



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

The Economic Impact of New Technology Use in the US Apple Industry

Nichole Busdieker

M.S. Student
Agricultural and Consumer Economics
University of Illinois
438 Mumford Hall, 1301 W. Gregory Drive
Urbana, IL 61801-3605
E-mail: busdiek1@illinois.edu
Fax: (217) 333-5538

Lia Nogueira

Assistant Professor
Agricultural and Consumer Economics
University of Illinois
433 Mumford Hall, 1301 W. Gregory Drive
Urbana, IL, 61801-3605
E-mail: nogueira@illinois.edu
Telephone: (217) 244-3934, Fax: (217) 333-5538

Hayri Önal

Professor
Agricultural and Consumer Economics
University of Illinois
307 Mumford Hall, 1301 W. Gregory Drive
Urbana, IL, 61801-3605
E-mail: h-onal@illinois.edu
Telephone: (217) 333-5507, Fax: (217) 333-5538

David Bullock

Professor
Agricultural and Consumer Economics
University of Illinois
309 Mumford Hall, 1301 W. Gregory Drive
Urbana, IL, 61801-3605
E-mail: dsbulloc@illinois.edu
Telephone: (217) 333-5510, Fax: (217) 333-5538

Poster prepared for presentation at the Agricultural & Applied Economics Association's 2011 AAEA & NAREA Joint Annual Meeting, Pittsburgh, Pennsylvania, July 24-26, 2011

Copyright 2011 by Nichole Busdieker, Lia Nogueira, Hayri Önal and David Bullock. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.

The Economic Impact of New Technology Use in the U.S. Apple Industry

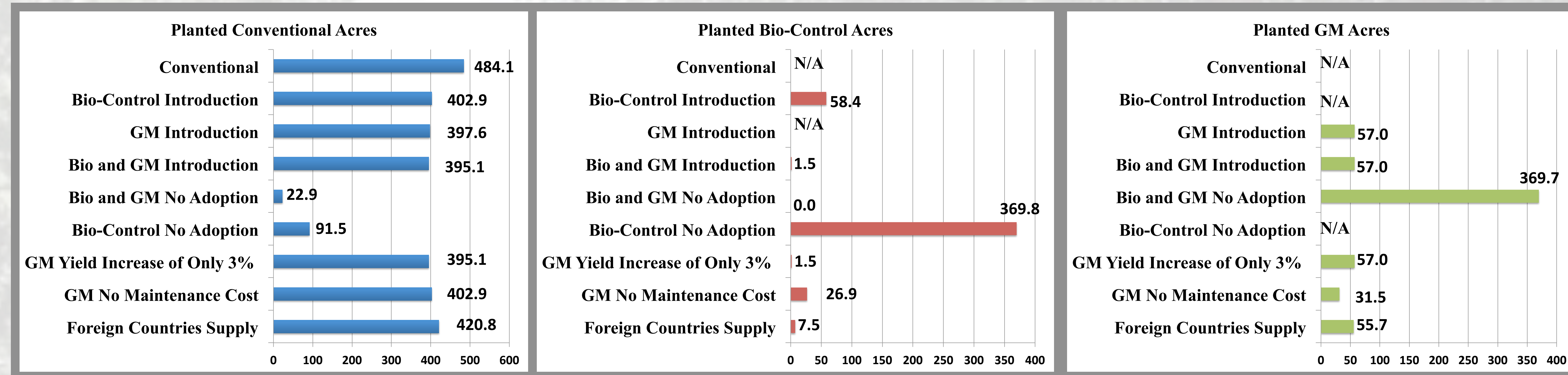


Nichole Busdieker, Lia Nogueira, Hayri Önal, David Bullock - University of Illinois, Urbana-Champaign

