ADVANCING ANIMAL DISEASE TRACEABILITY
ROAD MAP FOR 
MISSOURI

A Three-Year Plan

Submitted by:

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I. EXECUTIVE SUMMARY

Missouri is ranked in the top ten nationally in swine, poultry and cattle inventories. The majority of these animals move interstate to be fed or processed due to the lack of feeding and processing facilities within Missouri. This presents a challenge to ensure the cattle over 18 months of age are identified prior to movement out of state for processing. Since Missouri has been Brucellosis and Tuberculosis Free for over ten years, we rely on slaughter surveillance to monitor for disease incidents. The ability to trace the slaughter suspects is crucial to maintain our disease free status and contain any possible disease incidents. The swine and poultry movement is predominately vertically integrated systems, utilizing herd health plans and the GIN identification system, moving in large lots. The mandated identification system by the swine industry ensures traceability for independent producers who move their livestock with individual identification. The Serapie’s Program has ultimately provided the same structure for the goat and sheep industry.

Missouri utilizes a data management program (USAHerds) to house its traceability information. This software allows for quick and reliable searches for information as the need arises. The data and information from official calf hood vaccination forms, Certificates of Veterinary Inspections, disease test charts and other is entered into this program.

The ability to query official identification in a data base greatly enhances the efficiency, thus decreasing the time required to trace animal(s) in a disease incident. Time is crucial in the event of a disease outbreak, especially if the disease is a highly contagious and infectious. The time required to identify and trace an infected animal is directly related to the magnitude and ability to contain and control the outbreak.

The ability to transfer the identification information electronically from paper forms to the data base reduces the labor required and increases the accuracy of the data. The work force to provide the required data entry is expensive compared to the utilization of electronic identification methods. The equipment to read and record the official identification enhances the accuracy of the data and provides traceability in real time. We continue to work with a less than an adequate work force to provide data entry essential for complete compliance to the Animal Disease Traceability Plan.

Missouri will continue to assess the current identification systems utilized by the disease programs to determine their compliance with the traceability goals. Missouri has promoted the use of electronic certificate of veterinary inspections, vaccination and test charts to increase the efficiency and accuracy of data entry. Missouri will also monitor any necessary changes to movement requirements to ensure animals are officially identified when they enter into interstate commerce.
• Missouri will continue to address the volume of data entry required and accuracy issues incurred with manual entry.
• The market streamlining program that was developed and implemented to capture the official identification of test-eligible cattle moving through the livestock markets throughout the state has provided Missouri with a large query able database to initiate our disease investigations. The traceability plan will continue to build on this basic plan and expand the type of official identification in the database.
• The traceability plan utilizing the Market Streamlining and USAHerds to collect and manage the data will fit well within USDA’s new framework for animal disease traceability.
• The implementation of USAHerds has tied the entire disease programs together. This provides a common database for all forms of official identification among the species.
• Missouri will utilize the AINS system to allocate official identification ear tags. In addition, we will work with other states with USAHerds to enhance the traceability components of the software.
• Missouri has promoted heavily the utilization of electronic certificates of veterinary inspections and various test/vaccination charts to enable the identification to be queried in the same manner as the market streamlining data. This will continue to be a priority of the program.
• What are the projected costs for FY2019, FY2020, and FY2021 and benefits?

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II. CURRENT TRACEABILITY SITUATION
2.1 Who are we?
• The primary constituents are the livestock and poultry producers, livestock market owners, accredited veterinarians and Missouri Department of Agriculture Animal Health Division employees.
• The external constituents are the states of origin and destiny.
• Statewide means the information must be collected from a variety of sources and locations throughout Missouri.
• The traceability data will primarily be utilized internally to enable Missouri to verify the absence or presence of disease within our state. The data will enable Missouri to effectively identify, contain and control the affected animals in the event of a disease incident.
• The essential component to the traceability plan is to ensure the accuracy and efficiency of the database.
• What is the make-up of the animal disease traceability advisory group? How and how often are they engaged?
The animal disease traceability advisory group was formed under the previous program guidelines. The group was comprised of individuals representing livestock commodities, producers, veterinarians and agribusiness. The group initially met on a regular basis, however will meet on an as needed basis or as written into the cooperative agreement.

