

CORNELL
UNIVERSITY

STATION NEWS

GENEVA
NEW • YORK

VOLUME LXXIX • NO. 3

JANUARY 23-30, 1998

BRIEFS

WWW SITE NEWS

Planning on traveling somewhere? Need to make airline reservations or hotel reservations or rent a car? The Web can help. At least the Web can help you get an idea of how much cash you'll be handing over, so you'll be better prepared. One of the more informative sites is EasySABRE at: www.easysabre.com.

EasySABRE is not without its drawbacks. The user interface is quite bland in appearance and often wordy. The entire process is menu driven, and the program seems to be a conversion of an old CompuServe application. To find the information you need, you must enter the number of the task you wish to perform based on a choice from a series of options. This is a problem as some of the options are not clearly described. EasySABRE doesn't take advantage of hypertext or of web navigation tools, and there is even a warning not to use your browser's BACK or RELOAD buttons, as these will confuse the program.

Despite these interface drawbacks, once you get used to the system, the information EasySABRE presents is among the most complete of any of the "non-professional" reservation packages. For example, to check on airline prices, enter the name or airport code of the your departure city, the destination city and the dates you wish to travel. EasySABRE returns a very comprehensive list of all the travel options available, along with projected prices. After you learn the menu order, you can actually experiment with travel "what ifs," very quickly.

So, if you are planning a trip in the near future and don't mind wading through a few menus, EasySABRE can help you make better informed travel choices.

J. Zakour

CIDER PASTEURIZATION VIA UV
INTRODUCED AT NYS HORT SHOW

Jim Cummins talks about Geneva apple rootstocks at the NYS Hort Show.

Ultraviolet light may be the answer to *E. coli* contamination of fresh cider and fruit juices, according to Cornell microbiologist and food safety expert Randy Worobo. Speaking before a group of about 150 apple growers and cider producers at the New York State Horticultural Society's Annual Meeting in Rochester last week, Worobo unveiled a feasible alternative to thermal pasteurization that has been shown very promising results in preliminary testing.

Worobo and two engineers from the Rochester-based firm, FPE, Inc., have come up with a new design for a UV pasteurization unit that should be perfect for small cider producers. Worobo reported that "the new unit is about one-quarter of the price of a thermal pasteurization unit, small, economical to run, and very user-friendly."

In the new process, a thin film of cider is pumped past UV light at the rate of about 2 gallons per minute. Preliminary tests have shown that this particular design reduces *E. coli* contamination from 100,000 microorganisms per ml to 1 organism per ml. Tests may prove effective against other pathogens as well, according to Worobo.

Nationwide, isolated outbreaks of contamination of fresh apple cider and fruit juices by the bacteria *E. coli* 157.OH7 have been causing health problems and creating a crisis of confidence among consumers in the past few years. The more virulent strain of *E. coli* was first identified in 1982. Producers and consumers are clamoring for more information and recommendations for safe production practices. Last year, thermal pasteurization was the process of choice, but the

(Continued on page 2)

(HORT SHOW, cont.)

thermal pasteurization units cost about \$30,000 and are out of the reach of most small producers who rely on a four-week season in the fall to cover the costs of production.

"Preliminary tests indicate UV light causes no sensory changes in the juice," said Worobo. Further testing on feasibility and effectiveness is being conducted by the two engineers who developed the technology, Patrick Borrelli and Phil Harman, and Worobo, in conjunction with food specialists (Mark McLellan) at the Experiment Station who are evaluating the sensory data.

The unit could cost as little as \$6,000. FPE, Inc., has applied for a patent.

The 1998 New York State Horticultural Society's Annual Meeting and Trade Show was held in conjunction with the Cornell Cooperative Extension Western New York Tree Fruit School at the Thurway Marriott in Rochester, NY, on Jan. 15 and 16. The meeting emphasized educational programs on tree fruits and grapes.

