

Entomologist Is Medfly Detective

UNIVERSITY PARK (Centre Co.) — Clementines — a popular seasonal citrus fruit similar to tangerines — may be in short supply after the USDA's recent ban on Spanish clementine imports.

The ban is in response to the discovery of Mediterranean fruit fly larvae in fruit imported to the U.S. from Spain, which supplies about 75 percent of the U.S. clementine market.

Meanwhile, an entomologist in Penn State's College of Agricultural Sciences is working with USDA to pinpoint the source of the latest infestations, with an eye toward eliminating potential avenues for the pest's introduction.

Bruce McPheron, professor of entomology, is analyzing DNA from medflies intercepted in Baltimore, Detroit, and New Orleans to determine their geographic origin.

"By identifying the source of the infestation, we hope to accomplish two things," said McPheron, whose laboratory does genetic fingerprinting for all medfly interceptions in North America on behalf of USDA's Animal and Plant Health Inspection Service. "First, we want to make sure that there's no established population of medflies in the U.S. Second, if we know where they're coming from, we can close inspection loopholes to eliminate their pathways, as well as improve production practices and

postharvest treatment to reduce the threat.

"Medflies present no threat to human health," said McPheron. "If consumers in Pennsylvania or other northern states find larvae in a clementine this winter, they can just throw it away or return it to the store so that officials can be contacted to identify the larvae.

"The real threat is to the fruit and vegetable industries in states where the weather is warm enough for the pest to become established," McPheron said. "In Pennsylvania, for instance, there's no fruit on the trees now to support medfly reproduction, and the adults wouldn't survive the cold winter weather."

In addition to the suspension of clementine imports, USDA has banned their sale or distribution in 17 states where medflies could survive. Shipments to those states can be destroyed or redirected to be sold in approved cold-weather states.

Mediterranean fruit flies are one of the world's most destructive agricultural pests. They can infest more than 250 varieties of fruits and vegetables. Female medflies lay eggs under the skin of ripening fruit. After hatching, the larvae eat the pulp, rotting the fruit.

Reduced fruit quality, lost markets, increased use of pesticides and other costs associated with medflies could

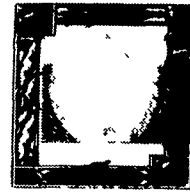
total in the billions of dollars for growers. The citrus industries in California and Florida spend millions of dollars annually to prevent and monitor for infestations. Damage done by the pest could reduce fruit and vegetable supplies, leading to higher consumer prices.

When suspected infestations are discovered, experts in the field first identify the larvae as medflies, then send specimens to Penn State for DNA analysis. "Genetic markers help us to determine whether an infestation is the result of a new introduction or the resurgence of an old one that had been reduced to undetectable levels by eradication efforts," said

McPheron, whose medfly research has taken him virtually around the world collecting specimens.

Before importation, fruit typically is quarantined in cold storage or fumigated with methyl bromide to eliminate exotic pests. But McPheron said methyl bromide is being phased out be-

cause of environmental concerns and an effective alternative hasn't been identified. "The fact that we've seen such a geographically widespread introduction suggests some kind of breakdown in the quarantine system for fruit coming from Europe," he said.



Vegetable Convention

Exhibits, Schedule

(Continued from Page 15)

Fresh Tomatoes - Monarch ACE

1 30 **Label Changes Brought to You by FOIPA - Kerry Richards Penn State Univ

2 00 Specialty Tomatoes - Pete Nitzsche Rutgers Coop Ext

2 30 New Techniques in Fresh Market Culture - Dr Douglas Sanders North Carolina State Univ

3 15 The Newest and Best Tomato Varieties - Dr Randy Gardner North Carolina State Univ

4 00 *Problem Insects in Tomatoes - Dr Gerald Ghidu Rutgers U

Small Fruit Pest Issues - Monarch BDF

1 30 *Bramble Weed Control - Dr Bradley Majek Rutgers Univ

2 00 *Black Root Rot in Strawberries - Dr Annemiek Schilder Michigan State Univ

2 45 *Sap Beetles and Tarnished Plant Bug - Dr Greg English-Loeb Cornell Univ

3 15 *Strawberry Chemical Usage Survey Results - Kerry Richards Penn State Univ

Cut Flowers - Monarch GIK

1 00 New Cultivars - Robert Berghage

1 30 Weed Control and Herbicides - Dr James Sellmer Penn State Univ

2 15 Post Harvest Handling - Steve Bogash Franklin Co Ext

3 00 Working with a Florist? What Does a Florist Want? - Dr Kathy Kelly Penn State Univ

Processing Tomatoes - Monarch LN

Session Chair- Ken Martin

1 30 Advanced Agriculture - Understanding the Language of the Plant - Denny Wildman Ohio

2 00 Grower Panel

3 00 Variety Update - Kenneth Martin Furman Foods Dr Steve Garrison, Rutgers Univ

Report on Recent Test on Fruit Disease and Canker Tolerance - Dr Alan MacNab Penn State Univ

Variety Cutting on New and Standard Numbers - Kenneth Martin Furman Foods

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