

POLICIES & PROCEDURES MANUAL
NATIONAL PREDICTIVE MODELING TOOL INITIATIVE (NPMTI)

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I. Policies and Procedures Background – NPMTI also operates as AgPMT. Either name can be used.

- A. Policies & Procedures (P&P) were developed by NPMTI Networking & Facilitation Office (NFO) and Executive Committee (EC). They were first approved by the Steering Committee (SC) on August 4, 2020, amended and approved by the EC on January 14, 2021, based on SC inputs.
- B. See XIV.A for the process to amend Policies and Procedures.

II. NPMTI Goals – The overall goals of AgPMT are to:

- 1) Ensure crop sustainability and crop quality
- 2) Improve soil health
- 3) Monitor pathogens and microbial diversity in the environment, including, but not limited to, crop residues, soils, and air
- 4) Improve crop disease management thereby reducing yield losses
- 5) Increase precision of in-season crop disease management tactics
- 6) Increase precision of pesticide use

III. NPMTI Hypothesis – In-season risk for plant disease development can be improved to near real-time by developing a comprehensive and coherent modeling tool that integrates:

- 1) Quantifying pre-season pathogen inoculum density in the field
- 2) Superior crop/host genetics
- 3) The effects of soil type and other agronomic factors on pathogen inoculum density
- 4) An air monitoring system for wind-borne pathogens
- 5) Meteorological (and other agronomic data), in a coherent information and decision support system
- 6) The use of other artificial intelligence platforms (e.g., unmanned aerial vehicles)
- 7) Information from historic outbreaks for specific plant diseases

AgPMT will incorporate monitoring techniques to address all sides of the “plant disease triangle” concept to provide a more precise predictive tool for in-season disease risk. In turn, this will help to achieve the goals listed above.

IV. NPMTI Deliverable Methodology – Ultimately, AgPMT will be a national, multi-crop disease forecasting tool that will expand to include a diversity of crops and scientific disciplines across the United States. The current endeavor brings together a network of scientists from Land Grant Universities, USDA-Agricultural Research Service (ARS), and cooperating national laboratories. Over the life of this initiative, primary research will provide insight into management decisions pertaining to crop selection, hybrid/variety selection, cover crop selection, tillage options, seed treatments, foliar fungicides, and other agronomic tools that focus on minimizing the impact of crop disease. The resulting research efforts will be published in newsletters, peer-reviewed journals, and other forms of communication to the immediate benefit of the agricultural community. As a result, this increasing knowledge base will provide site-specific (i.e., field, region) and evidence-based suggestions for on-farm disease management to an audience of farmers, Extension agents, USDA personnel, crop consultants and agronomic advisors. The information in aggregate will be disseminated by press releases to national agricultural media outlets and available on the Initiative’s website. NPMTI will stay abreast of and use the most up-to-date communication vehicles to reach its audiences, with particular emphasis on end users. Tools will include web-based graphical user interfaces (GUIs), smartphone application (app) platforms, use of the online Integrated Pest Information Platform for Extension and Education (iPiPE Portal), and the continued development of new communication avenues.

Important to the ongoing progression of this Initiative is the pursuit and delivery of a comprehensive forecasting tool to the agricultural community. As collection and analysis of multiple variables begin to aggregate, the primary deliverable, a site-specific forecasting model, must be considered during the early stages of research and development of the Initiative. The success of this deliverable will require collaboration with data scientists and mathematicians skilled in computational analyses that provide longevity through continual maintenance, storage, and calibration of the forecasting tool. A successful forecasting tool of this magnitude and breadth is contingent on delivering simplicity (user-friendly interface for farmers and other end users) out of complexity (advanced predictive modeling).