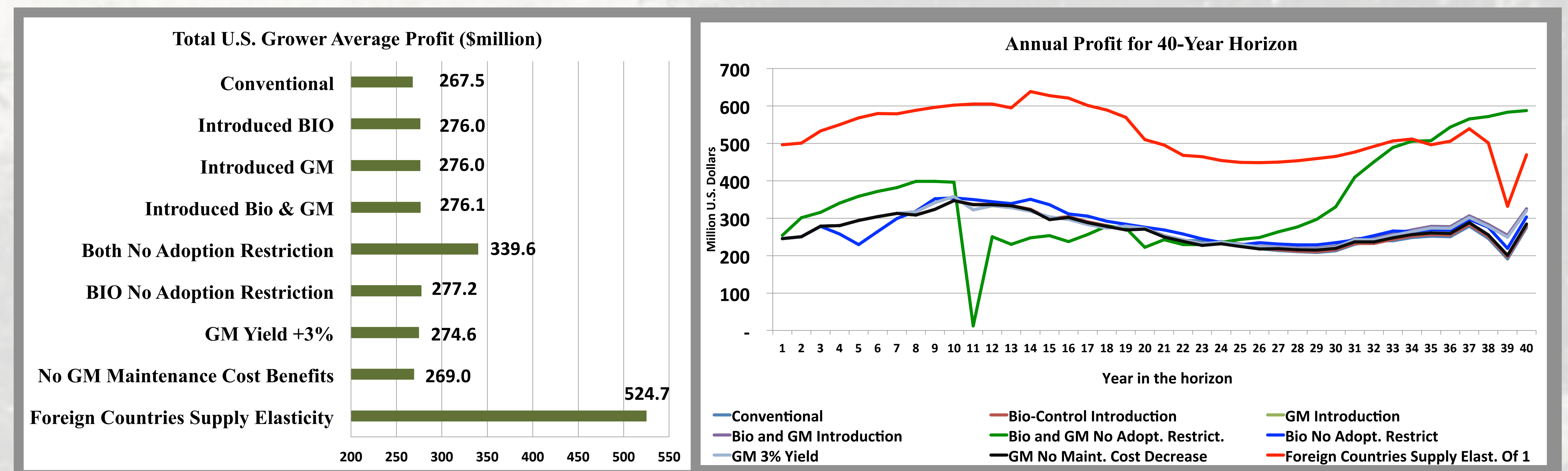
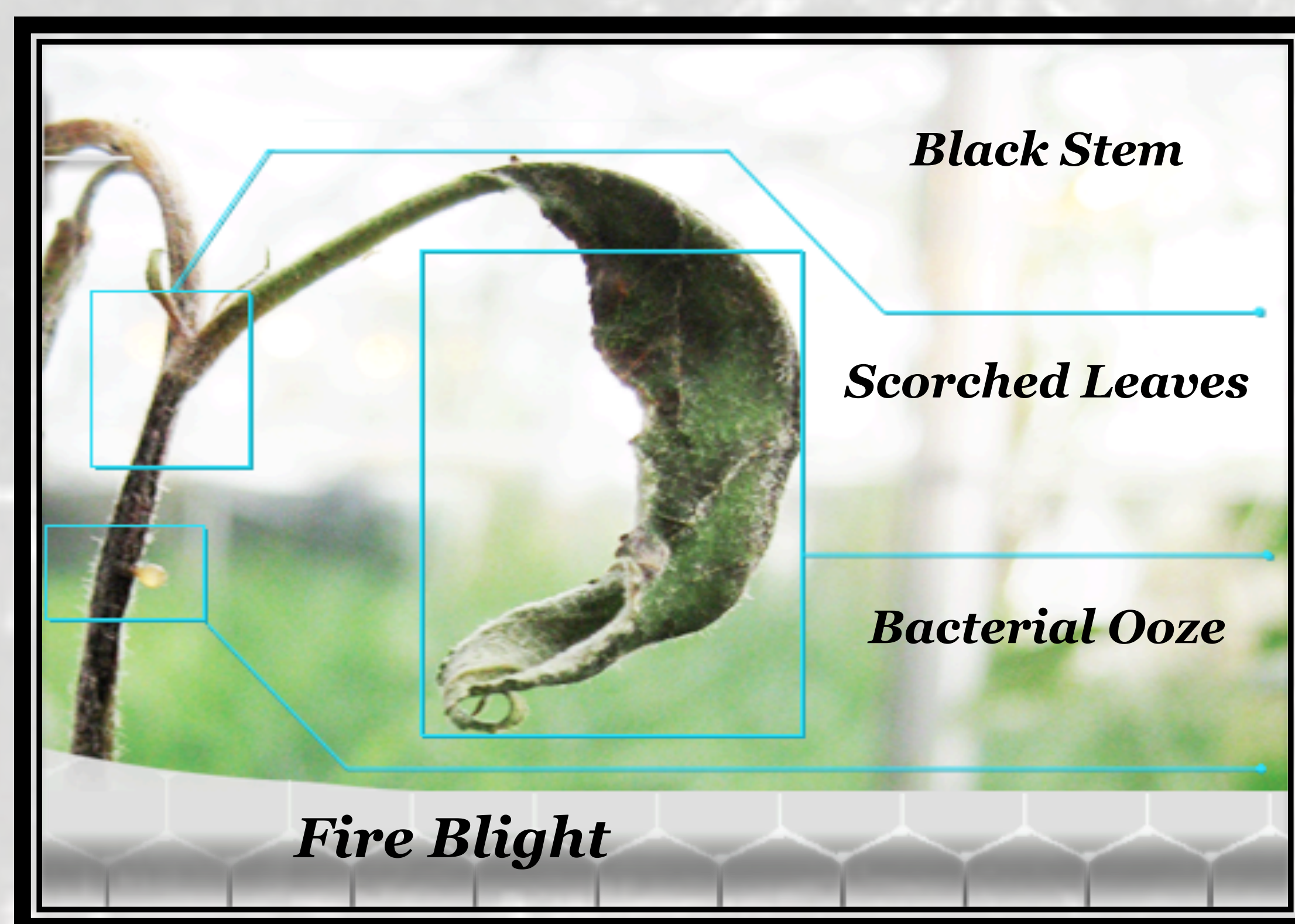


Objective: To evaluate the potential impact of new technologies to control fire blight on the current U.S. apple industry through dynamic simulations and analysis.

Model: Through a dynamic temporal and spatial partial equilibrium model, we evaluate the welfare of the apple industry. The investment decision for each grower is based on a known understanding of the industry and expected prices. The remaining value of the trees at the end of the horizon is considered as revenue to be expected based on the final years' price in the horizon.



* All diagrams above are in 1,000 acres



Technological Change

- GM technology outweighs impact of Bio-Control methods
 - Maintenance cost reduction more important than yield advantage
- Fewer acres in production
- Greater industry profit with technology

Conclusions: We provide evidence that through technology adoption the apple industry can thrive and consumers can benefit. In the adoption of the GM and bio-control technologies, fewer acres are required to fit the current industry demand. Our results show that maintenance cost reductions and the recovering of production lost to fire blight are important to both producers and consumers. The release of bio-control methods benefits growers and consumers when there is producer adoption hesitation due to consumer concerns about GM products, and when it is fully accepted.

We would like to acknowledge research funding support of the USDA - Specialty Crop Research Initiative program.



IGMSCFireBlight

INTEGRATED GENOMICS AND MANAGEMENT SYSTEMS FOR CONTROL OF FIREBLIGHT

