

Work in progress

Editor's note: Benbrook is chief scientist at The Organic Center and former head of the Board on Ag, Academy of Sciences.

By **CHUCK BENBROOK**

THE 2006 spinach outbreak was a seismic event that cost growers millions of dollars in lost sales and raised new doubts about produce safety. In response, the fresh-cut industry has accelerated work on leafy-green Good Agricultural Practices, called GAP Metrics.

The Western Growers Association led the coalition developing the GAP Metrics. The first draft was circulated in November. A third draft was posted on the WGA Web site in late January, and subsequent drafts were issued April 18 and March 23.

The industry and WGA deserve credit for developing a comprehensive set of GAPs. Several problems in earlier drafts have been resolved or minimized. In particular, provisions that could have led growers to ditch needed soil and water practices have been modified. University of California Davis has demonstrated the value of field edge and riparian plantings in filtering human pathogens from surface runoff.

The industry also worked with the California Department of Food and Agriculture to form a voluntary marketing agreement that would require adherence to the GAP Metrics. A final draft of the Metrics, dated May 24, was recently adopted by the Leafy Greens Marketing Agreement Board.

WGA says the GAP Metrics is a work in progress. Changes and additions will be adopted as new information emerges. The need for more and better science is also acknowledged in the Metrics.

Water worry

The water testing provisions, collectively, are a flaw in the Metrics. The provisions rely exclusively on testing for generic *E. coli*. While the presence of generic *E. coli* is an indicator of possible *E. coli* O157 contamination, the correlation isn't reliable for judging water safety.

Not only is the basic standard governing water quality based on the wrong organism, but the standard applicable to generic *E. coli* is unscientific and



DUST DANGER: Dust can carry *E. coli* O157 bacteria long distances.

Key Points

- Western Growers Association says GAP Metrics are a work in progress.
- GAP Metrics should require testing for *E. coli* O157.
- The Metrics should require at least 90 days for composting.

indefensible. Water can be used for irrigation of leafy greens if it contains less than 126 MPN (most probable number of microbes in a sample) of generic *E. coli* per 100 milliliters of water. The 126 MPN standard is based on a recreational water-quality risk assessment carried out by the Environmental Protection Agency in the mid-1980s. EPA estimated that eight out of 1,000 people swimming in water containing 126 generic *E. coli* per milliliter would contract a case of gastrointestinal illness. (Cases caused by generic *E. coli* would be far milder than illnesses triggered by O157.)

New science is needed to set stan-



PHOTOS COURTESY: THE ORGANIC CENTER

SAFE IRRIGATION: Furrow irrigation minimizes the chance of contaminated water or soil reaching the plant.

dards for both generic *E. coli* and pathogenic *E. coli* in irrigation water. In the interim, the Metrics should be revised to require the testing for *E. coli* O157. Water with detectable levels of *E. coli* O157 should not be used to irrigate fresh-cut leafy greens.

Compost rules

GAP Metrics addressing composted soil amendments begins with an essential requirement: "Do not use or apply soil amendments that contain uncomposted, incompletely composted or nonthermally treated [i.e., heated] animal manure."

This provision will not be easy to apply because the Metrics do not define "fully composted" or "incompletely composted" — two key terms that appear in multiple places in the GAP document.

Provisions on how compost must be made are inadequate and do not reflect contemporary science. Moreover, they contradict the provision that unfinished or "incompletely composted" manure should not be applied to fields.

The common method for making compost is in windrows. The May 24 version of the GAP Metrics requires that the material be held for 15 days at a minimum of 131 degrees F, with a minimum of five turnings. This is followed by a curing/aging period of at least 45 days, for a minimum composting time of 60 days.

Most experts, however, believe it takes 90 to 120 days to produce pathogen-free, finished compost. Moreover, experts recommend the degree of finish in compost be verified through available tests of the stability and biological activity within piles.

The GAP Metrics should be revised to require at least 90 days in the composting process, along with more sensitive testing protocols.

A Critical Issues Report on preventing future *E. coli* O157 outbreaks is at www.organic-center.org.



RISKY IRRIGATION: Sprinkler irrigation, especially in the summer, creates a perfect storm for *E. coli* O157 colonization and growth.

News Net Briefs

Iceberg lettuce throws creative curve ball for Father's Day

Tanimura and Antle of Salinas Valley packaged its iceberg lettuce for Father's Day in plastic patterned with baseball stitching. The family-owned grower also supplied recipes for "wedge salads" on the wrappers in labels with a baseball card motif. Grocers such as Wal-Mart and Albertsons were supplied with banners promoting what the company hopes will become an annual link between iceberg lettuce and Father's Day.

Organic labeling snafu

Temporary permission from the USDA that allowed food makers to include nonorganic ingredients in products labeled organic has expired, reports the *Los Angeles Times*. Some companies, including Anheuser-Busch, have switched to all organic ingredients; others have stopped shipping mixed products until a new ruling is made.

Restaurant chains choose canola oil for zero trans fat

CKE Restaurants Inc. has announced its Carl's Jr. and Hardee's restaurant chains are converting to omega-9 canola oil from Dow AgroSciences. This oil has the lowest saturated fat among the trans-fat alternatives and a high level of heart-healthy (omega-9) monounsaturated fat.

China's tomato market grows

China's fresh tomato production is forecast at 37.2 metric tons in 2007-08, and processing production is expected to reach a record 5.2 million tons. China's tomato paste exports are forecast at 650,000 tons. Russia replaced Italy as the largest buyer of China's tomato paste as a result of new Italian customs regulations.

U.S. food-safety labs face closure

The Food and Drug Administration is proposing to close the Denver Federal Center lab as part of merging 13 facili-

ties into six, reports *The Denver Post*. The proposal would force the lab's 53 scientists and those at six other labs to move or quit. It is subject to congressional hearings by parties representing the affected regions.

French drinking less wine

Figures released ahead of the wine fair Vinexpo in Bordeaux show that French consumption has fallen so low that America will eclipse France in 2010. However, overseas customers are returning to the Old World of wine, with exports of French wine increasing by 11.4% yearly.

Find nutrition info online

A new online database aims to help consumers understand the nutritional content of food. Atlanta-based Nutrition Systems has launched *nutritionpedia.com*, a free, searchable site for the public to access nutrition labels for more than 50,000 branded food products.