As a general guide, the following recommendations are briefly outlined with the objective of promoting information transfer and partnership:

- A. Academic Laboratories shall include working groups within Land Grant and other research institutions. The success of the Initiative relies on their expertise in study design, development, and validation of new methods and technology that provide a clearer understanding of disease prediction. At the forefront of scientific discovery, these “Academic Laboratories” will identify variables and thresholds associated with disease risk. As focal variables emerge for use within the forecasting tool, the next objective will be to transfer methods, where applicable, to Service Laboratories to minimize time and resources spent on highly repetitive sample testing and instrumentation calibrations.
- B. Service Laboratories shall be defined as those laboratories that can provide additional support for data collection. They will be invited to participate in cases where Academic Laboratories may not have the equipment, personnel, or administrative authority to perform high-throughput testing of samples outside their primary research scope. Service Laboratories will collaborate with Academic Laboratories to develop standard operating procedures (SOPs) on focal variables (e.g., pathogen detection), which may require standardization for regional forecasting models or field-level specificity for more personalized and real-time user models. Service Laboratories must have Quality Control procedures in place. Ideally, Service Laboratories will be in good standing with the International Organization for Standardization (ISO) or hold an accreditation through another certification body. Service Laboratories should have SOP development experience to provide validations on the original or updated methods, as communicated by the Academic Laboratories. Additionally, Service Laboratories will conduct interlaboratory comparisons and implement proficiency tests on SOPs as new Service Laboratories join the Initiative. Participating Service Laboratories with the capacity for data aggregation and analyses will also provide resources for developing forecasting models.

V. NPMTI Action Plan (AP)

- A. Year One of NPMTI (2020) focused on key diseases of three agronomically important annual row crops: corn, cotton, and wheat, each of which was organized into a research area committee (RAC).
- B. In subsequent years, additional crops and new diseases will be added, funding permitting, on a Request for Proposal (RFP) basis as recommended to USDA-ARS by the Executive Committee (EC), in consultation with the Steering Committee (SC) and each RAC.
- C. RACs shall draft individual action plans, which are comprised of RAC program descriptions and research priorities that are in support of NPMTI Goals and Objectives. In aggregate, individual RAC action plans (and those of the two COs or collaborating organizations; see VIII.A) will comprise the Consolidated 5-Year Action Plan (CAP). Drafts of the research priorities shall be disseminated to the SC and EC for comment. Drafts continue to evolve as input is acquired. Final drafts are submitted to the SC and EC for approval at the summer SC meeting.
- D. CAP will help to guide the RFP process. CAP will be updated annually. The expected outcomes of CAP are improved research planning and accountability for USDA-ARS funding, greater collaboration among researchers, better communication with NPMTI stakeholders and public at large, and more rapid attainment of NPMTI goals (see II above).
- E. CAP is a dynamic document and therefore will continue to evolve and change as needed
 - 1. See XIV.B for the process to amend the Consolidated 5-Year Action Plan.

VI. NPMTI Governing Procedures

Governing procedures – shall be based on Robert’s Rules of Order for all committee meetings and conference calls (RAC, SC, and EC).

VII. NPMTI Transgenic Management Policy

When operating with NPMTI funds, all principal Investigators (PI) and other researchers must manage gene edited plants according to USDA-Animal and Plant Health Inspection Service (APHIS) Biotechnology Regulatory Service (BRS) guidelines and standards for transgenic plant work.

VIII. Structure of NPMTI Committees and the Administrative Office

- A. Overview – NPMTI committees are structured in tiers. Crops and associated commodity groups are represented by Research Area Committees (RAC). The Steering Committee (SC) is comprised of select members of each RAC (see IX.A.1.e below), along with representation from the two collaborating organizations (CO): Los Alamos National Laboratory (LANL), and the National Agricultural Genotyping Center (NAGC). LANL will house and aggregate, to a common protocol, all sources of data that are submitted by each PI. LANL also will leverage and adapt appropriate LANL tools for decision support. These data will be available only to NPMTI collaborators (as defined herein), while operating under standard intellectual property (IP) rights, where appropriate. NAGC will provide prescribed testing services to each RAC without charge, thus allowing the RAC to focus its resources on field-based research, data collection, and analysis. SC makes recommendations to the Executive Committee (EC), which is comprised of the chair (and potentially co-chair) of each RAC, as well as representatives from the two COs, along with administrative support of the Networking & Facilitation Office (NFO). The EC makes funding recommendations to USDA-ARS.
- B. Funding Parameters – Agricultural Appropriations budgeting is a dynamic one in which funding can vary from year to year. USDA-ARS has established guidelines for funding of national initiatives (see Appendix A). Each year, membership in SC and EC will be based on the funding amount the RAC is allocated through the RFP process. The RAC will earn one seat on the SC for each \$100,000 of research funding the RAC receives (see IX.A.1.e for specifics).

