

## Science Update

### Food-Testing Facility Is Finished

A new sensory-testing facility that was 2 years in development recently opened its doors. Evaluating quality of meat products will be the focus of trained panelists working in its 10 computer-equipped testing booths. They will be assessing the outcome of research aimed at finding new ways to tenderize meat and add value to processed meat products. The task of panelists will be to assess texture, juiciness, and flavor of both whole muscle meat and processed meat products. Such sophisticated descriptive panels require extensive training to enable members to measure their sensory perceptions. Computers help them give quick and efficient feedback.

New studies are under way to evaluate effects of pressure technologies on improving quality and shelf life of meat products. Meats used in future testing will be processed and cooked on site using commercial equipment. These upgraded testing facilities will help scientists determine value-added capabilities of such technologies. *Martha Neale Liu, USDA-ARS Food Technology and Safety Laboratory, Beltsville, Maryland; phone (301) 504-8994, e-mail mnlui@anri.barc.usda.gov.*

### Turkish Plant Oils Can Annihilate Pests

Aromatic oils in plants help them naturally attract or repel insects and fend off heat, cold, and bacteria. Many essential plant oils are already important ingredients in pharmaceutical, agrochemical, cosmetic, and food products. And while oils from peppermint and rosemary are currently being used as organic pesticides and in broad-spectrum insecticides, essential oils from many Turkish medicinal herbs are proving even more effective.

Researchers have evaluated 25 Turkish herbs for toxicity to turnip aphids, a pest that attacks a wide range of vegetable crops throughout the Southeast. Seventeen of them proved to be more toxic to the aphids than oils of peppermint or rosemary. So far, the most promising botanical sources of compounds for new pesticides targeting aphids have been found in species of *Bifora*, *Satureja*, and *Salvia*. Future research may include collaborations with Turkish universities and transfer of advanced bioassay technology for agrochemical research. *David E. Wedge, USDA-ARS Natural Products Utilization Laboratory, Oxford, Mississippi; phone (662) 915-1137, e-mail dwedge@msa-oxford.ars.usda.gov.*

### Starch-Based Coatings for Nonfood Uses

A micrometer-thick coating of steam-jet-cooked starch is just the thing to improve plastic films' retention of the water-based dyes and printing inks used on food labels. The surfaces of commercial polymers like polyethylene are water repelling (hydrophobic), unless they're made water retaining (hydrophilic) by treatment with chemical reagents. But coating such polymers with soluble starch could offer a cheaper, easier, and safer alternative. Starches from corn, rice, potato, and other crops have been found to work well.

Applying starch coatings made by steam-jet cooking would also reduce buildup of electrostatic charge in polymer films, which would be useful in plastic packaging for electronics equipment. It might also offer a way to make medical devices more compatible with the human body. A patent for this use has been obtained. *George F. Fanta and Fred C. Felker, USDA-ARS Plant Polymer Research Unit, Peoria, Illinois; phone (309) 681-6356 [Fanta], (309) 681-6663 [Felker], e-mail fantagf@ncaur.usda.gov, felkerfc@ncaur.usda.gov.*

### New Virus Targets Fire Ants

In the South, red imported fire ants (RIFA) are unwelcome at everybody's picnic. This tiny South American native has already infested about 300 million acres in the United States, thriving in the absence of natural enemies. It inflicts a painful sting that is sometimes deadly to humans, as well as to young, unprotected livestock and wildlife. Estimates put the annual costs of RIFA-caused damage at hundreds of millions of dollars in the United States alone.

Now, the first viral infection of RIFA has been discovered—caused by a relative of the well-known picornalike viruses. Tentatively named *Solenopsis invicta* virus-1, or SINV-1, the organism seems promising as a potential biological control agent for the ants. Researchers have already sequenced the virus's genome, and a survey of Florida locations has found that more than 20 percent of ant nests were infected with SINV-1. The virus infects all fire ant castes and stages of development, and it has been successfully transmitted to uninfected RIFA nests.

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