AgConnect

A suite of customizable data-sharing products designed to enhance real-time situational awareness.

THE CHALLENGE

Good data are critical to effectively understand, manage, treat and control infectious diseases and enhance animal, human and environmental health; however, accurate and meaningful data are often difficult to obtain and can be overwhelming to process and analyze.

THE SOLUTION

To help address this challenge, the Institute for Infectious Animal Diseases in partnership with the Texas Center for Applied Technology, a part of the Texas A&M Engineering Experiment Station, developed AgConnect®, a suite of customizable software products designed to enhance real-time situational awareness and support decision-making for emerging, zoonotic and/or transboundary animal diseases.

This technology integrates authoritative information from disparate sources into a single, easy-to-use integrated display. It empowers real-time collection, access, distribution and analysis of biosurveillance, veterinary diagnostic, animal movements and other pertinent data (e.g., clinical observations, production information, genetics and environmental/climate data). These data are integrated into an interoperable, permissioned, user-defined operational picture that allows users to make decisions based on common information that can be shared across echelons, organizations, locations and roles/positions.

The end result is a sophisticated system that serves as a central point for multiple groups to collaborate and leverage their collective resources to monitor animal health status and disease events. Tools and data from across the AgConnect® suite can be utilized and analyzed together to promote a wholistic picture for different user types (e.g. producers, veterinarians, state animal health officials, federal responders and industry partners). AgConnect® enhances situational awareness and decision support, facilitating efficient risk analysis and effective program design for disease intervention and control strategies. Ultimately, this tool allows for more effective resource allocation and implementation of interventions in the event of a disease outbreak.

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ANALYTICAL TOOLS:

AgConnect® HealthNet

The AgConnect® HealthNet system is the biosurveillance perspective of the AgConnect® suite of tools and has broad applications in the global health community – especially for monitoring and understanding movement of and relationships between transboundary, emerging and zoonotic diseases. This system has been developed in collaboration with the U.S. Department of Homeland Security and the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS), as well as industry representatives and state animal health officials (SAHOs). The intent is to capture field information about livestock and poultry health status though a mobile tablet/smartphone interface. Info is aggregated with data from veterinary diagnostic labs, wildlife and environmental sources into an easy-to-use computer display for monitoring and analysis. By improving data collection capabilities and integrating information from multiple disparate sources, AgConnect® HealthNet provides a more comprehensive view of animal health over space and time to aid in early disease detection or monitor changes in animal health status.

AgConnect® ResponseNet

AgConnect® ResponseNet has been developed in collaboration with USDA APHIS and SAHOs as a web-based tool for supporting large- and small-scale incident management. It provides enhanced response capabilities by organizing relevant data from authoritative sources to facilitate rapid information sharing between industry and government during an animal disease event. AgConnect® ResponseNet is being piloted by multiple SAHOs and swine production systems to gain feedback on day-to-day and/or emergency use to better understand the decision-making process needed to support normal animal movements or return to business operations during an outbreak. Features to support business continuity have been developed to allow sensitive data to be distributed in a controlled manner during an emergency and then integrated to support risk assessment, mitigation, and management - allowing action (e.g. permitting) to be taken through established systems. Through this approach, participating producers can establish freedom from disease and resume business operations more quickly by establishing advance linkages to key data.

AgConnect® LabNet

AgConnect® LabNet was developed to support the USDA National Animal Health Laboratory Network (NAHLN) as a web-based tool to help increase the nation's capability to prepare for and respond to a high-consequence, emerging and/or zoonotic disease. This software system allows for the automated determination of diagnostic testing capacity estimates, supply and equipment usage, personnel requirements, associated costs and process limitations for individual and overall NAHLN laboratories and facilitates communication between laboratories and the NAHLN coordinator. All NAHLN laboratories currently have access to the system and over 200 users at more than 60 facilities have entered data since June 2012. AgConnect® LabNet has been linked to the NAHLN Portal for easier data definition, allowing multiple functionalities to be accessed via single data entry.

MOBILE APPLICATIONS:

AgConnect® mHealth

AgConnect® mHealth is the mobile collection interface for field collection of information brought in to the AgConnect® HealthNet system. The smartphone and/or tablet interface allows veterinarians and other field personnel to enter clinical animal health data from livestock and poultry premises, linking this data feed to the AgConnect® HealthNet analyst workstation for aggregation in real-time through the use of visual, geospatial and temporal analysis tools. The app also provides valuable information back to practitioners regarding other syndromic reports in their region, providing access to a unique information source to aid in animal diagnosis and treatment.

AgConnect® mCVI

AgConnect® mCVI provides an app to support veterinary practitioners submitting animal health certificate records (i.e., Certificates of Veterinary Inspection [CVI]) from the field. The technology was developed in close coordination and collaboration with SAHOs in Colorado and Kansas and builds upon the eCVI PDF form developed by these states. Through a touch-screen interface, animal health certificates can be created and submitted or, if no data connection is available, stored within the app for forwarding when connectivity becomes available. Users also have the ability to print paper-based forms directly from the app and automatically and/or manually import CVIs into state animal health information systems. The app is available for free download for phones and tablets on the Apple App Store® and Google Play Store® and is being actively piloted and/or evaluated in more than 40 states.
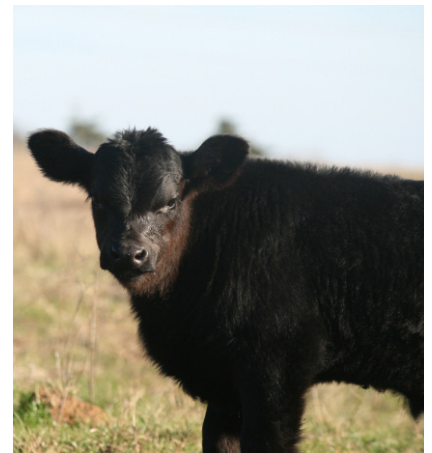
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