IX. Roles of NPMTI Committees and the Administrative Office

- A. Research Area Committees (RAC) – each RAC represents the interests of a specific annual row crop.
 - 1. Membership – will be open to all interested parties and stakeholders of a specific crop or pathogen (that affects multiple crops), including but not limited to, academicians, Extension personnel, USDA-ARS researchers, staff of crop/commodity groups and associations, industry representatives, crop consultants and farmers. Those interested in being a RAC member will submit an application to the RAC chair and NFO 30 days before the Annual Meeting (AM). Said membership is reviewed by the RAC Membership Committee and, if ratified, added to the RAC roles on an annual calendar basis.
 - a) Committee Positions – the positions of Chair and Co-Chair of the RAC will be limited to university researchers (with emphasis on Extension researchers), USDA-ARS researchers, and representatives of the commodity/crop group or association.
 - b) Chair – Two (2) years; position may be held for up to three (3) consecutive terms
 - (1) Chair – Two (2) years; position may be held for up to three (3) consecutive terms
 - (2) Co-Chair – same terms as Chair; Co-Chair may become Chair
 - (3) Chair/Co-Chair – shall be elected by a simple majority of RAC members
 - (4) The Chair (and potentially Co-Chair) shall serve on the SC (see IX.B.1.b)
 - (5) If the RAC qualifies, RAC members shall elect by simple majority a member(s) of the EC as spelled out in section IX.C.1.a
 - c) Other members of the RAC (if any) shall be elected to the SC by a simple majority of ratified RAC members at the Annual Meeting per the provisions set forth in IX.A.1.e.
 - d) Other RAC committee positions include:
 - (1) RAC Membership Committee – of up to 9 RAC members, who will vet and ratify potential RAC members
 - (2) RAC RFP Review Committee – of up to 7 RAC members, who will review and make recommendations on proposals submitted through the RFP process (see Section X)

- e) A RAC must have secured some funding through the RFP process to have a seat on the SC. Funded RACs shall have one (1) seat on the SC. A second seat will be awarded when \$200,000 of research funding is allocated. Thereafter, each additional \$100,000 in funding will earn an additional seat on the SC, up to a maximum of eight (8) seats total for a RAC.
2. RAC Responsibilities
- a) RAC Members shall draft an annual Action Plan that includes a one-, two-, and five-year forecast for what the goals and expected outcomes of the RAC's actions are. All RAC Action Plans together with the plans for CO's (see VIII.A) shall help guide the Consolidated 5-Year Action Plan (CAP) for NPMTI, which, in turn, will aid the Request for Proposal (RFP) process. The CAP will also help guide the annual, overall NPMTI budget.
 - b) RAC Chair, with the assistance of the Co-Chair shall:
 - (1) Act as liaison between the EC and/or NFO and their respective committee
 - (2) Serve as members of the SC and EC as outlined in sections IX.A.1.e and IX.C.1.a
 - (3) Work with RAC members to draft annual RAC Action Plan
 - (4) Appoint RAC Membership and RFP Review committees
 - (5) Draft and submit overall (not individual PI) RAC proposals to the SC for consideration
 - (a) Facilitate the review of proposals submitted to the RAC
 - (b) Develop recommendations for funding for consideration by the SC
 - (c) Provide comments/suggestions for proposed recipients and non-recipients to be included in the notification of funding
3. Meetings, Conferences, and Key Dates
- a) RAC members should confer as needed to accomplish the responsibilities of the RAC
 - b) RAC Chair and/or Co-chair can call meetings via conference call given 48-hour notice

