



# LOBSTER Q&A'S

## Q. Are North Atlantic lobsters the same as rock lobsters?

A. The lobster fished off eastern Canada and the northeastern United States is the American lobster. This species of lobster has a large crusher and a pincher claw. The rock lobster, also known as a spiny lobster, has no large claws and is found in many other parts of the world including Europe, Australia and the Caribbean. Spiny lobsters are more often found in warm water habitats than the American lobster.

## Q. How can you tell the difference between male and female lobster?

A. Female lobster are generally wider in the upper dorsal tail region. This allows room in the tail to store fertilized eggs. Females can also be distinguished by their soft, smaller set of first pleopods (swimmerets). Males have a hard, thicker set of first pleopods, and have smaller hard appendages (masculina) attached to their second set of pleopods.

## Q. What do lobsters eat?

A. Contrary to popular belief, lobsters are not scavengers. They prey on crabs, clams, snails, whelks, starfish, and various isopods and sometimes fish. Lobsters also display cannibalistic behavior, feeding on smaller or weaker lobsters.

## Q. What happens when lobsters shed their shells?

A. In the summer when the ocean warms up and the days become longer, lobsters shed the shells that they have outgrown, exposing a new, larger shell underneath. This is done by a splitting of the old shell, which has become soft, between the body and the tail. The lobster actually crawls out of this opening backwards, pulling its claws, legs and body out of the old shell. It then flips its tail to get rid of that part of the shell. The new shell is very soft, and takes time to harden. This process is helped by the lobster eating the old shell to recover lost minerals. Although most lobsters shed every year, young, fast-growing lobsters may shed more than once a year; while large, old lobsters shed every few years.

## Q. What's the largest lobster ever caught?

A. The largest (recorded) lobster caught was 42.4 lbs., had a carapace length of 14.9 inches and a total body length of 24.1 inches (two feet!). It was caught in 1934 and is estimated to have been close to 100 years old.

## Q. How old are lobsters at different sizes?

A. A canner may be only five or six years old, a one-pound lobster would be approximately seven to eight years old, and a jumbo (over eight pounds) may be 20 to 50 years old!

## Q. What causes some lobster to be blue?

A. Blue lobsters are caused by genetic differences in the pigments that make up the shell color. Rather than containing all the pigments that combine to make a green-brown color, the shell of a blue lobster is contains only a blue pigment. Genetic differences can also cause other strange colorings such as light orange, and patterns such as yellow spots.

**Q. How well can lobsters see?**

**A.** Lobsters seem to be able to see images and detect movement, and may actually have color vision. Because of the darkness at the depths where they live, lobsters rely more on chemoreception and touch than vision. Chemoreception involves detecting chemicals in the water such as odors from food. The sense of touch involves hair-like projections over the surface of the lobster that help to detect changes in water currents, and therefore movements around them.

**Q. How long does the female carry her eggs?**

**A.** The female lays thousands of eggs around August and carries them for 10-11 months. They hatch the following June.

**Q. Do lobsters have blood?**

**A.** Yes, a clear or white blood with a slight bluish tint is pumped through the body of the lobster by the heart. The blue tint is caused by copper, which is used as the oxygen carrier in the blood. Human's red colored blood is due to iron being the oxygen carrier. If the lobster's claws, legs, or antennas become damaged or torn off, or the shell is cracked or punctured, the lobster can be weakened and even die from the loss of blood.

**Q. How hard does a lobster pinch?**

**A.** Measurements have determined that lobsters can close their crusher claws with a force ranging from 27 to 58 lbs for 1 lb and 6½ lb lobsters, respectively. Crusher claws were found to produce more force than the pincher (also called cutter or ripper) claws of the same size, and the force produced increases with increasing claw size.

The actual pressure delivered depends on the surface area over which the force is applied. When a person's finger is pinched by a lobster's claw, the force is applied over a very small surface, resulting in applied pressures of 550 to 1180 lbs per square inch!

**Q. How do lobsters survive out of water?**

**A.** Lobsters have specialized gills that allow them to extract oxygen from air as well as from water. A thin film of water coating the gill surface is necessary for oxygen to be extracted by the gills from the air. Lobsters can survive out of water for a number of days, but must be kept cool and damp. It is only when the gills are damp and cool can lobsters extract enough oxygen to survive a prolonged period out of water.

**Q. How long can lobsters survive when kept in storage without food?**

**A.** Canadian fishing seasons ensure that Nova Scotia lobsters are caught only when the shells are hard and the lobsters are full of meat and in the best nutritional state possible. These lobsters are in prime condition and could go without food for up to one year at low water temperatures without any noticeable change in meat quality.

A hard shelled, full-meated lobster has energy reserves stored in the hepatopancreas, also known as the digestive gland, or tomalley. A lobster would use these reserves when it is in storage.

Lobsters are naturally adapted to going without food for long periods of time. During the winter, when water temperatures are cold (below 39°F or 4°C), lobsters go into a state similar to hibernation and stop feeding. They move about very little, preferring to remain in their rocky or sandy burrows. Clearwater's Dryland Pound Facilities closely mimic the lobsters' preferred natural environment, giving them cold (35°F or 1.5°C), clean, salt water and a dark, solitary, stress free resting space.

**Q. What are the rules of lobster handling?**

**A.**

1. Handle with care
2. Keep **wet and cold** (2 - 4 °C, 36 - 40 °F)
3. Pick up by the **body**

**Q. What is the best way to cook lobsters?**

**A.** Whether prepared at home or in a restaurant, lobsters have traditionally been cooked by immersing them in a pot of salted water that has been heated to a rolling boil. Lobsters die within seconds upon being immersed in boiling water. This cooking method offers the advantage of retaining the delicate texture and flavor of the product.

**Q. Do lobsters feel pain when immersed in boiling water?**

**A.** Pain is a human concept. Human beings and other vertebrates possessing an advanced nervous system feel pain.

Lobsters are invertebrates with a very primitive nervous system similar to that of a grasshopper. A lobster's nervous system is lower on the evolutionary scale than that of fish, and is designed to respond to very basic stimuli contained within their habitat. Scientific research conducted at the Maine Department of Marine Resources in the United States shows that lobsters, like most other marine invertebrates, cannot survive heat exposure and can die at temperatures of 30 degrees Celsius, which feels lukewarm to human touch.

**Q. Why do lobsters twitch after being immersed in boiling water?**

**A.** Lobsters die almost immediately upon contact with boiling water. However, the tail may twitch for approximately one minute after being immersed. According to scientific research, this is caused by an involuntary muscle contraction that can occur post mortem.

**Q. Why do lobsters turn red when cooked?**

**A.** Lobsters are naturally red in color, which is caused by a carotenoid pigment, similar to that which is found in carrots. When the lobster is laying down its shell, the carotenoid pigment combines other pigments, temporarily changing the underlying shell's actual color. Instead of reflecting red, which would be the normal color of the lobster pigment, the shell can display a variety of colors. Usually, the group of bonded pigments show up as a greenish-blue.

Cooking destroys the pigment bonds, allowing the underlying carotenoid pigment of the shell to show through. The lobster then turns its natural color, which is red. The change in color usually occurs rapidly since the bonds begin to break down as soon as the lobster is immersed in boiling water.