



Food and Agriculture Sector Annual Report

Fiscal Year 2020



Homeland
Security

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1.0. Overview of FA Sector Goals

The Food and Agriculture (FA) Sector’s goals support the Joint National Priorities (JNP) developed in 2014 by the national council structures described in the *National Infrastructure Protection Plan 2013: Partnering for Critical Infrastructure Security and Resilience (NIPP 2013)*. These goals guide and integrate the FA Sector’s efforts to improve security and resilience and describe how the FA Sector contributes to national critical infrastructure security and resilience as set forth in PPD-21. Critical infrastructure protection, particularly in the FA Sector, is not the responsibility of one department or agency in government, but rather is a partnership effort between all levels of government and private sector owners and operators. Continually since its establishment, the FA Sector has recognized the value and importance of the partnership between government and the private sector, as this is vital to increasing homeland security and resilience. FA Sector partners in the public and private sectors have taken significant steps to reduce sector risk, improve coordination, and strengthen security and resilience capabilities through achievements towards these five goals that guide future FA Sector progress. The benefits of this partnership have been amplified in the FA Sector’s response to the COVID-19 pandemic. The 2015-2019 FA Sector Goals include:

2015-2019 Food and Agriculture Sector Goals	
Goal 1	Continue to promote the combined Federal, SLTT, and private sector capabilities to prevent, protect against, mitigate, respond to, and recover from manmade and natural disasters that threaten the national food and agriculture infrastructure.
Goal 2	Improve sector situational awareness through enhanced intelligence communications and information sharing among all FA Sector partners.
Goal 3	Assess all-hazards risks, including cybersecurity, to the FA Sector.
Goal 4	Support response and recovery at the FA Sector level.
Goal 5	Improve analytical methods to bolster prevention and response efforts, as well as increase resilience in the FA Sector.

Source: Table 3-1: [2015-2019 FA Sector Goals](#)

The Food and Agriculture Sector acknowledges that an updated Sector Specific Plan (SSP) is due. The Department of Homeland Security (DHS) has been leading an effort since early 2021 to update the National Infrastructure Protection Plan (NIPP) 2013. The Food and Agriculture Sector wants to ensure the next SSP is nested completely with the NIPP refresh as well as the new language in Section 9002 of the fiscal year (FY) 2021 National Defense Authorization Act (NDAA). As such, the Food and Agriculture Sector will continue to participate in the NIPP

refresh working group process. The Department of Homeland Security is aiming for a final version of the NIPP refresh effort sometime in the later part of 2021. Once an updated version of the NIPP is published, the Food and Agriculture Sector will convene a working group to finalize our development of an updated Sector Specific Plan with revised goals.

The National Infrastructure Protection Plan (NIPP) 2013: Partnering for Critical Infrastructure Security and Resilience provides the overarching framework for a structured partnership approach between the government and the private sector for protection, security, and resilience of critical infrastructure. The NIPP establishes the requirement and mechanisms for partnership and collaboration between the federal government; critical infrastructure owners and operators; and state, local, tribal, and territorial (SLTT) government entities.¹

[National Infrastructure Protection Plan | CISA](#)

Nationally significant incidents have also driven closer coordination between the partnership and the National Preparedness System, including the creation of a new Emergency Support Function (ESF #14 – Cross-Sector Business and Infrastructure), which was introduced to focus on engaging private sector interests and infrastructure owners and operators—particularly those in sectors not currently aligned to other ESFs—and conducting cross-sector analysis to help inform decision making. ESF #14 relies on other ESFs aligned with a critical infrastructure sector to continue coordination with their corresponding sector during response efforts. ESF #14 helps coordinate multi-sector response operations between (or across) the government and private sector for natural or human-caused catastrophic incidents that jeopardize national public health and safety, the economy, and national security.

The partnership has evolved to meet these challenges, and the national doctrine organizing and describing the partnership must also evolve. The 2021 refresh is designed to ensure that this plan remains authoritative: current, accurate, and effective in guiding and describing the functions of the partnership.

2.0. Goal 1: Promoting the Combined Federal, SLTT, and Private Sector Capabilities to Prevent, Protect against, Mitigate, Respond to, and Recover from Manmade and Natural Disasters

- Food and Agriculture Sector Coordinating Council (SCC) and Government Coordinating Council (GCC): Together the combined SCC and GCC continued to host bi-annual membership meetings in a virtual format. These joint membership meetings occurred on April 29, 2020 and November 17-18, 2020. The April meeting was focused on COVID-19 research and response, and the November meeting covered a wide variety of topics

¹ The NIPP 2021 also organizes the nation’s critical infrastructure into 16 sectors. Identifies sector-specific agencies (SSAs) for each of the sectors. (The FY 2021 Natl Defense Auth Act (pg.1381) now renames SSAs as Sector Risk Management Agencies).

including cybersecurity topics and updated unclassified threat briefings. In addition, a third webinar on the topic of Domestic Violent Extremism and Threats to Animal Agriculture was held in response to member requests on June 4th, 2020.

- Animal and Plant Health Inspection Service (APHIS): In FY 2020, APHIS led the response to Emergency Support Function (ESF) #11 activations for 13 all-hazards incidents, which included a typhoon, an earthquake, a derecho, a meteorology investigative area incident, tropical depressions, major wildland fires, tropical storms, hurricanes, and the COVID-19 Global Pandemic response which included leading the Interagency Food Supply Chain Team efforts to assist in addressing nationwide food supply chain disruptions. The ESF #11 efforts resulted in States, Territories, and Tribes receiving much needed assistance from the U.S. Department of Agriculture and the U.S. Department of the Interior during disastrous events.
- APHIS: In FY 2020, USDA's Animal and Plant Health Inspection Service (APHIS) laboratories worked closely with National Animal Health Laboratory Network (NAHLN) partners in support of the SARS-CoV-2 response by engaging in streamlined communications with the APHIS One Health Director; coordinating testing information and providing weekly updates to NAHLN partners, in addition to responding to requests; developing and implementing messaging availability for NAHLN laboratories, which involved creating a messaging guide and preparing Laboratory Management Systems (LMS) databases to accept messages for a new disease, plus vetting and approving laboratories individually for messaging with seven laboratories approved to message SARS-CoV-2 by the end of FY 2020; assisting partner laboratories with supply procurement; interacting with the Department of Health and Human Services (HHS) on behalf of the NAHLN laboratories seeking Clinical Laboratory Improvement Amendments, or CLIA, certification; co-chairing the Animal Diagnostics and Testing subgroup of the One Health Interagency COVID-19 Coordination Group; and consistently presenting SARS-CoV-2 information to a wide variety of Federal, State, and laboratory partners. APHIS conducts real time RT-PCR, virus isolation, sequencing (partial and whole genome approaches), and virus neutralization for antibody detection. APHIS has conducted animal testing when State animal and public health officials have approved the submissions. In FY 2020, APHIS tested approximately 430 animals for SARS-CoV-2 as well as additional animals from investigative studies conducted by the Centers for Disease Control and Prevention and APHIS' Wildlife Services program. SARS-CoV-2 was confirmed in 66 animals and on 6 mink premises.
- APHIS: APHIS engaged in discussions about how to better protect and promote the health of aquatic livestock and aquaculture industry growth in the 21st Century. A significant part of this effort recently achieved a major milestone when the APHIS Veterinary Services (VS) Aquaculture Initiative Working Group completed drafting the VS Aquaculture Business Plan. This business plan represents APHIS' efforts to describe and address the industry and interagency needs and concerns of aquatic animal health in private commercial production, therefore promoting responsible industry growth and support.