- c) All RAC members will be invited to the Annual Meeting, which will coordinate with the date and location of the annual Commodity Classic, when possible
 - d) Quorum – not necessary to conduct RAC business
4. Pooling of Interests – the RAC’s of smaller crops and specialty crops may aggregate funding of similar crop types (e.g., pulse crops, cucurbits, brassicas/cole crops) to earn SC seats. Similarly, a RAC can be formed by representatives of multiple crops that are addressing a shared problem of a specific pathogen (e.g., a mycotoxin). Allocation of SC seats is defined in section IX.A.1.e; as well as seats on the EC, as explained in section IX.C.1.a.
- B. Steering Committee (SC)
- 1. Membership – is defined by the funding amount the RAC achieves per section IX.A.1.e.
 - a) Length of Term – Four (4) years (except RAC chairs/co-chairs whose term on the SC is tied to their term or position on these committees). Members may be re-elected. There is no limit on the number of consecutive terms that a member may serve on the SC.
 - b) Number of Members – contingent upon the budget appropriated each year by Congress, exclusive of USDA-ARS funds per Appendix A
 - (1) The RAC may have a minimum of one, and up to eight members on the SC.
 - (2) The RAC must have some funds allocated to it. It will be limited to one seat on the SC if less than \$200,000 in research budgeting is awarded to the RAC as outlined in IX.A.1.e.
 - 2. Committee Composition – the SC shall consist of RAC members elected to the SC as defined in section IX.A.1.e, as well as representatives from the two COs, along with administrative support of NFO.
 - a) USDA-ARS National Program Staff who oversees NPMTI has a standing invitation to participate as a voting member in all NPMTI meetings.
 - b) If an SC member resigns mid-term, the Executive Committee has the authority to appoint a person to serve out the remainder of the term.
 - 3. Meetings
 - a) The SC shall meet twice per year per section XIII.

4. Responsibilities – along with providing direction and guidance to NPMTI, the SC is responsible for the following:
 - a) The SC shall meet twice per year per section XIII
 - b) Review and approve the EC’s recommended annual Research Plan & Budget (RPB)
 - c) Appoint organizing committees for the twice-yearly meetings (see XIII)
 - d) The SC authorizes the EC to act on its behalf
 - (1) The EC must notify the SC promptly of its actions by e-mail
- C. Executive Committee (EC)
1. Membership – the overall EC size will be determined by the funds that Congress appropriates to NPMTI each year, minus the funds that are allocated to USDA-ARS (see Appendix A). The EC will be comprised of one and possibly two representatives of qualifying RACs, as well as representatives from the two COs along with administrative support of NFO.
 - a) To qualify for an EC seat, the RAC must have earned a minimum allocation of \$200,000 in research funds through the RFP process. RACs that have earned over \$400,000 in research funds may seat two representatives, which typically are the RAC Chair and Co-Chair.
 - b) USDA-ARS National Program Staff who oversees NPMTI has a standing invitation to participate as a voting member of all NPMTI meetings.
 2. Executive Committee Positions – EC Chair, EC Co-Chair and EC Member
 - a) Length of Term – Two years, and up to three (3) consecutive terms
 - b) Number of representatives: based on the annual budget that Congress appropriates to NPMTI (see IX.C.1 and IX.C.1.a for specific details)
 - c) Election of EC Chair and Co-Chair
 - (1) During the Annual Meeting, the administrator of NFO shall take nominations for the positions of Chair and Co-Chair of the EC. These individuals will also chair (co-chair) the SC. The co-chair shall assume the role of the chair in the absence of the chair.
 - (2) A nominee is appointed by a simple majority of the votes cast.
 - (3) A nominee is appointed by a simple majority of the votes cast.