2.2 Where are we now?

- The current animal disease traceability is viewed as a vital component of our disease control program. We utilize the market streamlining program to provide necessary information to enable us to trace animals related to a disease outbreaks or incidents. The program is identified as a separate animal health program, but is integrated into the disease investigations involving cattle. The USAHerds data allows us to trace efficiently and in a fast manner. There are well over 3.7 million individual movement records available for traces as needed.
- The measures of traceability capability currently being used are documented with the time required to trace the origin of a specific animal in a disease investigation. The percentage of successful traces is also utilized as a measurement of the capability of our current system. The specific values vary with the species; however, in regards to the cattle industry (test-eligible over 18 months) we can currently trace 90% of the traces within 3 days.
- How is coordination being currently achieved within the unit? The market streamlining system concentrates on the beef industry and lacks coordination with all species identified. However, the USAHerds software provides coordination between all species and allows access to all staff.
- How is coordination being currently achieved state-wide, tribal-wide, territory-wide? The market streamlining data is obtained from all livestock markets located throughout Missouri. The market streamlining data is managed by USAHerds, which is accessible to staff located throughout the state.
- How does the present unit coordinate activities with other existing agencies/units? MDA has a very strong relationship with the Area Veterinarian in Charge, therefore, we coordinate the necessary information to ensure the investigation is accomplished in a timely manner.
- What standards for traceability are currently being used? Are they appropriate? Missouri currently strives to provide traceability to the farm of origin within 3 working days for all species. This is appropriate for
most of the traces, however, if the livestock or poultry is marketed through a dealer this standard is not appropriate.

- What is the state of technology infrastructure?
  Missouri Office of Administration maintains computer/servers and backups data on a daily basis.
  Capability in terms of size?
  Size is adequate with more storage purchased as needed.
  Compatibility within and outside the agency/unit/department/etc. for sharing data when needed?
  Missouri has implemented a computer software program to electronically collect and submit the same information as was collected on the VS 4-54 Form to a central database to enable traceability in a short period of time. We have also acquired data management software to provide additional traceability capabilities. The data management software is accessible 24/7 to our staff. The sharing of information must be approved by the department director; the capability to share is adequate.

- Are requests for information available 24/7, or only available M-F, 40 hours per week, if authorized personnel are present?
  The accessibility to the data would be 24/7 through authorized personnel.

- What is the impact of state, tribe, or territory funding on capability?
  How does Federal funding fit into the plan? It is necessary to complete the overall mission while the market streamlining program was paid for with state funds, federal funding will be utilized to provide data entry, outreach programs, USAHerds software maintenance, personnel funding, some travel, and upgrade computers.

2.3 Strengths and Weaknesses

- What are the strengths of the organization in terms of technology, human resources, personnel capabilities, etc.?
  The acquisition of data management software (USAHerds) has greatly enhanced the accuracy of the identification entered in the Missouri database system. The software enables the department to query “official identification” to trace animals in the event of a disease incident. The ability to merge the market streamlining data with USAHerds greatly enhances the amount of data and allows MDA to manage the data more efficiently. Missouri will analyze the current identification requirements for movement into the state and determine the changes necessary to comply with the Animal Disease Traceability program.
What are the weaknesses in terms of “lack of” technology, human resources, personnel capabilities, etc.?
The biggest challenge is to maintain adequate staff to provide data entry into the system. The continued development and implementation of electronic certificates of veterinary inspections is essential to accurately capture the data necessary for traceability.