- APHIS: In FY 2020, APHIS hosted or participated in approximately 36 exercises and trainings to prepare Federal, State, and industry partners to respond to various incidents that could harm the agriculture and food infrastructure. This effort resulted in a more enhanced readiness posture for all participants.
- APHIS: In FY 2020, APHIS created and conducted a foot-and-mouth disease (FMD) laboratory response tabletop exercise. The exercise focused on APHIS response efforts and coordination with the NAHLN Program Office and one State laboratory. Players were paired with various APHIS coordinators and an industry partner to conduct half hour interviews in preparation for the event. During these interviews, the players gained a more nuanced understanding of APHIS' intra-agency collaboration, as well as Agency communication with the public, particularly in the case of an emergency.
- APHIS: In FY 2020, APHIS conducted an African swine fever (ASF) oral fluid emergency validation exercise. The exercise focused on APHIS internal coordination and NAHLN laboratories in four States likely to be involved in very early ASF detection and outbreaks, as they typically receive over 90% of swine diagnostic samples in the United States. This effort enhanced Federal and State readiness to respond should the disease be detected in the United States.
- APHIS: In FY 2020, APHIS conducted a NAHLN emergency validation exercise for ASF, virulent Newcastle disease, and FMD. As a follow-up to the May exercise, during the last 3 weeks of September, NAHLN laboratories were given the opportunity to participate in one of three emergency validation exercises. The exercise focused on the emergency validation process and did not include testing of samples. Thirty-three NAHLN laboratories participated in the NAHLN emergency validation exercises. The exercise scenarios provided representatives from the NAHLN laboratories, APHIS laboratories, and APHIS internal coordinating units the opportunity to practice the emergency validation process, which can be used to validate a new sample type after a foreign animal disease detection/outbreak, thus leading to increased preparedness overall.
- APHIS: In FY 2020, APHIS designed and delivered a certificate-level Incident Command System 300 course based on a simulated outbreak to African swine fever to internal staff and staff from the Texas Animal Health Commission; developed a Foot-and-Mouth Disease (FMD) Vaccination Plan for the Oklahoma Department of Agriculture, Food, and Forestry; and designed a functional exercise to test the new plan in early 2021. APHIS also presented a module on how the National Incident Management System applies to the Food and Agriculture Sector to faculty of Prairie View A&M University in Texas.
- Food Safety and Inspection Service (FSIS): Consistent with the strategies developed by the FSIS Joint Food Defense Team (JFDT), the agency coordinated with the NFL as well as state and local agencies to conduct targeted food defense surveillance activities for Super Bowl LIV. The targeted surveillance activities enhanced food protection efforts and increased the visibility of these activities throughout the phases of the events where food was handled, to avert or/and mitigate intentional or accidental food contamination.

- FSIS: In FY 2020, FSIS identified, tracked, and successfully responded to 243 incidents that met the threshold for the creation of an incident report in the FSIS Incident Management System. These incidents ranged from the pandemic, fires, severe flooding, hurricanes, chemical spills, active shooter, to intentional contamination, among others.
- FSIS: In FY 2020 for the COVID-19 Pandemic, FSIS developed a tracking database, coordinated reporting on employee and facility status, and provided a daily Situation Report and Impact Summary for FSIS and USDA leadership.
- Rural Development (RD): Received FEMA Mission Assignment in October 2019 to support Economic Recovery efforts for Missouri at the FEMA Joint Field Office in Jefferson, MO from October 2019 - March 15, 2020 assisting the state identify resources and funding opportunities for economic development.
- Michigan Department of Agriculture and Rural Development (MDARD): Hosted a food safety/public health emergency preparedness exercise focused on interagency cooperation during a produce safety outbreak, in Lansing in February of 2020. 115 people attended the half-day session to work through detection, information sharing, and coordinated response across multiple agencies. Attendees included FDA, USDA-FSIS, FBI, Department of Homeland Security, multiple parts of MDARD and Michigan Departments of Health and Human Services, Natural Resources, and Michigan State Police, and 15 Local Health Departments.
- MDARD: As part of the State of Michigan's response to COVID-19, the MDARD deployed staff for weeks to be part of and support the Incident Management Teams at the two temporary care hospitals. MDARD Lab staff were deployed to support the work at the Michigan Department of Health and Human Services Lab. Additionally, MDARD Lab staff not only tested hand sanitizers for compliance and effectiveness. They also made hand sanitizer for staff when it was difficult to obtain commercially.
- New Mexico Department of Agriculture (NMDA): In FY 2020, the New Mexico Agriculture Livestock Incident Response Team (ALIRT) maintained communications and surveillance regarding animal disease detection and response with a formal training in January. Secure and reoccurring funding pursued.
- NMDA: In FY 2020, the Center served in the Emergency Support Function 11 in the State Emergency Operations Center. Through COVID-19 response, the desk was highly active with coordination of food location, and food distribution to those in isolated counties and tribal locations.
- NMDA: FY 2020 was the third year of operation for the Center's volunteer Food and Drug Administration (FDA) model rapid response team (NMRRT). The coordination

between agriculture, environment and health has been very beneficial. The department of agriculture funded this operation; an FDA grant was applied for and rejected. Without the grant, the project has been scaled back to 3 or 4 meeting per year of the volunteering partners where Food Safety updates are shared.

