



The University of Georgia

College of Agricultural and Environmental Sciences
Consortium for Internet Imaging and Database Systems

Distance Diagnostics through Digital Imaging as a Tool for Biosecurity and a Weapon in the War against Agroterrorism

[Consortium for Internet Imaging and Database Systems – The University of Georgia](#)

Biosecurity and agrosecurity, in relation to invasive species and closely associated concerns for food, agriculture, fisheries and forestry are rapidly becoming the single most used terms in any communication regarding our Nation's security. As global trade and communications barriers are erased, nations are becoming increasingly more susceptible to bioterroristic threats. When an organism escapes preventive measures, **early detection is crucial to effectively respond to the threat. Rapid, secure sharing of pertinent information** with appropriate personnel and agencies emerges as a top priority.

The **Distance Diagnostic through Digital Imaging (DDDI)** system, as developed and implemented by the University of Georgia's College of Agriculture and Environmental Sciences, is a powerful tool in the arsenal in the war against bioterrorism. Use of the **DDDI system is rapid, specific and effective** in the evaluation of potential biological threats by facilitating rapid and methodical communication between diagnostic experts and people in need of an expert diagnosis of agricultural problems including plant disease, plant damage, insect damage as well as animal health and consumer food safety issues.

The DDDI system has multi-state implications and is **currently in place in ten U.S. States** representing three USDA biosecurity regions. The system is completely scalable and can be customized to meet virtually any distance diagnostic need including local, regional and national communication regarding emerging trends in biosecurity threats. While DDDI is already instrumental in the **National Plant Diagnostic Network (NPDN)**, the benefits of the DDDI system could be helpful for many state and federal agencies including, but not limited to, the **Food Emergency Response Network (FERN)**, **National Animal Health Laboratory Network (NAHLN)**, and state Departments of Agriculture.

The DDDI system is a complete sample information system allowing the secure submission of agricultural problems to experts capable of diagnosing the problems. Both physical and digital samples may be submitted using the DDDI system. Sample information and images are captured in a secure database, available to **authorized users** for evaluation within minutes of receiving sample notification. Based on a combination of user-submitted information, electronic mail notification of the sample's existence is sent to the **appropriate diagnostician**. The diagnostician evaluates the sample and provides a diagnosis or identification and recommendations. The original submitter is automatically notified via email regarding the sample information and the specialist's comments. Features within the DDDI system allow for **broadcast email notification of emerging** issues while built in security measures **prevent unauthorized access** to sample information.

Time savings can be significant. The entire process, from taking the image with a digital camera to a submitter receiving the email with specialist comments can take place in **as little as 5 minutes**. When biological agents that are easily spread, have high infectivity at low infective dose levels, or have high economic consequences are involved, **time is critical**.

For more information about the Distance Diagnostic through Digital Imaging system, please contact us:

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