- (a) Organize and lead meetings, conferences and calls of EC and SC. Ensure that minutes are taken of same.
 - (b) Lead the effort to educate Congressional staffers on the importance of NPMTI. Oversee the lobbying efforts.
 - 3. Meetings – EC will meet as needed, but not fewer than two (2) in-face meetings (including virtual “in-face” meetings) per year, see section XIII.
 - 4. Responsibilities:
 - a) Review each RAC’s Action Plan as approved by the SC
 - b) Review and approve annual Request for Proposals (RFP) document developed by NFO
 - c) Develop in conjunction with NFO the process for evaluating proposals
 - d) Develop annual Research Plan & Budget (RPB) based on review of proposals, CAP (see section V.C), and recommendation of SC
 - e) Select the location and dates for the twice-yearly meetings; SC will appoint an Organizing Committee for each meeting
 - f) Work on securing/increasing the appropriations budget for NPMTI
 - g) Review and approve annual calendar/timetable of NPMTI activities
 - h) Quality Assurance as it relates to data management – identify quality, content and format standards for data and software as detailed in Appendix B, number 3
 - i) Inform SC of all executive actions and decisions
 - 5. Voting Procedures
 - a) Quorum – shall consist of more than 50% of current EC members, including email voting
 - b) Voting outcomes shall be determined by a simple majority of votes cast
- D. Networking & Facilitation Office (NFO)
- 1. Purpose – of NFO is to act as the administrative and communication headquarters for NPMTI
 - 2. Personnel
 - a) Executive Director of NAGC
 - b) Administrator
 - c) Financial Manager
 - d) Others as deemed necessary

3. Responsibilities

a) Facilitate Communication

- (1) Provide administrative support for SC and EC
 - (a) Organize SC and EC meetings and conference calls
 - (b) Record and distribute minutes
 - (c) Inform EC of NFO activities
 - (d) Inform SC of EC actions, meetings, etc.
 - (e) Monitor terms for NPMTI committees; facilitate nomination and election processes
 - (f) Facilitate communication between SC, EC, and RAC
- (2) Assist RAC chair/co-chair with communication of meetings and calls, if requested
- (3) Act as liaison between NPMTI and USDA-ARS
- (4) Manage NPMTI Website
- (5) Oversee production and distribution of NPMTI newsletters and press releases
- (6) Maintain list servers
- (7) Act as a rapid clearinghouse of NPMTI related questions

b) Meeting Management – Manage the NPMTI Annual Meeting (AM) and its Summer Meeting of SC and EC members

- (1) Manage meeting location and lodging in city selected by the EC
- (2) Coordinate all facets of meeting arrangements

c) RFP – NFO will draft the annual Request for Proposal, incorporating feedback from RAC and SC, and submit the document to the EC for final approval

- (1) Distribute the Request for Proposal (RFP) application using various electronic mailing lists (see sections IX.D.3.a.6 and X.B)
- (2) Facilitate review process for proposals
- (3) Notify applicants of funding recommendations
- (4) Forward NPMTI's annual Research Plan & Budget (grant proposals) to USDA-ARS

- d) Resource Management/Accountability Center
 - (1) Maintain records on all proposals, projects, and grants submitted and recommended for funding to USDA-ARS
 - (2) Generate and process progress-reporting forms
 - (3) Oversee production and management of the NPMTI website including various communications pertaining to research and administrative aspects of NPMTI
 - (4) Maintain records of all EC and SC activities and actions
 - (5) Generate reports requested by committees

X. Request for Proposal (RFP) Process

- A. NFO shall develop the annual, two-step RFP process, incorporating feedback from RAC, SC, and EC.
 - 1. Step One – Letter of Intent (LOI) – PI briefly (3 pages or less) describes proposed project. This will help ensure that the proposal is on-target and consistent with RAC plans and overall NPMTI goals.
 - a) LOI instructions, available at www.AgPMT.org will include budget guidance.
 - (1) Instructions will include deadlines, which will be on or about November 1 for the LOI.
 - b) RAC review committee will notify PI (via NFO) to proceed to full proposal or not.
 - (1) PI notification will occur on or about November 15.
 - (2) Notification may include guidance for why the LOI was not selected.
 - (3) LOI acceptance notification may include guidance for full proposal funding.
 - 2. Step Two – Once the LOI is accepted, PI writes a full proposal. Full proposal instructions, application and appendices will be posted on the NPMTI website at www.AgPMT.org.
 - a) Instructions will include deadline for full proposal, which will be on or about December 31.
 - b) Instructions will include a budget worksheet.