- NMDA: In FY 2020, the Center and the New Mexico Department of Agriculture have continued their mission of assisting with an all-hazards incident management team, initiative in New Mexico. If successful, this process will greatly enhance the Center's preparedness posture in every area of the critical mission areas.
- Washington State Department of Agriculture: Rapid Response & Emergency Management Program collaborated with state leadership and food/agriculture industry stakeholders to assess need and distribute select personal protective equipment (PPE) to the Washington agriculture sector during COVID-19.
- Food and Beverage Issues Alliance (FBIA): In FY 2020, as a result of the need for streamlined risk-based guidance, information and resources to support the food manufacturing community in the response to the COVID-19 pandemic, the FBIA - proudly led by the American Frozen Foods Institute (AFFI) and American Baker's Association (ABA) - established multiple working groups that quickly assembled teams of experts to evaluate existing resources, identify gaps and finally the development of easy-to-use reference materials and simplified tools which resulted in increased resilience and situational awareness amongst users:
 - Scientific Review of SARS-CoV-2/COVID-19 and Implications for Foods as of August 21, 2020
 - FBIA CDC Testing Strategy Guidance as of July 16, 2020
 - Food and Beverage Industry COVID-19 Test Method Factsheet as of May 4, 2020
 - Food Industry Recommended Protocols When Employee/Customer Tests Positive for COVID-19 as of 5/2020
 - Considerations for Identifying Exposed Employees as Related to COVID-19 as of April 28, 2020
 - COVID-19 Employee Symptoms/Testing Status-Based Decision Tool for Food Facilities as of May 5, 2020
 - Recording of COVID-19 Work-Related Illness Under the Occupational Safety and Health Administration's (OSHA) Recordkeeping Requirements as of April 22, 2020
 - Proper Usage of Face Masks as of April 6, 2020
 - Emergency Prevention Measures to Achieve Physical (Social) Distancing in Food Manufacturing Facilities as Related to COVID-19 as of March 31, 2020
 - Screening Food Industry Employees for COVID-19 Symptoms or Exposure as of March 31, 2020
 - FBIA Communications Working Group - COVID-19 Response Task Force

- **FBIA:** The FBIA represents fifty-eight allied U.S. based Food and Beverage Trade Associations. FBIA, through collaboration with regulatory authorities, ensures that any regulations and guidance are justified by verifiable, peer reviewed, published science that is accessible through an open and transparent process and enhance consumer understanding. In addition, FBIA works to ensure regulation implementation timelines are reasonable, achievable, and economically feasible for both small and large food and beverage manufacturers. [Members of FBIA](#) can be found here.
- **Food Protection and Defense Institute (FPDI):** In FY 2020, the Food Protection and Defense Institute:
 - Conducted workforce development trainings (online/instructor-led), including 275 personnel representing at least 35 companies, that improved the awareness and ability of personnel to better prevent, protect against, mitigate, respond to, and/or recover from food defense and intentional adulteration incidents.
 - Designed and developed a company-specific Food Defense Awareness training video for front line workers including employees, and their supervisors, working at actionable process steps.
 - Designed, developed, and implemented online training opportunities:
 - FPDI hosted, fully online Food Defense Training programs
 - Hybrid method of vulnerability assessments
 - Food Defense in 15 training programs
- **FPDI:** In partnership with Alchemy Academy, FPDI launched Food Defense Supervisor Training
- **MITRE:** In FY 2020, The MITRE Corporation performed a network structural analysis of the meat and poultry, Standard Classification of Transportable Goods (SCTG) 05 and some preliminary network analysis of the cereal grains (SCTG 02), and agriculture products (SCTG 03). This work revealed that the meat supply chain is a dense and complex network of counties consisting of thousands of origin-to-destination nodes. Two major findings resulted from this analysis. First, the meat and poultry supply chain is a scale-free network that is resilient to structural breakage and vulnerable to attack due to the existence of many dense nodes or hubs. Second, the top five U.S. county hubs are so tightly connected that they form hubs within hubs and are capable of super-spreading pathogens or malware across the U.S. MITRE will investigate approaches, such as enhanced data sharing, to build resiliency in the food supply chain. MITRE will plan to share analysis at the Fall Food and Agriculture Sector Meeting.
- **Environmental Protection Agency (EPA):** Office of Chemical Safety and Pollution (OCSPP)/Office of Pesticide Programs (OPP) aids in the development and dissemination of measures which will safely reduce the emergence and spread of antimicrobial resistant pathogens domestically and internationally. OPP accomplishes these efforts by granting Federal licenses to market, based on scientific risk assessment, a myriad of chemicals/products intended for use as antimicrobials. This often includes efficacy

testing information supporting claims against specific organisms. Additionally, antimicrobial chemicals such as antibiotics are also used in agriculture and other settings. OCSPP/OPP supports integrated pest management approaches and the development of best practices to inform impacted stakeholders how pesticides are integral components of an overall strategy for managing vectors which does include the use of pesticides.

- Non-COVID Antimicrobial New and Existing Chemicals - Risk Analyses and Regulatory Actions FY 2020 Registration review and new use risk and regulatory analyses for novel and existing antimicrobial chemicals in support of the licensing of pesticide products intended to control microbial pests or diseases that may negatively impact human, animal, or plant health (e.g., hypochlorites for water treatment, ethylene oxide for medical sterilization, etc.).
 - COVID Response - Antimicrobial Chemical Regulatory Actions and Risk Analyses FY 2020 COVID-19 activities in support of the regulatory evaluation and licensing of antimicrobial products intended to control the COVID virus. These efforts involve the risk assessment process and regulatory determinations under FIFRA. EPA List N contained around 500 products at the end of FY 2020.
 - Non-COVID Conventional Chemical - New Uses Regulatory Actions and Risk Analyses for Novel Chemical Use Patterns FY 2020 New uses added during the registration process in support of the regulatory evaluation and licensing of conventional pesticide products intended to control vector species, invasive destructive pests or diseases that may negatively impact human, animal, or plant health (e.g., mosquito vector agents, repellents, antibiotics, etc.).
 - Non-COVID Conventional Chemical - Registration Review Regulatory Actions and Risk Analyses for Existing Chemical Use Patterns FY 2020 Registration review risk and regulatory analysis for existing conventional chemicals in support of the continued licensing of pesticide products intended to control vector species, invasive destructive pests or diseases that may negatively impact human, animal, or plant health (e.g., mosquito vector agents such as naled, repellents, antibiotics, etc.).
- EPA: OCSPP/OPP aids in the development and dissemination of measures that strengthen multidisciplinary efforts to control vector-borne disease domestically and internationally. These measures safely limit the exposure of humans, animals, and plants to disease vectors and limit vectors transmission of diseases to humans and animals. OPP accomplishes these efforts by granting Federal licenses to market, based on scientific risk assessment, a myriad of chemicals/products intended for public health entities to use in mosquito control programs, tick management measures, water purification, and personal repellents. Finally, OCSPP/OPP supports integrated pest management approaches to inform impacted stakeholders how pesticides with other measures are integral components of an overall strategy for managing vectors, including resistance management (e.g., mosquito management practices such as removal of standing water).