2.4 Opportunities and Threats
Every State/Tribe/Territory is subject to catastrophic events, such as tornados, wildfires, drought, winter storms, animal/zoonotic disease, flooding, possibly hurricanes. Does this plan create an opportunity in ability to respond?
The plan enables the information to be centralized and documents the locations of a variety of livestock and poultry entities. The mapping capabilities allow the state to identify locations within the infectious zone or in the path of danger which may possibly have animals. The ability to identify the locations which may have animals greatly reduces the time required to respond.

- Does this plan enable or avoid consequences of potential threats?
The plan enables Missouri to respond more efficiently in the event of a potential threat, however, the consequences would be dependent upon the threat.
- Does this plan provide for better use of available resources than current approaches?
The plan enhances the utilization of the resources.
- Does this plan enhance networking opportunities?
The ability to access the information 24/7 by authorized individuals will greatly enhance the networking opportunities. District Veterinarians will be able to locate and identify animals of interest in a timely manner.
- If this plan is not implemented, what are the threats?
Missouri will not be able to fully utilize the capabilities of the database to protect the livestock and poultry industries from disease or catastrophic events.
- If this plan is not implemented, will others be tasked with doing so?
Missouri would continue to strive to provide traceability to enable us to respond to a disease outbreak or natural disaster.
- Have previous efforts to coordinate with other entities within the applicant’s boundaries, and outside the applicant’s boundaries, been complicated or unavailable for not having this plan in place?
The market streamlining software allows Missouri to query a database of test eligible cattle in an efficient manner. However, the system was not capable of communicating with the field staff and coordinating with other sources of official identification.
2.5 Inventory of existing infrastructure and suitability assessment
- Human resources
  MDA currently utilizes several employees for data entry in USAHerds for a variety of animal health programs which affects traceability. These employees enter data from health certificates, test records, tag allocations, livestock market information, premises and other forms of data relating to disease traceability.
- Space availability
  Missouri will purchase from Missouri Office of Administration as needed.
- Connectivity resources, both in office and in the field
  The office and field staff has access to the information through air cards, smart phones and land lines.
- Access to USDA animal disease traceability and animal health information resources
- Organization of all existing paper record systems used to access animal disease traceability or animal health information
  Missouri is slowly uploading information into USAHerds.
- Computerized data management capability, including present storage size, speed, security, etc.
  Missouri will utilize Office of Administration to purchase storage space as needed and standards/requirements.
- Automated data capture capability
  The market streamlining system is semi-automatic. Missouri will continue to promote the use of electronic certificates of veterinary inspection, which will automate data capture. Other forms of data capture will be explored as well, including but not limited to test charts, tag allocations, etc.

III. VISION AND MISSION CONTEXT FOR ADVANCING TRACEABILITY
3.1 Vision Statement
  Missouri is committed to the continued implementation of a traceability program to ensure the ability to identify and contain in the event of a disease incident or natural disaster.
3.2 Mission Statement
  Missouri will strive to continue to advance the accuracy and efficiency of the traceability program through implementation and utilization of technology.
3.3 Strategic goal
  To develop and implement a State-wide infrastructure for advancing animal disease traceability compatible with State, Tribe, Territory and USDA standards.
3.4 Programmatic goals (objectives)
  Year 1 Goals
  - Continued Input data into appropriate systems
- Improve retrieval of available traceability information
- Continually monitor ICVI data quality
- Continued development and implement the utilization of electronic interstate certificates of veterinary inspections

Year 2 Goals
- Continued develop and implement the utilization of electronic interstate certificates of veterinary inspections
- Continue outreach programs to accredited veterinarians to increase the quality and processing of electronic forms and health certificates.
- Continued Input data into appropriate systems
- Continually monitor ICVI data quality

Year 3 Goals
- Establish compatible standards for sharing data with States/Tribes/Territories and USDA when needed
- Integrate surveillance and traceability data
- Continued develop and implement the utilization of electronic interstate certificates of veterinary inspections
- Continue outreach programs to accredited veterinarians to increase the quality and processing of electronic forms and health certificates.
- Continued Input data into appropriate systems
- Continually monitor ICVI data quality

IV. TRACEABILITY REQUIREMENTS

4.1 Infrastructure
- How has performance been measured to date?
  Through established performance measures and objectives developed and required by the cooperative agreement.
- What is the current baseline?
  The current baseline is 90% of the test-eligible cattle and swine are traceable to the farm of origin within 3 days. The baseline for horses and cervids has not been established.