- B. Distribution – To the extent possible, electronic copies of the RFP shall be distributed to the following:
1. Current and former NPMTI researchers
 2. Non-funded researchers who previously submitted pre-proposals
 3. Attendees of the Annual and Summer Meetings
 4. Electronic notices shall be posted on the NPMTI website and sent to the following:
 - a) NPMTI Listserv
 - b) Agricultural Experiment Station Directors and Extension Service Directors
 - c) Administrative Heads and Academic Heads at 1862 and 1890 land grant institutions
 - d) USDA-ARS National Program Staff (NPS)
- C. RFP participation is open to any member of a RAC, including the RAC, SC, and EC members. RAC, SC, and EC members shall recuse themselves from voting on submittals in which they have a financial interest and/or are the PI or co-PI on the project.
- D. New Areas – individuals and groups not represented by a current and active RAC are encouraged to engage in the RFP process, if the proposed activity supports the goals and objectives of NPMTI.
- E. Review Process – Processing and Review of Proposals
1. Proposals are confidential documents that include all information/documents required to evaluate the value of the project.
 2. Proposals are sent to NFO for appropriate distribution.
 - a) Proposals received by NFO will be sorted by research area, and copies will be sent to the appropriate RAC Chair and Co-Chair.
 - b) The RAC Chair/Co-Chair may be assisted by the RAC Review Committee (see IX.A.1.d). Members must recuse themselves during review of their own proposal.
 - c) After proposal review, the RAC Chair shall collect review summaries, and with the Co-Chair, compile a comprehensive funding recommendation that will be submitted to the SC for review. SC Chair will forward the review summaries (individual and overall) and SC recommendations to the EC and NFO, prior to the Annual Meeting.

- d) Proposals that are received from an individual or group not represented by a current and active RAC (in NPMTI) shall be forwarded to the Chair of the EC for review by the SC.
- e) The EC shall meet just prior to the start of the Annual Meeting with each of the RAC Chairs and Co-Chairs (if applicable) to discuss their committee's recommendations.

F. Funding Recommendation

1. Once the EC has received the SC review of the RAC's recommendations regarding submitted proposals, the EC shall reconcile the recommendations with the available funds.
2. The EC shall then present a proposed funding allocation to the SC for recommendations and approval.
3. Once the SC approves the budget allocation, NFO shall send written notification to all researchers who submitted a proposal.
4. NFO will forward the grant proposals as a comprehensive recommendation to USDA-ARS.
 - a) All Research Grant Agreements (RGA) that are recommended by NPMTI are for a one- or two-year award period (at the discretion of the PI).
 - b) Grant proposals are confidential documents.
 - c) PIs shall submit electronically to NFO one non-technical abstract for each NPMTI recommended project that will be made public through the Initiative's website.

G. Handling and Storage of Proposals

1. Original copies of proposals will be stored confidentially by NFO for at least three years.
2. RAC reviewers should destroy all copies of proposals immediately following the final submission of all grant applications to USDA-ARS.

XI. Data Management

- A. Agreement – All institutions that are involved in NPMTI must work cooperatively in sharing and publishing data. Primary data, which is collected in field research plots, are needed for secondary analysis, e.g., modeling, by members of NPMTI. In addition, it is anticipated that users (private and public entities) outside of the network will request access to data generated by the Initiative.
- B. Public Access to Data – is generally expected within 4 years of project initiation. Once data are publicly available, outside users may use the data by citing/acknowledging the data set, without any additional permissions needed.
- C. Data Use Guidelines – appear in attached Appendix B.