- Non-COVID Efficacy Guidelines Rulemaking Cross program rule making process related to product efficacy testing for arthropod pests which may present a public health concern such as ticks which could impact both human and animal health.
 - Non-COVID Biopesticides New and Existing Chemicals and New Technologies - Risk Analysis and Regulatory Action FY 2020 Registration review risk and regulatory analysis for new and existing biopesticides and novel technologies in support of the licensing of pesticide products intended to control vector species, invasive destructive pests or diseases that may negatively impact human, animal, or plant health (e.g., genetically modified mosquitos, nootkatone as a vector agent, repellents, etc.).
- EPA: OCSPP/OPP aids in the development and dissemination of measures which will strengthen the capacity to prevent animal disease by reducing the spread of animal pests, supporting the use of disease reduction production methods, and strengthening partnerships related to the managing animal diseases before entry into the country. OCSPP/OPP accomplishes these efforts by granting Federal licenses to market, based on scientific risk assessment, a myriad of chemicals/products intended for managing animal health via direct animal treatments or products intended for use to better manage pest concerns in habitats such as barns, feedlots, and poultry production facilities.
 - EPA: OCSPP/OPP aids in developing and disseminating measures to strengthen the capacity to prevent plant disease by reducing the spread of plant pests, supporting the use of disease-resistant crops, and strengthening partnerships and pesticide tools used in to manage plant diseases before entry into the country. OPP accomplishes these efforts by granting Federal licenses to market, based on scientific risk assessment, a myriad of chemicals/products intended for managing plant health. Additionally, chemicals, also supported by risk assessment, are evaluated and licensed which are used in specific ways in conjunction with crops with genetic traits. For this sub-objective much of the work in this area is central to the core mission of OCSPP/OPP it is not accounted for in its entirety only the elements that can be reasonable related to Homeland Security issues.
 - Food and Drug Administration (FDA): In FY 2020, FDA completed the following activities in support of the final rule entitled ‘Mitigation Strategies to Protect Food Against Intentional Adulteration’:
 - Supplemental Draft Guidance for Industry: Mitigation Strategies to Protect Food Against Intentional Adulteration – February 2020
 - Update to the Mitigations Strategy Database – February 2020
 - Release of the Regulator Training Course – March 2020
 - Conducted the first Intentional Adulteration Inspection Quick Check in September 2020

- Released the Spanish version of the Intentional Adulteration Awareness Course – September 2020
- FDA: In response to the COVID-19 Pandemic, the following guidance documents were released:
 - [Temporary Policy Regarding Preventive Controls and FSVP Food Supplier Verification Onsite Audit Requirements During the COVID-19 Public Health Emergency](#) – June 2020
 - [Returning Refrigerated Transport Vehicles and Refrigerated Storage Units to Food Uses After Using Them to Preserve Human Remains During the COVID-19 Pandemic](#) – May 2020
 - [Reporting a Temporary Closure or Significantly Reduced Production by a Human Food Establishment and Requesting FDA Assistance During the COVID-19 Public Health Emergency](#) – May 2020
 - [Temporary Policy During the COVID-19 Public Health Emergency Regarding the Qualified Exemption from the Standards for the Growing, Harvesting, Packing, and Holding of Produce for Human Consumption](#) – May 2020
 - [Temporary Policy Regarding Certain Food Labeling Requirements During the COVID-19 Public Health Emergency: Minor Formulation Changes and Vending Machines](#) – May 2020
 - [Postmarketing Adverse Event Reporting for Medical Products and Dietary Supplements During a Pandemic](#) – May 2020
 - [Temporary Policy Regarding Accredited Third-Party Certification Program Onsite Observation and Certificate Duration Requirements During the COVID-19 Public Health Emergency](#) – April 2020
 - [Temporary Policy Regarding Enforcement of 21 CFR Part 118 \(the Egg Safety Rule\) During the COVID-19 Public Health Emergency](#) – April 2020
 - [Temporary Policy Regarding Packaging and Labeling of Shell Eggs Sold by Retail Food Establishments During the COVID-19 Public Health Emergency](#) – April 2020
 - [Temporary Policy Regarding Nutrition Labeling of Standard Menu Items in Chain Restaurants and Similar Retail Food Establishments During the COVID-19 Public Health Emergency](#) – April 2020
 - [Temporary Policy Regarding Nutrition Labeling of Certain Packaged Food During the COVID-19 Public Health Emergency](#) – March 2020
- FDA: As part of its strategy to minimize the development of antimicrobial resistance, FDA's Center for Veterinary Medicine (CVM) published two concept papers related to antimicrobials used in animals for public input. One concept paper describes a potential framework to assist sponsors of medically important antimicrobial drugs approved for

use in or on the medicated feed of food producing animals with voluntarily establishing appropriately targeted durations of use for their affected animal drug products. The other concept paper outlines a potential approach for updating the current list of antimicrobial drugs ranked by their importance in human medicine (commonly referred to as “Appendix A” of FDA’s Guidance for Industry (GFI) #152) to consider improved understanding of antimicrobial resistance and other changes since the list was initially established in 2003, including changes in available treatment options, changes in human clinical practices and other scientific advancements.

- FDA: CVM’s Veterinary Laboratory Investigation and Response Network (Vet-LIRN) collected 4,024 bacterial isolates of food producing and companion animal pathogens for antimicrobial susceptibility testing and conducted whole genome sequencing on 1,444 of these isolates as part of the Vet-LIRN Antimicrobial Resistance (AMR) Surveillance Program. Sequencing results are posted to the National Center for Biotechnology Information (NCBI). This surveillance program provides essential information on trends of bacterial resistance in animals, providing potential insight into ways to prevent or respond to the threat of antimicrobial resistance to human and animal health.
- FDA: CVM co-chaired the Animal Diagnostics and Testing subgroup of the One Health Interagency COVID-19 Coordination Group with USDA/APHIS, presenting timely information related to SARS-CoV-2 in animals; coordinating with federal, state, and other partners on questions related to animal diagnostics and testing; and communicating with federal, university and private laboratories to optimize information sharing and collaboration and anticipate potential challenges.
- USDA/FSIS and FDA/CVM: As collaborators in the National Antimicrobial Resistance Monitoring System (NARMS) program, USDA/FSIS and FDA/CVM processed over 6,400 intestinal samples from food-producing animals (FSIS) and 7,400 corresponding retail meat samples (FDA) for bacteria potentially carrying resistance to medically important antimicrobial agents. Genomic sequences were uploaded to NCBI for global access. One Health antimicrobial resistance monitoring by NARMS provides ongoing data on foodborne bacteria for use by stakeholders working to limit development of resistance and respond to outbreaks.

3.0. Goal 2: Improving Sector Situational Awareness through Enhanced Intelligence Communications and Information Sharing among all FA Sector Partners

- APHIS: APHIS coordinated with other Federal partners to stand up the National Bio and Agro-Defense Facility and provided information on APHIS laboratory support processes

to assist the facility as it works toward becoming operational. Information shared included documents, ISO requirements, and daily workflows.

