 4.1. The NCPN will conduct research to develop rapid, accurate testing techniques to meet the needs of regulators and the industry.
- 4.2. The NCPN will facilitate optimization and validation of pathogen and pest detection methods according to accepted protocols to satisfy regulatory needs
- 4.3. The NCPN will coordinate development, optimization and validation efforts with other entities such as the National Plant Diagnostic Network, academic institutions, USDA-APHIS, USDA-ARS and state agencies.
- 4.4. The NCPN will encourage and participate in etiological research of significant diseases for which a causal organism is unknown.
- 4.5. The NCPN will encourage and participate in research on the epidemiology and economic impact of significant diseases.
5. The NCPN will investigate, determine and implement the most appropriate methods for effective and rapid elimination of pathogens and insect pests from specialty crops for planting.
 - 5.1. The NCPN will investigate methods for rapidly increasing candidate plants obtained through a therapeutic process.
 - 5.2. The NCPN will validate and adapt new therapeutic techniques for each specialty crop
6. The NCPN will develop best management practices that will be used by industry to maintain the pathogen- and pest-indexed status of plants for planting.
 - 6.1. The NCPN will use its advisory committees in preparation of best management practices for the maintenance of foundation grade collections as well as nursery and production operations.
 - 6.2. The NCPN will assist in the execution of best management practices where expertise by NCPN is required.
 - 6.3. The best management practices may be adopted by state/federal regulatory agencies from their own certification programs.
 - 6.4. The efficacy of recommended best management practices will be demonstrated through peer-reviewed or validated research where possible.
7. The NCPN will develop a plan to evaluate the performance of the programs.
 - 7.1. The management board, with input from the stakeholder working groups, will establish the process and timetable for program evaluation.
 - 7.2. The assessment plan for the overall program will include:
 - 7.2.1. baseline data on crops and common pathogens and insect pests;
 - 7.2.2. gap analysis by crop, identifying diseases and insects of concern, knowledge base, facilities, etc;
 - 7.2.3. concentration of support for new crops;
 - 7.3. Each program goal will have an assessment plan.
 - 7.3.1. Goal 1
 - 7.3.1.1. are deadlines regularly met
 - 7.3.1.2. are boards/committees/work groups established in a timely manner
 - 7.3.1.3. are boards/committees/work groups facilitating function in the system
 - 7.3.1.4. conflict resolution
 - 7.3.1.5. a major external review should occur at least every five years
 - 7.3.1.6. self assessments and internal audits should occur annually.
 - 7.3.2. Goal 2

- 7.3.2.1. baselines established
- 7.3.2.2. follow QMS standards to determine SOP implementation/functionality
- 7.3.2.3. use important network components as indicators
- 7.3.3. Goal 3
 - 7.3.3.1. assess where collections are held; provide redundancy; reassess
 - 7.3.3.2. quantify releases as measure of service
 - 7.3.3.3. determine role of ARS in germplasm maintenance (long-term repository)
- 7.3.4. Goal 4
 - 7.3.4.1. evaluate number of new tests and tools
 - 7.3.4.2. evaluate increase in sensitivity and specificity of techniques
- 8. NCPN will encourage, develop and engage all possible extension, education and outreach resources that will interact with and train key stakeholders, such as commercial nurseries and growers who propagate their own material to ensure the successful dissemination and use of NCPN products and services.
 - 8.1. NCPN will seek to develop partnerships with land-grant and other university based extension and outreach services to interact with commercial nurseries, industry associations, and producers.
 - 8.2. NCPN will develop strategies and resources to ensure the successful and impartial distribution and use of its services and products.
 - 8.3. Extension and outreach resources will provide a communication link with NCPN services and products in the field.
 - 8.4. NCPN will develop strategies and resources to ensure that educational materials about its services and products are included in college and university curricula.