XII. Reporting of Progress – USDA-ARS contractually requires annual Performance Reports (PR) and a Final Performance Report (FPR) at the conclusion of the research for all Research Grant Agreements (RGA).

- A. Purpose – Accountability and real-time communication among scientists.
- B. Process – PIs are required to submit a Performance Report (PR) for each single year an award is received. A final report (FPR) is required at the end of the final year of the Research Agreement.
 - 1. NFO, working with the EC and USDA-ARS, will generate the PR and FPR forms, which will be sent to the PIs in August. PIs shall submit one electronic version of the PR, with signature, to NFO by mid-September. NFO shall forward the PRs to USDA-ARS's Grants and Agreements Management Branch (GAMB). Reports are due no later than September 30.
 - 2. USDA-ARS requires Final Performance Reports be accessible to the public. Therefore, the Final Performance Reports shall be made available through the NPMTI website.

XIII. NPMTI Meetings

- A. NPMTI will have two meetings per year (either in-face or virtual). The SC will appoint organizing committees for each. NFO will work with each organizing committee to ensure that required NPMTI business is addressed at each respective meeting.

- B. The Annual Meeting – will be open to all NPMTI members. If possible, it will be held in the same city as and immediately preceding Commodity Classic (typically in early March). No quorum necessary.
- C. SC Summer Meeting – open to SC and EC members only. Funded PI's may be invited. If possible, the SC meeting will be held in the same city as, and immediately preceding the American Phytopathological Society annual meeting. A quorum is 50% or more of current SC members.

XIV. Amendments

- A. Process for amending Policies & Procedures (P&P)
 - 1. The EC will review P&P annually and recommend P&P changes to the SC.
 - 2. P&P may be amended one time per year at the NPMTI Annual Meeting.
 - 3. Any member of the SC may request changes to the P&P.
 - 4. The EC will review all suggested changes submitted 30 days prior to the Annual Meeting. If the EC agrees with suggested changes, the changes will be incorporated into the current P&P, and then submitted to the SC for final consideration.
 - 5. Any non-policy changes (i.e., language changed to bring in line with current policy) to the P&P require only approval by the EC.
 - 6. The EC will inform SC of all requested changes, including any that were not recommended to be incorporated into the P&P.
- B. Process for amending the Consolidated 5-Year Action Plan (CAP) and an individual RAC Action Plan
 - 1. Each RAC is responsible for reviewing and voting on the proposed changes to the individual RAC Action Plan (AP). The chair of each RAC will obtain a simple majority vote of the proposed changes to the AP from ratified members of the RAC 30-days prior to summer SC meeting.
 - 2. The individual Action Plans in aggregate will comprise the Consolidated 5-Year Action Plan (CAP).
 - 3. Any member of the SC may request changes to the CAP.
 - 4. NFO will then incorporate the proposed changes into the draft CAP document and circulate it to the relevant RAC committee members, researchers and stakeholders for further discussion and review during spring planning meetings and/or conference calls.

5. Once agreement with the proposed changes is reached within the RAC, they will be presented to the SC, preferably at its summer meeting, for final approval.

ACRONYMS

AgPMT – the operating name for NPMTI, short for Agricultural Predictive Modeling Tool