- APHIS: APHIS' Computational Biology and Informatics Services worked with the Food Safety and Inspection Service (FSIS) to integrate FSIS' Public Health Information System—the system plant veterinarians use to submit samples to the FSIS pathology lab in Athens, GA (for non-tuberculosis suspects)—into the APHIS submission portal/Laboratory Information Messaging System. By integrating these systems, FSIS personnel should be able to more easily complete submissions, minimize the potential for missed or inaccurate data, and increase efficiency for FSIS and APHIS personnel.
- FSIS: FSIS led and participated in interagency committees to include the intelligence community, to raise awareness of food defense concerns such as:
 - Defense Against Agroterrorism Work Group
 - Food and Agriculture Sector Government Coordinating Council
- NMDA: In FY 2020 the New Mexico Department of Agriculture (NMDA) and Center personnel attended Anti-Terrorism Advisory Council (ATAC) meetings.
- NMDA: In FY 2020, ongoing meetings regarding source information and intelligence center occurred on FA information and intelligence dissemination to enhance our state distribution network.
- NMDA: In FY 2020, the Center maintained a tip reporting line for use in the state regarding FA suspicious activities. This system notifies appropriate personnel with the tip and logged for tracking.
- NMDA: In FY 2020, the Center organized and participated in several drought meetings across the State to provide forecasts and updates on the drought and tools to handle the drought in New Mexico.
- NMDA: In FY 2020, the Center participated in numerous multi state partnership FA coordination calls and other related activities with our partners including planning of exercises.
- NMDA: In FY 2020, our co-director served as the point person working in the state emergency operations center in Santa Fe. He coordinated calls with our response partners and was responsible for sourcing food for those in need. He oversaw an operation that provided hundreds of thousand pounds of food delivered to thousands of people in quarantine.

- NMDA: In FY 2020, Center personnel coordinated animal health initiatives along with the NMDOH human health efforts.
- Food Defense Consortium (FDC): In FY 2020, the **Food Defense Consortium** – an industry-based collaborative partnership - coordinated monthly conference calls among the 40 + member private sector food and beverage manufacturers related to:
 - Developing comments in response to the FSMA Intentional Adulteration Rule’s supplemental guidance.
 - Coordinating and hosting multiple webinars in partnership with the [Food Safety Consortium](#) attended by approx. 350 food and beverage manufacturer stakeholders.
 - Contributed to the development of a USG [Insider Risk Programs for the Food and Agriculture Sector Implementation Guide](#), [Center for the Development of Security Excellence](#) and the [National Insider Threat Task Force](#).
 - Collaborated with Food Safety Tech on the development of the [Food Defense Resource Center](#): a repository of reports, presentations, articles, research, and related content aimed at centralizing informing and maintaining situational awareness for food and beverage manufacturers.
- FPDI: In FY 2020, the Food Protection and Defense Institute created a 41-issue series of “COVID-19 Near-Term Issues Spotting in Food Supply Chain” situational updates that were distributed to greater than 150 stakeholders not including amplified distribution through the Sector Coordinating Council. The situational updates were leveraged in private sector (30 entities plus distribution through the Sector Coordinating Council) and local, state, and federal level emergency response including agencies in at least 12 states and at the federal level including DHS, USDA APHIS, USDA FSIS, FDA, DoD, CDC, CISA, FEMA, CBP, PHS, NICC briefings, NBEOC reports, and at least one White House level briefing.
- EPA: OCSPP/OPP routinely provides risk assessment results and related materials to enhance awareness and inform decision making across the biodefense enterprise to stakeholders and the public. Issues such as: COVID-19 pandemic; vector management and mosquito-borne diseases; situations involving accidental or intentional release of biological materials and the associated decontamination efforts; reduction of pathogen transmission rates in medical devices; and reduction in transmission rates for plant and animal diseases all require special handling from both a risk assessment and communications perspectives.
- EPA: OCSPP/OPP also provides information via webinars on integrated pest management approaches which are widely supported. Such best practices and communication strategies inform and educate stakeholders about how pesticides can be an integral part of managing vectors and other related tasks. These webinars provide as guidance on reducing exposures and using non-chemical control strategies.

- EPA: Achievements and outputs span across several program areas, including: communications, education/outreach, inquiry responses, interagency collaborations, and the Public Health Workgroup of OPP's Pesticide Program Dialogue Committee.

Specific achievements in this area include:

- Several public webinars on non-COVID related topics. Educated stakeholders on pesticides and their impact on public health concerns. These webinars addressed mosquito/vector control, rodenticides, tick related issues, and IPM in institutions such as schools and daycares.
 - Improving, updating OCSPP/OPP web pages – non COVID related topics. Addressed public health, disease, antimicrobial issues. This information is updated as part of our regular updates, but also to address needs arising from public health issues and concerns.
 - Improving, updating OCSPP/OPP web pages – COVID related topics. Addressed disinfectants and the COVID-19 pandemic response. This information is updated as part of our regular updates provides information related to topics including EPA List N, FAQs on disinfectant use, how to submit registration packages.
 - Developing draft decisions and public communications for resistance issues and other topics – non COVID related topics. OCSPP/OPP is very active in regulating the use of antibiotics as pesticides in plant agriculture as well as other chemistries where resistance can be an issue. Much of these activities involve educating the public on antibiotics, resistance for both antibiotics and in plants for use of chemicals like certain herbicide classes, OPP's regulatory processes, and how these pesticides are used in agriculture. Also included herein are issues such as the public health pest list and PPDC efforts.
 - Working with stakeholders and responding to inquiries on antimicrobial pesticides – non COVID related. OCSPP/OPP efforts on antimicrobial pesticides is directly related to control to prevent or respond to diseases. The OCSPP/OPP/AD Ombudsman and others who are responsible for addressing inquiries and collaboration with other partners including state and Federal agencies (CDC, FDA, etc.). Examples of topics addressed in FY 2020 include hypochlorites for water treatment and ethylene oxide for medical sterilization.
 - Working with stakeholders and responding to inquiries on COVID related topics. Though responding to inquiries and communications with stakeholders are central to the work of OCSPP, the workload greatly expanded during current public health emergency. The OCSPP/OPP/AD Ombudsman and others across the Office provided more than 2,700 responses to inquiries from registrants and the public, representing a 5.4-fold increase from previous years of approximately 500 inquires per year. This also included collaboration with the CDC, FDA, and others on the frontline of combatting disease-causing microbial organisms.
- FDA: In FY 2020, FDA released the following educational materials to aid in the COVID-19 response:

- Consumers:
 - [FAQs for the General Public/Consumers Related to COVID-19](#)
 - [FAQs on FDA’s Temporary Policy on Food Labeling](#)
 - [Shopping for Food During the COVID-19 Pandemic](#)
 - [Food Safety and Availability During the Coronavirus Pandemic](#)

- Retail Food Establishments and Food Service:

Factsheets

 - [Best Practices for Re-Opening Retail Food Establishments During the COVID-19 Pandemic - Food Safety Checklist](#)
 - [Use of Respirators, Facemasks, and Cloth Face Coverings in the Food and Agriculture Sector During Coronavirus Disease \(COVID-19\) Pandemic](#)
 - [What to Do If You Have a COVID-19 Confirmed Positive Worker or Workers Who Have Been Exposed to a Confirmed Case of COVID-19](#)
 - [Best Practices for Retail Food Stores, Restaurants, and Food Pick-Up/Delivery Services During the COVID-19 Pandemic](#)