4.2 Animal Traceability Performance Measures

4.3 Data requirements
- Fully describe standards to be used for location identification, if used
  Missouri will utilize the federal and state premises (LIDS) for location identifiers.
• Fully describe standards to be used for official animal identification, including arrangements with other States, Tribes, Territories, as well as official identification methods/devices used within the cooperator’s jurisdiction.

  Missouri will recognize “official identification” as defined in 9 CFR part 77. We will also utilize registration tattoos when accompanied by registration papers.

• Will the State/Tribe/Territory be using official metal ear tags beyond the current system involving accredited veterinarians only applying the tags at the time of performing regulatory animal disease work? What formats? What volume is expected for use? How will they be distributed? What is the plan for distributing taggers? VS Memo 578.12 is to be used for reference guidelines. (required to be addressed within the Road Map)

  In the short term MDA will utilize official metal ear tags when requested by veterinarians for a means of official identification. Missouri has a system in place to allocate official producer tags to producers that request them. MDA obtained those tags and set the procedures with the input from the industry. The tags are green in color and utilized the “MO” prefix. However, MDA staff will start to educate and promote the use of RFID tags, as USDA has announced the phase out of metal official (NUES) tags.

• What tag distribution record keeping systems will be used? (required to be addressed within the Road Map)

  USAHerds software.

• What data requirements exist for commuter herd agreements? Missouri does not have commuter herd agreements.

• What forms are approved for interstate movement in addition to ICVIs? The only approved forms are ICVIs developed for Missouri. Missouri does accept swine movement under a swine health plan established between the origin and destination state and the company (producer)

• How and when will data be shared with other States, Tribes, Territories, and USDA? (required to be addressed within the Road Map. The information is currently and will be shared in the future via communication with the federal and state entities in the event of a disease incident, concern or as needed for program reporting. Additionally, as in the past, MDA will continue to provide to USDA relevant findings and information as necessary in order to conduct disease traces.

• How will group/lot official numbers be handled within the system? Missouri will enter the group/lot official numbers into the database similar to individual identification or through the permit system.

4.4 Information technology plan
Missouri will utilize the current IT system, but will need computer upgrades and replacement computers in the future. The State of Missouri’s Office of Administration currently provides storage for an annual fee and provides data back-up on a daily basis.

4.5 Resource requirements
Missouri has already implemented a computerized system to implement the road map. In the future, we may need to upgrade or purchase computers for the district staff or request payment of the annual server fee for storage space.

4.6 Organizational needs
(4.6.1 through 4.6.6 are organizational needs).

4.6.1 Executive support
- Is additional support from executive management needed?
  The current statutes prevents a mandatory premises program in Missouri and state statutes prevents/controls the accessibility of information.
- How is accountability provided?
  Through the state veterinarian oversight.
- How are officials briefed on progress and baseline measures of performance?
  Through random updates.

4.6.2 Coordination and oversight procedures
- What is the make-up of the applicant’s animal disease traceability advisory group? How frequently are they engaged? Industry, state and federal partners. They meet on an as needed basis with other meetings as outlined in the cooperative agreement.
- How are emergency preparedness resources engaged or responded to when necessary?
  Missouri has an Agri-Security position who coordinates the emergency management response.
- How is compatibility with other States, Tribes, Territories, and USDA monitored?
  Through collaboration with the various entities. MDA participates in many conference calls, national meetings and other venues. USAHerds user group meetings and conference calls are very useful when keeping those states compatible with others.
- How are responsibilities assigned for implementing the plan?
  Through the directive of the state veterinarian
- How are disputes arbitrated?
  Through discussions and consensus.
- How is feedback obtained relative to perception of successful implementation above and below the administrative authority?
Through communication with field staff via conference calls, conferences, etc.