"About 550 people attended the show over the two-day period," said Hort Society Executive Secretary Dan Donahue. He noted that the industry was concerned about filling vacant positions in tree fruit at Cornell in Geneva, Ithaca and the Hudson Valley, the loss of organophosphate and carbamate insecticides without a viable alternative in the near-term because of the Food Quality Protection Act, cider pasteurization, and IPM labeling practices.

Steve Hoying, of the Lake Ontario Fruit Team, helped organize the Tree Fruit School, which was well attended. Sessions by Cornell faculty and extension experts were held on processing (Steve Hoying), future management of oblique-banded leaf rollers (Art Agnello for Harvey Reissig), the performance and fit of Pyramite with current miticides (Art Agnello), the effects of fungicides on predatory mites (Jan Nyrop), the 1996 Food Quality Protection Act (Joseph Hotchkiss), arthropod control in the Hudson (Dick Straub), replant problems (Warren Smith), practical thinning programs (Terence Robinson and Alan Lakso), post harvest decay (Dave Rosenberger), managing calcium nutrition (Warren Stiles), and hard cider production in Europe (Ian Merwin). In the grape program, issues that were addressed by Cornell experts included the flavor chemistry of Concord grapes (Terry Acree), who conducted a taste tasting.

According to Mike Durando, president of



(above) Jim Tette (center) talks to IPM award winners Liz Thomas (left) and Dave Gadoury (right).

(below) Terence Robinson hands out apple samples to interested consumers.



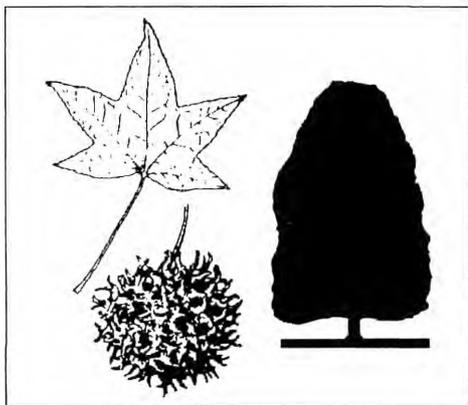
the NYS Apple Association, other important industry issues were covered in a forum on using IPM as a marketing tool for apples. Durando says four years' of consumer marketing research compiled by his organization indicates that the top attributes considered by consumers in the purchase of apples are bruise-free fruit, color appropriate to the variety, firmness and texture, followed by price and packaging.

"Among the top 10 consumer concerns, we do not hear about a concern for chemicals in the production of apples, unless consumers are pushed," he said. He also noted that New Yorkers discriminate among varieties better than consumers in other parts of the country, who mostly differentiate based on color.



Trees at a glance... Plant Profile of the Month brought to you by the Geneva Arboretum Association

SWEETGUM: CONFEDERATE NATIVE GOES YANKEE



Sweetgum (American sweetgum or redgum), *Liquidambar styraciflua*, is an important southern hardwood and the only New World native among the four species belonging to the genus *Liquidambar*. It is a very desirable ornamental tree in milder northern areas due to its attractive shape, the corky outgrowths on the twigs and branches, its interesting spiny fruit clusters, and its brilliant autumn colors of yellow, purple and red. It is hardy to central New York and can survive even in heavy, dry, clay soils. A very desirable attribute is that sweetgum has

few insect and disease problems and, for this reason, was ranked one of the best street trees in southern California.