- Food Facilities and Farms:

Factsheets

 - [Employee Health and Food Safety Checklist for Human and Animal Food Operations During the COVID-19 Pandemic](#)
 - [Food and Agriculture: Considerations for Prioritization of PPE, Cloth Face Coverings, Disinfectants, and Sanitation Supplies During the COVID-19 Pandemic](#)
 - [Use of Respirators, Facemasks, and Cloth Face Coverings in the Food and Agriculture Sector During Coronavirus Disease \(COVID-19\) Pandemic](#)
 - [What to Do If You Have a COVID-19 Confirmed Positive Worker or Workers Who Have Been Exposed to a Confirmed Case of COVID-19](#)
 - FDA and USDA - [Memorandum of Understanding between FDA and USDA Regarding the Potential Use of the Defense Production Act with Regard to FDA-Regulated Food During the COVID-19 Pandemic](#)

- Food and Drug Administration: CVM developed a new molecular assay (termed LAMP) for the rapid screening of *Salmonella* in animal food and validated it through single-laboratory and multi-laboratory studies. The method is now available in the FDA Bacterial Analytical Manual as the preferred method for screening for *Salmonella* in dry pet food and food for cattle, horse, swine, and poultry.

4.0. Goal 3: Assess All-Hazards Risks, including Cybersecurity, to the FA Sector

- APHIS: APHIS increased the number of import horse specimens received and processed in direct support of the 2020 Breeders' Cup.
- APHIS: In FY 2020, laboratories participated in a Leptospira Working Group with the National Animal Disease Center Infectious Bacterial Diseases research team, the Centers for Disease Control and Prevention (CDC), and the U.S. Virgin Islands (USVI) Public Health Service. One of the goals was to investigate mongoose as an animal reservoir of leptospirosis in the USVI. APHIS began managing various tests associated with the USVI project when CDC staff moved to providing COVID-19 support. From this collaboration, 274 samples were tested and 27 Leptospira isolates have been obtained from mongoose in the USVI. APHIS laboratories sequenced all the isolates, with the majority appearing to be very similar and two interesting outliers that can be investigated further. The work verified the mongoose is a reservoir for leptospirosis in the USVI and may be a possible source for human infections. The success of the mongoose project led to a surveillance project of rodents (rats and mice) as reservoirs. To date, 140 rodents have been tested and leptospires were detected. Not unexpectedly, rodents are proven to be reservoirs of leptospirosis in the USVI.
- FSIS: In FY 2020, FSIS conducted two virtual Vulnerability Assessment Updates for Ground Meat Products and Cybersecurity.
- FSIS: In FY 2020, FSIS continued its cybersecurity partnerships with USDA, Cybersecurity and Infrastructure Security Agency (CISA) to enhance and enforce Executive Orders as it pertains to strengthening critical infrastructure systems for FSIS. To continue to meet the security requirements, which ensures confidentiality, availability and integrity of FSIS systems, the following cybersecurity disciplines are measured by USDA: Incident Response Handling, Information Security Awareness, Risk Management, Vulnerability Management, Security Policy, Assessment and Authorization. The following federal guidance and directives associated are: National Institute and Technology (NIST), Federal Information Security Modernization Act (FISMA), Office of Management and Budget. USDA provides real-time dashboards that track the cybersecurity posture for FSIS.
- NMDA: In FY 2020, Center personnel are actively involved with the state's critical infrastructure representative in our state all source information and intelligence center to educate on the importance of the FA Sector to New Mexico.
- NMDA: In FY 2020 the Center worked with the Cybersecurity and Infrastructure Security Agency (CISA) to include infrastructure from the State's dairy industry into the National Critical Infrastructure Prioritization Program.

- NMDA: In FY 2020, Center personnel met with regional representatives on a quarterly basis to assess risks and preparedness. Our state Department of Homeland Security and Emergency Management coordinates these.
- FDA: In FY 2020, FDA, through the Center for Food Safety and Applied Nutrition's Food and Cosmetic Information Center, provided responses to more than 1,500 inquiries related to the COVID-19 pandemic.
- FDA: In FY 2020, FDA through the Food Safety Modernization Act Technical Assistance Network, provided responses to more than 90 inquiries related to the "Mitigation Strategies to Protect Food Against Intentional Adulteration" regulation.

5.0. Goal 4: Support Response and Recovery at the FA Sector Level

- APHIS: In FY 2020, APHIS laboratories supported the National Animal Health Monitoring Systems (NAHMS) kit project by building and shipping 176 kits to be used on farms to collect feces, serum, and/or feed samples for testing as part of disease monitoring projects. In FY 2020, APHIS' National Veterinary Services Laboratories received and processed 632 accessions from NAHMS kit submissions.
- APHIS: To strengthen USDA emergency response and strategic reserves, APHIS established the National Animal Vaccine and Veterinary Countermeasures Bank; completed \$27.1M in first year FMD vaccine purchases; and developed a sources sought notice for market analysis of foreign animal disease diagnostic kits.
- APHIS: In FY 2020, APHIS, through ESF #11, developed and led the Interagency Food Supply Chain (IFSC) Task Force in support of the Federal Emergency Management Agency and U.S. Department of Health and Human Services' COVID-19 response efforts. This resulted in a combined interagency group with support working groups that helped to address nationwide food supply chain disruptions and some worker shortages.
- Agricultural Research Service (ARS): USDA's ARS continues to deliver critical scientific information to enhance biosecurity on U.S farms and continues to research and develop veterinary medical countermeasures to support federal action and regulatory agencies respond and recover of animal and plant animal diseases and pests.
- FSIS: FSIS actively participates in meetings, work groups, and activities sponsored by the Food and Agriculture Government and Sector Coordinating Councils. These efforts allow FSIS to work with industry to share information and provide input on agroterrorism-related activities and projects.

- NMDA: In FY 2020, the co-director of New Mexico Department of Agriculture served as the point person working in the state emergency operations center in Santa Fe. In this capacity, the NMDA coordinated calls with our response partners and was responsible for sourcing food for those in need. The NMDA oversaw an operation that provided hundreds of thousand pounds of food delivered to thousands of people in quarantine.
- NMDA: In FY 2020, the Center continued ongoing efforts to maintain coordinate and train a team of agency personnel to be prepared to respond to the state emergency operations center in the event of activation so that the FA sector was better positioned for response, mitigation, and recovery.
- NMDA: In FY 2020, Center personnel continued outreach at various FA meetings across the state such as Stockman’s and Farm Bureau to maintain relationships for future support.
- NMDA: In FY20, the Center continued efforts to prepare responders for a FA Sector disaster.
- EPA: EPA/OCSPS instituted standard operating procedures (SOPs) for addressing response and recovery activities. These were developed in response to EPA efforts to better coordinate such activities externally through the National Mitigation Framework (NMF) and National Disaster Recovery Framework (NDRF).
- FDA: CVM communicated and coordinated with animal food industry groups and federal agencies on supply chain concerns for animal food ingredients during the COVID-19 response.
- FDA: CVM published two GFIs: “Reporting and Mitigating Animal Drug Shortages during the COVID-19 Public Health Emergency” to help prevent or mitigate shortages of animal drug products and “Guidance on the Conduct and Review of Studies to Support New Animal Drug Development during the COVID-19 Pandemic” to support industry stakeholders and minimize impacts of COVID-19 on new animal drug development.
- FDA: CVM secured COVID-19 supplemental funding to develop a database to facilitate the retrieval of information from multiple CVM and other FDA systems on animal drug products, active pharmaceutical ingredients, and the status of their manufacturing sites. With the ability to easily retrieve information on animal drug products and manufacturing sites, CVM will be able to quickly address critical issues, such as potential drug shortages or importation requests for FDA-regulated products.

