

## What's the difference between extra-virgin, virgin, and other olive oils?

—Trish Healy, Baltimore, Maryland

**A** Carol Firenze responds: The difference is essentially qualitative. Extra-virgin is the highest-quality olive oil: It tastes better, has lower acidity levels, and retains more nutrients than other olive oils.

Both extra-virgin and virgin olive oil are produced from olives solely by mechanical processes—that is, with no chemicals—and without the use of heat, which can deteriorate or alter the oil. After the olives are ground to a paste, the oil is either cold-extracted using a centrifuge or cold-pressed using a hydraulic press.

Extra-virgin olive oil must pass a wide range of chemical tests. Its acidity must be 0.8% or less (acidity refers to the oil's oleic-free fatty acid; the lower the acid, the better the quality of the oil). The oil must also be free of defects in aroma and flavor, as determined by a panel of certified experts.

Although extracted by the same methods, virgin olive oil doesn't meet all the criteria for extra-virgin: Its acidity limit is higher (up to 2%), and minor defects are tolerated.

Other oils labeled just "olive oil" are usually a blend of refined and virgin olive oils. Refined means that defects found in the base oil are removed by using charcoal or other chemical filters.

*Carol Firenze is a board member of the California Olive Oil Council and the author of The Passionate Olive: 101 Things to Do with Olive Oil.*

## How do grocery stores determine such precise lean to fat ratios as 85:15 or 90:10 in ground beef?

—Richard Tuttle, via email

**A** Steve Keville responds: The most widely used method at the grocery store level involves placing a 3-ounce patty of meat (about the size of a small, flat hamburger) under a heating element on a perforated plate. As the meat becomes well done, all the moisture and fat are cooked out of it, drained, and collected in a test tube. The fat

separates from the other liquid and is measured with a calibrated gauge that translates the measurement into a percentage of lean to fat meat with an accuracy to within 2%. At Whole Foods, we grind fresh batches of meat every day and each batch is tested at our stores.

At other supermarkets, ground meat often arrives already labeled with a lean to fat ratio. In this case, the fat level is determined through a precise chemical analysis used primarily in meat processing plants and by the USDA for large batches of grinds, generally 2,000 pounds or more at a time.

*Steve Keville is Whole Foods Market's national meat buyer.*

## I've always wondered about the best way to clean citrus fruit before zesting. Is a simple wash enough to remove pesticide residues?

—Marjory Bryce, Deering, New Hampshire

**A** Lori Longbotham responds: For me, most of the joy in a lemon is in the zest. The juice is wonderfully refreshing and perfect for balancing flavors in a dish but it's the zest that has an insistent lemon flavor. The zest is not the entire peel, but only the thin, outermost, bright-yellow layer of the lemon, with none of the underlying white pith.

The first thing to do before zesting a lemon is to wash it thoroughly. Most of the insecticides and fungicides used on commercially grown citrus fruits are washed off in the packing house after harvesting, and the lemons are disinfected. To replace the natural wax that is removed during the washing process, the lemons are then coated with a small quantity of water-soluble food-grade wax for protection during shipping and to prevent shrinkage. The waxes are approved for use on foods and meet the requirements of the FDA. It's advisable, however, to wash lemons thoroughly, even scrub them with soap and warm water, to remove the wax. If you want to avoid the pesticides completely, use organic lemons, but even those should be washed thoroughly before using as they may also be coated with wax.

*Lori Longbotham is the author of Lemon Zest: More Than 175 Recipes with a Twist. ♦*

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