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Southern Regional Aquaculture Center

Consumer Information Series

Eastern Oysters

Latin name: *Crassostrea virginica*

Common names: Eastern oyster, Atlantic oyster, Virginia oyster, American oyster, common oyster

Description: The Eastern oyster occurs naturally from the Gulf of St. Lawrence in Canada south to the Caribbean and west through the Gulf of Mexico to the Yucatan Peninsula. This bivalve mollusk is farmed commercially throughout its native range. The Eastern oyster accounts for approximately 75 percent of the total harvest in the United States, with 60 percent of the harvest produced through commercial cultivation (See SRAC Publication No. 432, *Cultivating the Eastern Oyster, Crassostrea virginica*). According to the National Marine Fisheries Service, annual oyster harvest totals from 2005 to 2012 ranged from 19.4 million to 26.2 million pounds of meat valued at $72.1 million to $104.6 million. The Eastern oyster is a filter feeder capable of filtering 50 gallons of water per day. It has a thick, calcium carbonate shell. Inside its shell, the Eastern oyster has a fleshy, soft, cream to light grey body. The flavor of the Eastern oyster is described as delicate, brine-infused, and buttery or creamy, with a savory, crisp finish.

Product Forms: Live-in-shell oysters, often referred to as shellstock, are typically sold in mesh or burlap bags by the pound, though farm-raised oysters are often sold by count. They are always kept under refrigeration. Live on the half-shell (shucked) oysters are typically sold by count (per dozen) in oyster bars and restaurants. Previously shucked oysters (removed from the shell) are also marketed in fresh, refrigerated, frozen, canned, breaded, and pickled forms. Many cooked and raw oyster dishes and products, including canned soups or chowders, drinks, and sauces, can be found in seafood restaurants and grocery stores throughout the U.S.

Buying Tips: Look for a tightly closed shell when purchasing live oysters, as dead oysters will often have an open shell. If a shell is only "gaped" or opened slightly, tap the shell; if the oyster is alive it will respond by tightly closing its shell. A dead oyster will remain open and should be discarded. Within the shell look for rich, plump, moist, cream-colored meat with no hint of an off-scent. Traditionally, it is best to consume raw oysters in fall, spring, or winter months because oysters spawn in the summer and may not have the desired fatty consistency then. Or, purchase cultured "four-season" oysters that will not spawn and have a plump texture year round.

Preparation Tips: If the product is frozen, canned, or jarred, follow preparation instructions on the label. Serve live oysters raw on one-half of the shell, chilled on a bed of ice. Shucking should be done with a specialized oyster knife, available at most restaurant supply stores. If shucking is difficult, place the oysters in a

Nutritional Facts:
Per 85 grams (approximately 6 medium-sized shucked oysters)

Calories	50
Total fat	1.32 grams
Saturated fat	0.4 grams
Protein	4.44 grams
Cholesterol	21 milligrams
Sodium	151 milligrams
Iron	4.91 milligrams (27% DRI)
Phosphorous	79 milligrams (79% DRI)
Zinc	32.23 milligrams (215% DRI)
Vitamin B-12	13.77 micrograms (230% DRI)

Source: USDA National Nutrient Database for Standard Reference, Release 24 (2012)

freezer for no more than 10 minutes to relax the muscles and allow them to be opened easily. Six live oysters per person are considered a normal portion. Raw oysters are typically served with some combination of lemon, butter, shallot or white wine vinegar, or cocktail or Mignonette sauce, although many oyster connoisseurs insist they be consumed plain. It is customary, when serving raw oysters, that the shell be no larger than the palm of your hand. For cooked recipes, oysters of any size will suffice. Oysters make delicious baked, grilled, smoked, or broiled dishes on the half-shell with a variety of toppings. When removed from the shell, oysters can be steamed, fried, or microwaved. No salt is required, but recommended herbs for cooking are thyme, fennel, paprika, and parsley.

Storing Tips: After purchase, place live oysters in a well-ventilated container and store them in a refrigerator at 34 to 45 °F and 100 percent humidity. Do not store live oysters in water. This can cause them to die rapidly from oxygen depletion unless the water is mechanically aerated. When stored properly, the shelf life of live oysters is up to 2 weeks. However, most live oysters are consumed within 24 to 48 hours of purchase for food safety and quality reasons, as the time from harvest is difficult for the consumer to establish and the flavor and quality degrade over time. Another way to store live oysters is to shuck them and store them in the liquid within their shells, also known as their "liquor," for up to 5 days at 34 to 45 °F. If oysters are purchased previously shucked and refrigerated, store them no longer than the expiration date on the container. Shucked oysters can be vacuum-sealed and frozen for up to 4 months before use. Never freeze unshucked oysters and never store them in a sealed container. See SRAC Publication No. 434, *Aquacultured Oyster Products: Inspection, Quality, Handling, Storage, Safety* for further details.

Cultivation: Oysters are cultivated by a variety of methods along the coasts of the U.S. Two common methods are cultch planting and off-bottom culture. Cultch planting involves taking shucked oyster shells (cultch) and planting them as individual shells in areas that are known to be rich in oyster larvae. After 1 to 3 years, oysters can be dredged and harvested. Off-bottom culture involves collecting adult oysters and spawning them in a hatchery facility, then growing the free-swimming larvae on a diet of algae until they attach to a hard substrate, producing "seed." Then they are raised in various types of mesh containers, where they feed on the phytoplankton in the water, and harvested as adults. See SRAC Publication Nos. 432, 4300, 4302, 4307, 4308, and 4311 for further details on culture.

Harvest: Oyster harvest from the bottom is a process of harvesting clumps of live oysters (often attached to a substrate of oyster shell or rock) and then removing the legal-sized ones (culling) from the substrate with a soft hammer. Wild oysters usually are harvestable once they reach at least 3 inches in length. Oysters cultured in hatcheries may be available for harvest year round.

Sustainability: Oyster farming is a sustainable industry. It has a low impact on the environment and the oysters themselves serve to filter and clear great quantities of water. Since farming can take place directly on the seafloor or on trays off the bottom, oyster farming and harvest rarely have any impact on the surrounding ecosystem. Oysters that are farmed in a natural setting require no additional input and no chemicals or antibiotics. Oysters grown in a natural environment relieve pressure from overfishing and supplement natural wild oyster populations. Oysters farmed in hatcheries require food (often algae) and a salt water source. The Monterey Bay Aquarium Seafood Watch considers farmed oysters a "best choice" because of their low impact on the marine environment and the benefits of water filtration that oysters provide.

History: Oysters have been a food source for humans since the early days of civilization. Ancient oyster shell middens (mounds) are found worldwide. Oyster cultivation in France and the British Isles dates back to Roman times. The consumption of Eastern oysters, specifically, predates written history as some Native American oyster middens span 10,000 years of consumption.

Oysters Florentine

Ingredients

1 dozen oysters on the half-shell
⅓ medium-sized onion
¼ cup butter, cubed
3 ounces fresh spinach
Grated Romano or Mozzarella cheese
1 lb salt
Pepper to taste

Directions

In a large skillet, sauté spinach, onion, and butter until spinach is tender. Spread salt on an ungreased baking pan and press oyster shells, meat side up, in salt. Top with the spinach mixture. Bake, uncovered, at 450° for 6 to 8 minutes until oysters are plump. Serve immediately.

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