AM – Annual Meeting

AP – Action Plan

APHIS – Animal + Plant Health Inspection Service

ARS – Agricultural Research Service

BDA – Big Data Assessment

BRS – Biotechnology Regulatory Service

CAP – Consolidated 5-Year Action Plan

CO – Collaborating Organization, support from NAGC and LANL

EC – Executive Committee

ED – Executive Director

FPR – Final Performance Report

GAMB – Grants and Agreements Branch

IP – Intellectual Property

iPIPE – Integrated Pest Information Platform for Extension and Education

ISO – International Organization for Standardization

LANL – Los Alamos National Laboratory

LOI – Letter of Intent

NACA – Non-Assistance Cooperative Agreement

NAGC – National Agricultural Genotyping Center

NFO – Networking & Facilitation Office

NPMTI – National Predictive Modeling Tool Initiative

NPS – National Program Staff

P&P – Policies & Procedures

PDRP – Program Descriptions & Research Priorities

PI – Principal Investigator

PR – Performance Report

RA – Research Agreement

RAC – Research Area Committee

RFP – Request for Proposal

RGA – Research Grant Agreement

RPB – Research Plan & Budget

SBIR – Small Business Innovation Research

SC – Steering Committee

SM – Summer Meeting

USDA – United States Department of Agriculture

Guidelines of Principals for USDA-ARS Initiatives

January 14, 2020

- Terms of the Initiative will be established in agreement with USDA-ARS and its collaborators.
- USDA-ARS is not a funding agency.
- All outgoing money must be directed through a Non-Assistance Cooperative Agreement (NACA). USDA-ARS takes a management fee of 16.7% of all NACA funds prior to distribution.
- Based upon the terms of a NACA, no Indirect Costs will be allowed if the Cooperator is a State Cooperative Institution as defined in 7 U.S.C. 3103(18).
- Based upon the terms of a NACA, the official negotiated Indirect Cost is not to exceed 10% of the total Direct Cost if the Cooperator is a Non-profit Organization.
- Based upon the terms of a NACA, the Cooperator must contribute 20% by way of in-kind/cost sharing.
- USDA-ARS will hold 10% at the headquarter location and up to 10% at the managing location of all appropriated funds.
- A Small Business Innovation Research (SBIR) fee of 3.2% will be charged on all NACAs.
- A Big Data Assessment (BDA) fee of 1% will be charged to all appropriated monies, minus the 10% headquarter allocation.
- Final decisions for funding of any research proposals will be the responsibility of USDA-ARS which will take under consideration the recommendation of the Research Area Committee (RAC) members and of the Executive Committee (EC).
- In case of a government shutdown, deadlines may get pushed back for an equivalent amount of time.

APPENDIX B

Data Use Guidelines

The guidelines presented below apply to use of data by NPMTI members during the project period:

1. Data – there are two types of NPMTI data, defined below. Anyone who creates data, whether primary, or secondary, will be considered a “Data Creator.” Anyone who wishes to use NPMTI data will be referred to as a “Data User.”
 - a. Primary Data: These are typically field data such as data regarding pathogen populations and disease development. Primary data are collected as a result via a NPMTI experimental protocol and typically specify the data collection method, structure, storage, and process for sharing. These data will be aggregated in NPMTI data repositories accessible to the full Initiative, using a data model that attributes the Data Creator.
 - b. Secondary Data: When primary data undergo a significant transformation due to, for instance, data analysis or modeling, the outputs are now considered secondary data. In this instance, the data analyst or modeler is considered the Data Creator of these secondary data and receive the same attribution rights and responsibilities afforded to primary Data Creators. Secondary data will also be aggregated in NPMTI repositories accessible to the full Initiative, using a data model that attributes the Data Creator, or the source in the case of weather data and historic outbreak data.
2. Software – NPMTI will also develop and share software in NPMTI. These include digital tools, machine learning, and additional algorithms, and decision support tools developed by NPMTI members. The software will be available in an NPMTI software repository accessible to the full team, with documentation that attributes the original Software Creators. Anyone who wishes to use NPMTI software will be referred to as a Software User.

3. Quality Assurance – The role of the NPMTI Executive Committee is to identify quality, content, and format standards for data and software. The role of the Data Creator is to assure these data are of the highest quality with no known errors or changes expected to occur once they are uploaded to the Initiative’s database. Similarly, it is the role of the Software Creator to assure that the software is of the highest quality, with appropriate error handling, change management, and documentation. Further, since some software will result in secondary data, it is their role to assure that the secondary data are “clean.”