GROWERTALKS

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USDA Deploys New Predictive Tool

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In addition to detecting the potential entry of dangerous insects and diseases, USDA APHIS PPQ (Plant Protection and Quarantine) is also interested in knowing what has the potential of being introduced (pathway and risk prediction) and predicting how widely an invasive pest may spread, and what kind of economic impacts it may have once it's established.

USDA APHIS PPQ recently organized a group of experts in quantitative analysis—called the Phytosanitary Advanced Analytics Team (PAAT)—to, in USDA's words, "turn data into insights." PAAT works with researchers at North Carolina State University and develops the Pest or Pathogen Spread (PoPS) simulation model where the spread of invasive pests and diseases could be predicted and displayed. Variables used in the simulation come from field and laboratory studies or activities, including but not limited to: detection and distribution data from surveys, host distribution, environmental data, management activities, etc.

The team demonstrated the capability of the model by predicting the spread of spotted lanternfly (see page 14). Users of the model can input different variables, such as changing different treatment scenarios and areas, to predict the spread of the pest and answer the questions of how effective various management scenarios may be.

Devon Geydos, the project's lead PAAT analyst said, "With PoPS, decision-makers can iteratively explore what-if scenarios. What if we use a different treatment? What if we treat different locations? What if our budget changes? PoPS can help answer these questions in a risk-free, simulation environment."

Visit popsmodel.org to find out more and download the free model. **GT**