- How is transition achieved when administrators are replaced?
  Through documentation of the plan and directives to implement the stages in the future.

4.6.3 Policy

- How do existing mandates assist, limit, or modify what is intended to be achieved?
  Missouri is not allowed to participate in a mandatory premises program due to current statutes. However, official identification is mandated on certificates of veterinary inspections and animal health forms.

- Is there a need to address any specific mandates and act to modify them to align them with current goals and objectives?
  Not at this time, unless the Animal Disease Traceability mandates participation in an identification program.

4.6.4 Staffing

- How is full-time, paid support staff justified?
  There is a tremendous about of data entry at this time due to the lack of acceptance of an electronic ICVI. USAHerds requires a tremendous amount of data entry to adequately utilize the traceability capabilities of the software program.

- What qualifications are needed?
  Accuracy, attention to detail and ability to focus on data entry

- What personnel are needed to implement the plan?
  Program manager, administrative assistant and data entry staff

- Can other human resources be leveraged to assist in implementing the plan?
  Yes, we currently have individuals providing data entry for other animal health programs which utilize official identification.

- Are professional credentials and certification an issue?
  No.

- Are job descriptions for the roles needed provided?
  The job descriptions are available through the human resource division.

- Is animal disease traceability information a distinct function within the unit or an add-on “coordinated by committee” versus an individually coordinated, stand-alone sub-unit?
  The animal disease traceability information is coordinated with several animal health programs and systems.

4.6.5 Budget requirements
• How are you funded for animal disease traceability? State, Tribe, Territory versus Federal?
  Missouri has developed the current market streamlining with state funding and utilized federal funding to provide outreach and coordinate the two systems. We also utilized federal Homeland Security Funding to acquire the data management software to enable our division to respond to emergencies, disease and disasters.

• What are the funding requirements projected by year for FY2019, FY2020, and FY2021 for implementing this plan?
  FY2019--$1,343,600
  FY2020--$1,401,500
  FY2021--$1,448,900

• How is cost sharing achieved?
  The state funding will provide some personnel cost, travel, IT support, equipment maintenance, supplies, communications and other as needed. The federal funds will be utilized to provide help provide outreach to accredited veterinarians, some personnel costs, some software maintenance costs, travel and mileage, communication costs and other as outlined in the cooperative agreements.

• How can the applicant insulate against budget cuts and shortfalls?
  In the event of significant budget cuts, Missouri will continue the current system and utilize funds to maintain. The completion of the established goals of the road plan will be delayed due to the inability to acquire the necessary staff.

• Can other funding sources be leveraged to support this plan?
  Missouri has utilized Homeland Security Funds in the past to acquire data management software; however, the availability of funding from Homeland Security has diminished and would not be available. The availability of state funding to fully support this plan is not a viable option due to the deficits in the current budget.

4.6.6 Outreach (required to be addressed within the Road Map)

4.6.6.1. Accredited veterinarians
  • What is the plan for informing accredited veterinarians of the new framework and the specific three-year plan for implementation?
    Missouri will continue to utilize the district veterinarians to inform accredited veterinarians. MDA will participate in professional and commodity conferences to distribute and inform the profession and producers.
• What continuing education is being planned for improving data quality relative to animal health information systems being used? Submitting official forms in a timely manner? We will continue to promote the use of an electronic CVI to our accredited veterinarians, this will serve as a method to provide additional training and implementation of electronic animal health forms.

• What is the plan for enhancing the use of eICVIs, if any? MDA promotes the use of eICVIs and will continue to monitor the adaption of such and will look for ways to enhance the ICVI as needed.

• What role, if any, does the accredited veterinarian have in providing low-cost, official identification tags/devices to producers? The accredited veterinarians will be able to distribute official identification tags to producers or utilize them as a means of identification outside the parameter of an animal disease program.

