



Agricultural Systems

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Staying a step ahead of pests

Land-grant university scientists help farmers improve production quality and profitability by protecting their crops and animals from insects, disease, weeds and other pests.

Here are a few examples of that work:

- Weed scientists at **Oregon** State University Extension and University of **Washington** developed practices using residual herbicides that are most effective in controlling Russian thistle in wheat fields.
- Growing citrus under protective screens has been proven effective by University of **Florida** Extension scientists at keeping Asian citrus psyllids off the trees, thus preventing greening disease, also known as huanglongbing, from ruining the citrus crop.
- Land-grant university scientists in **Arkansas** developed a new virus detection tool for berries. High-throughput sequencing detects variants that escape RT-PCR, identifies novel viruses and is much faster because it can analyze a large number of samples simultaneously.

Land-grant university scientists are working together to enhance integrated nematode management.

*Researchers from **Arkansas** Cooperative Extension, Auburn University in **Alabama**, Clemson University in **South Carolina**, University of **Florida**, University of **Georgia**, University of **Illinois**, **Louisiana** State University Cooperative Extension, University of **Minnesota**, **Mississippi** State University, University of **Missouri**, **North Carolina** State University, **Oklahoma** State University, University of **Tennessee**, **Texas** A&M University, and **Virginia** Polytechnic Institute and State University have developed new tools. Researchers have identified biological agents and developed new “softer” nematicides that have reduced risks as well as new ways to deliver existing nematicides. Arkansas producers who used research findings to select soybean varieties with resistance to southern root-knot nematodes saw yields increase from 11 bushels per acre to 50 bushels per acre.*

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Prepared by the National Impacts Database Communications Subcommittee, supported by ESCOP, ECOP and USDA/NIFA.

02/2022



National Institute of Food and Agriculture
U.S. DEPARTMENT OF AGRICULTURE