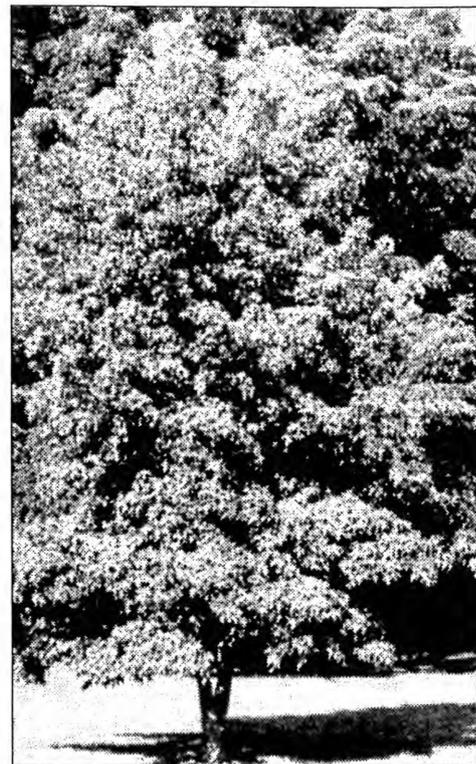
An interesting sweetgum botanical characteristic is its bright green, star-shaped leaves, which are deeply 5–7 lobed with serrate margins. Another attractive feature is the curious corky ridges of young twigs and branches. Sweetgum fruits are spiny, resinous, woody balls made up of clusters of 2-seeded capsules that add an interesting texture to the tree as an ornamental in your landscape.

Both leaves and stems are fragrant when crushed, hence its common name, sweetgum. Sweetgum's golden, pleasant-smelling sap, which was used to scent gloves in France, is also responsible for the genus name, *Liquidambar*. The sweet, resinous sap was used to make gum. Medicinally, the gum was chewed to ease sore throats, coughs and colds. *Liquidambar* gum was also used during World Wars I and II to produce soaps, drugs and adhesives. Ointments made from sweetgum were used on wounds, cuts and skin disorders. The inner bark was often boiled in milk to cure diarrhea. In the southern states, twigs were dipped in whiskey and chewed for the same purpose. Oriental sweetgum, *L. orientalis*, also produces a sweetly scented resin known as storax, which is used commercially in the production of perfumes, soaps, and medicines as well as flavoring for candy, soft drinks and chewing gum.

Leave plenty of room for your sweetgum to grow because, under ideal conditions, it is a moderate to rapidly growing tree that can reach 80 to 120 ft in height and 3 to 4 ft in diameter. *L. styraciflua* has a long, straight, buttressed trunk, oblong to pyramidal crown, and a shallow and wide spreading root system. Sweetgum reaches maturity at 200–300 years, but begins to flower and fruit when 20–25 years old. An aggressive pioneer of disturbed sites, sweetgum has abundant, viable seed production combined with minimal seedbed requirements. Stumps sprout prolifically, giving rise to multiple-stem clumps and stands. When stems are killed, weakened or top-cut, numerous root suckers often develop. Many sweetgum stands today are of sprout origin.

Sweetgum is the most widespread and commercially important southeastern hardwood, and although it is able to grow on a wide variety of sites, it grows best on wet, rich alluvial soils. *Liquidambar* is one of the three principle timber-contributing genera of the witch-hazel family, and its wood is used primarily in the production of utility and decorative grade plywood panels and veneers. It was commonly used in the production of barrels and boxes.

L. styraciflua is grown extensively for the southern paper industry in managed planta-



tions. Because the unseasoned wood is very heavy (37 lb/cubic foot!), the trees are often girdled and left standing a year or more before being harvested. Hamamelidaceae, or the witch-hazel family, has 23 genera, and 100 species of trees and shrubs distributed throughout forested areas of eastern North America, Mexico, Central America, South Africa, Madagascar, Australia, Asia, and the Malayan Archipelago.

The resident campus sweetgum, located just north of the Pavilion behind Jordan Hall, was joined by an additional *L. styraciflua* this year—planted across from the Raw Products building on the West Campus lawn. Be sure to look for the many unusual traits of these trees during the coming year.

The hardy sweetgum, with its beautiful and interesting characteristics, might be an excellent addition to your landscape!

WHEN OBSTACLES GET YOU DOWN...

CONSIDER THIS: After Fred Astaire's first screen test, a 1933 memo from the MGM testing director said: "Can't act. Slightly bald. Can dance a little." Astaire kept that memo over the fireplace in his Beverly Hills home.