4.6.6.2. Livestock markets

• What continuing education efforts are being planned for addressing the concerns of the livestock markets in the jurisdiction? Missouri will utilize the district veterinarians and field staff to provide information to the livestock markets. MDA will also provide information via the participation at livestock and poultry seminars and meetings.

• What is the plan for accessing or requesting traceability information from livestock markets? Missouri will utilize the market streamlining system currently implemented and maintained in livestock markets.

4.6.6.3. Industry as a whole

• How is industry being informed of the implementation plan? Missouri informs the livestock and poultry industries of the program through meetings
with producers and staff. MDA also participates in commodity association meetings and trade shows.

- How is the advisory committee being leveraged for this continuing education purpose?
  Through meetings and conference calls as needed.

- What other resources are available for industry outreach?
  MDA’s website and attendance at industry meetings, conferences and conventions.

- What constitutes industry? What species are involved?
  Livestock Markets, livestock and poultry commodity groups. Cattle, swine, horses, sheep, goats and poultry.

- How are under-represented and under-served communities being included in the outreach plan?
  The district veterinarians and field staff are distributed throughout the state, including under-represented areas. In addition, the under-served areas may be served by attending a livestock or poultry meeting or tradeshow.

4.7. Monitoring and reporting interstate movement activity (required)

- How will the number of animals and the number of shipments be monitored that move interstate?
  Interstate movement is captured in USAHerds.

- How will the data be verified or validated?
  ICVIs are monitored and reviewed daily for compliance.

- The following data must be reported for quarterly reports beginning with calendar year 2012:
  - Number of ICVIs and other interstate movement documents created within the State/Tribe/Territory on a year-to-date basis for move-out animals
  - Number of ICVIs and other interstate movement documents received for move-in animals
  - Number of animals by species and class for move-in events associated with ICVIs and other interstate movement documents, indicating the number of animals officially identified and the number not officially identified
  - Number of animals by species and class for move-out events associated with ICVIs and other interstate movement
documents, indicating the number of animals officially identified and the number not officially identified
  o Volume of distribution for each official numbering system/device issued by the State/Tribe/Territory and/or AVIC office, including backtags by market or processing (slaughter) facility

V. TRACEABILITY IMPLEMENTATION

5.1 Ranking of priorities for advancement

- What specific steps are needed to advance from where the initiative currently resides?
  Increased number of electronic certificates of veterinarian inspections and animal health program forms that can be uploaded into the software without manual entry. Additional data entry personnel would be necessary to completely enter all of the data that is available.

- Is a phased-in approach appropriate over the three-year period?
  Yes, the implementation of the plan will be completed over the next three years.

- Are various components dependent upon measureable successes rather than defined time periods?
  Yes

5.2 Implementation of objectives

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<tr>
<th>Year</th>
<th>Goals</th>
<th>Budget</th>
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<tr>
<td>FY2019</td>
<td>Continued Input data into appropriate systems. Improve retrieval of available traceability information. Continually monitor ICVI data quality. Continued develop and implement the utilization of electronic certificates of veterinary inspections. Increase data entry into system.</td>
<td>$1,343,600</td>
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<td>FY2020</td>
<td>Continued develop and implement the utilization of electronic certificates of veterinary inspections. Continue outreach programs to accredited veterinarians to increase the quality and processing of electronic forms and health certificates. Continued input data into appropriate systems.</td>
<td>$1,401,500</td>
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<td><strong>Continually monitor ICVI data quality.</strong></td>
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<td><strong>FY2021</strong> Establish compatible standards for sharing data with States/Tribes/Territories and USDA when needed. Integrate surveillance and traceability data. Continued develop and implement the utilization of electronic certificates of veterinary inspections. Continue outreach programs to accredited veterinarians to increase the quality and processing of electronic forms and health certificates. Continued Input data into appropriate systems. Continually monitor ICVI data quality.</td>
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