6.0. Goal 5: Improving Analytical Methods to Bolster Prevention and Response Efforts, as Well as Increase Resilience in the FA Sector

- APHIS: APHIS' NAHLN developed ASF and classical swine fever (CSF) surveillance sample pooling guidance for the NAHLN sample chart and led a call with ASF/CSF active surveillance NAHLN laboratories to explain the changes. NAHLN also received funding through the 2019 Farm Bill to evaluate blood and spleen swabs for use as samples. Project work to be completed in Vietnam will take place once the COVID-19 travel restrictions subside. On January 16, 2020, APHIS awarded \$5 million to enhance test development and validation, biosafety/biosecurity and emergency preparedness, and electronic transmission of data within the National Animal Health Laboratory Network (NAHLN). The 26 approved projects were submitted by NAHLN laboratories representing 19 States. The projects will help NAHLN enhance early detection of high-consequence animal diseases and improve emergency response capabilities at NAHLN veterinary diagnostic laboratories.
- FSIS: The FSIS Food Emergency Response Network (FERN) continued the targeted surveillance of USDA regulated commodities (e.g., Ready-to-eat and raw meat and poultry products) at retail via FERN Cooperative Agreement Program (CAP) partner labs. The 19 participating State laboratories reported results for 2,809 microbiology samples, 2,460 chemistry samples, and 446 radiochemistry samples for a total of 5,715 samples.
- FSIS: FSIS FERN staff sponsored and/or directed 11 proficiency and challenge testing events this past year for the FERN program. These events tested FERN partner labs' capability to find different analytes within selected food matrices. There were 225 labs that participated in these nine events and analyzed samples (e.g., meat-based burritos, liquid egg, breaded catfish, raw ground turkey and chicken, etc.) for the following analytes: *Yersinia pestis*, *Bacillus anthracis*, Staphylococcal enterotoxin, melamine, arsenic, cadmium, lead, mercury, thallium, brucine, carbaryl, parathion, scopolamine, morphine, oxycodone, THC, doxepin, methadone, aldicarb, gross alpha and beta, and gamma emitters.
- FSIS: The FERN Methods Coordination Committee (MCC) received two new methods for review this year that have been approved by technical review. The methods are available on the FERN website and are available for use by all network labs. The methods are for analysis of meat products for the toxin Abrin and *Yersinia pestis*.
- FSIS: Six methods in total have been submitted this FY for review by the MCC. Two methods have been received for the detection of Strontium. Methods were also submitted for *Francisella tularensis* and *Yersinia pestis*. For Chemistry, an extension was submitted

for CHE.0008.01, Poison and toxin screen. An additional method for Glyphosate is also under review for posting to the FERN website.

- NMDA: In FY 2020, Center personnel participated in the Extension Disaster Education Network (EDEN) meetings and coordination calls. The Center is continuing efforts for several EDEN based activities in 2021.
- NMDA: In FY 2020, the Center continued efforts to lead its produce safety rule (Food Safety Modernization Act-FSMA) for New Mexico remotely. This has resulted in great coordination between agriculture, industry, and New Mexico State University. Numerous trainings have been held for regulators and producers.
- EPA: OCSPP has been involved in conducting research and developing verified technologies throughout FY 2020. The OCSPP/OPP/BEAD laboratory at Fort Meade MD has been at the forefront of the Agency response to the COVID pandemic. Key examples include:
 - Completed formulation and efficacy testing of over 25 antimicrobial selected chemistries and formulations from List N against human coronavirus, along with several CDC-recommended treatment/cleaning procedures (70% ethanol, hypochlorite, etc.).
 - Analyzed the composition of approximately 20 suspicious disinfectant products and vendors, including imports, related to COVID-19 claims in support of EPA's Criminal Investigation Division.
 - Partnering across OPP, developed a method for testing residual efficacy of surface coating materials claiming long-term disinfection.
 - Prepared a Biosafety Level 3 laboratory, the only such EPA laboratory; provided staff to conduct efficacy testing against the SARS CoV2 virus; tested products using surrogate coronavirus; and obtained specialized PPE for laboratory workers.
 - Developed a standard operating procedure for conducting efficacy testing with the Agency's regulatory method (ASTM 1053).
 - Refreshed the biosafety, security, and occupant emergency plans. CDC conducted a virtual inspection in August 2020, which uncovered only three findings that were all deemed low significance by CDC.
 - Conducted the first ever virtual tour of the laboratories at the Environmental Science Center, Ft. Meade for Administrator Andrew Wheeler. After the tour, they also created a video showing the labs and their work on COVID-19 related testing, which were subsequently posted to the internet as an educational component.
- EPA: Prior to the onset of the pandemic, the BEAD laboratory participated in other efforts related to issues such as improving and/or developing new methods for antimicrobial efficacy testing.

- EPA: Additionally, the laboratory developed: an analytical capability statement for the EPA Administrator; an EPA Science/Research question list related to SARS CoV2 knowledge gaps; and the registration package and application to BEI resources to obtain the SARS CoV2 Wuhan strain. This included the application, material transfer agreement, written scope of laboratory expertise, risk assessment for SARS CoV2, biosafety checklist and CVs for the Principal Investigator and Biosafety Officer. The application was approved, and the laboratory received the Wuhan strain of SARS Cov2. Finally, the laboratory received cell lines and virus stock for the BSL-2 human coronavirus (229E) from ATCC (current regulatory strain) and the SARS CoV2 cell lines and virus, purchased necessary supplies (powered air purifying respirators, closed front gowns, specialty gloves etc.) and equipment (-80 freezer, high speed centrifuge, incubators for cell line laboratory etc.), and developed an Agency-level BSL-3 high containment biosafety plan which was signed by Administrator Wheeler. An Interagency Agreement with the Department of Army (Aberdeen) was also completed to provide testing and logistics support.
- EPA: OCSPP, through its OPP/BEAD laboratory at Fort Meade MD, conducted real-time research during the response to characterize emerging biothreat agents other than COVID and to develop response tools to improve response and recovery capacity, capability, and future preparedness. Efforts included beginning consideration that certain emerging microbial pathogens such as *Candida auris* (an emerging fungus found in hospital environments) may be due to activities related to climate change. Formative efforts have also been initiated to begin research on the effect of rising temperatures and the relationship to the emergence of new, highly contagious pathogens.
- FDA: CVM's Vet-LIRN supported capacity and emergency response related to COVID-19 by providing an opportunity for laboratories to evaluate their RT-PCR method for detecting SARS-CoV-2 in animals. In collaboration with USDA's National Animal Health Laboratory Network (NAHLN), FDA's Center for Food Safety and Applied Nutrition (CFSAN), Cornell University, the US Geological Survey (USGS), and the Integrated Consortium of Laboratory Networks (ICLN), Vet-LIRN offered a SARS-CoV-2 Inter-Laboratory Comparison Exercise to over 40 participating laboratories. The Inter-Laboratory Comparison Exercise (ICE) allowed veterinary diagnostic laboratories, private industry, and other government partner laboratories to evaluate their detection assays for SARS-CoV-2 in animals.
- FDA: CVM's Vet-LIRN staff directed one Proficiency Test (PT) and three Inter-laboratory Comparison Exercises this past year for the Vet-LIRN program. The PT event tested the ability of Vet-LIRN laboratories to identify which toxicant was the cause of illness as presented in a case history and provide a final report with supporting diagnostic and clinical information. The toxicant included in this PT was the ionophore Monensin. The Inter-Laboratory Comparison exercises included detection of Aflatoxin B1 and M1 in bovine liver and detection of *Campylobacter* in dog feces, along with the SARS-CoV-2 work.

- FDA: The National Antimicrobial Resistance Monitoring System (NARMS) at FDA/CVM, in collaboration with the CFSAN/GenomeTrakr program, developed a cloud-based tool for laboratories that participate in NARMS to screen for genes associated with antimicrobial resistance in bacterial pathogen isolates from retail meats and seafood. NARMS laboratories are now able to provide near real-time reporting for emerging resistance of concern (e.g., colistin and meropenem) without the delays associated with shipping isolates for traditional phenotypic testing. This shortens the time to respond to emerging resistances of concern and to outbreaks.
- FDA: CVM's Vet-LIRN and Complaint Emergency Recall Team (CERT) developed an on-line open access necropsy checklist for federal, state, and public access to streamline sample collection for necropsy of confirmed SARS-CoV-2 infected animals.
- FDA: CVM continued its production and development of critical standards essential for the qualification and validation of analytic methods. These methods are crucial components of ongoing efforts to maintain the high level of food biosecurity.

7.0. National Institute of Standards and Technology (NIST) Framework for Improving Critical Infrastructure (<https://www.nist.gov/cyberframework>)

7.0.1 How has your organization adopted the NIST Framework for Improving Critical Infrastructure?

- The New Mexico Department of Agriculture (NMDA) falls under the umbrella of New Mexico State University when dealing with Cybersecurity. Here are the links to NMDA compliance areas:
 - <https://itcompliance.nmsu.edu/federal-industry-regulations/>
 - <https://itcompliance.nmsu.edu/general-nmsu-ict-policies-and-procedures/>
 - <https://itcompliance.nmsu.edu/links-to-it-compliance-and-computing-resources/>
 - <https://itcompliance.nmsu.edu/presentations/>
- NMDA is behind the NMSU front facing firewall and has a firewall between NMSU and NMDA but with enough access to allow NMDA to be part of the NMSU Active Directory structure without giving access to the campus students.
- During FY 2020, due to COVID-19, NMDA stepped up infrastructure by improving Site-To-Site Virtual Private Network (VPN) access with the purchase of Meraki devices that encrypt traffic between remote offices (Albuquerque District Office (ADO), Veterinary Diagnostics Services Center (VDS), Peanut Grading Station (PGS – in Portales) and the Roswell District Office (RDO)) and throughout the state. This also gave NMDA the ability to monitor/analyze traffic as needed.

- NMDA also increased licensing for NetMotion – a persistent virtual private network (VPN) software that is invisible to the user and encrypts traffic after login credentials are provided and accepted as valid. All remote staff use NetMotion from any location to auto encrypt traffic back to NMDA Main systems. NMDA also uses CISCO AnyConnect proprietary software by Cisco to authenticate and encrypt traffic as backup should NetMotion fail.
- NMDA purchased Meraki Z3 for staff/personnel who do not travel and are telecommuting from their home during the COVID-19 pandemic. This device connects to the home user’s internet and then encrypts traffic back to NMDA both via network cable and wireless. This becomes an encrypted network within the home of the user. Only NMDA devices are permitted to connect.
- NMDA, when onboarding new personnel works both with HR to verify employment and then with supervisor to give only authorized access to do job functions. Anything outside the norm requires supervisor, assistant DD or DD approval also depending on the level of access being requested.
- The NMDA Computer Operations Manager collaborated with NMSU by becoming a member of the Technical Infrastructure Committee, Data Governance Committee, and the NMSU IT and Data Security, Privacy and Compliance Committee, and participated in the IT & DAATA Risk Assessment process/evaluation.

7.0.2 How has your implementation of the framework led to improvements in the protection of critical infrastructure from cyber threats?

- NMDA behind the NMSU firewall keeps NMDA secure and the addition of the of NMDA having its own firewall allows for quick mitigation when undesired traffic is detected.
- The Meraki infrastructure (both remote site-to-site VPN and the home user Meraki Z3) is located behind the NMDA firewall and provides another layer of protection as it has its own traffic monitoring and firewall rules, further tying down the type of traffic permitted on the network. This Meraki network is also not seen by NMSU or the outside network. All traffic is directed to the NMDA firewall, then to NMSU and out to the internet.
- The Meraki devices allow for NMDA Information Technology and Communication (NMDA-ITC) staff to closely monitor, analyze and mitigate undesired network traffic.
- The NetMotion software allows NMDA-ITC to analyze the network and internet traffic being used by users located all over the state. As violations are detected supervisors and deputy director are notified. NetMotion also allows for a type of “business logic” to be

implemented, meaning we can block sites deemed not needed for regular business operations. This keeps network and internet traffic for NMDA business purposes only.

- By working closely HR, NMDA-ITC can verify the employee/personnel are given the correct access and privileges to do their job while maintaining security. NMDA-ITC also coordinates addition personnel requests with direct Supervisors, Assistant Division Directors and Directors as needed to get approval prior to providing any other type of resources. This standardizes the equipment and software used by those areas.
- By being a member of the stated committees, the NMDA Computer Operation Manager can mitigate any NMSU network policies that might impact NMDA operations. Working with these committees, the NMDA Computer Operations Manager can look out for the business operations of NMDA while ensuring NMDA follows NMDA policies.