Blue Cultured Mussels

Atlantic Canada's Finest
A Sensational Seafood

Sweet, tender and always fresh, blue cultured mussels from Atlantic Canada are one of the most sought-after seafood.

No other shellfish is as easy to prepare or as versatile for enhancing a menu.

Prized for their consistent high-quality and flavour, these world-famous blue cultured mussels are available year-round for use in countless menu options such as appetizers, salads, pastas, entrées, soups and chowders.

One of the most sustainable seafood, blue cultured mussels thrive at the hand of dedicated farmers in the pure and rich waters off Canada's east coast.

Blue cultured mussels are 100 per cent natural, healthy and delicious. They arrive fresh and “pot ready” at your door within one to two days of harvest and are fully traceable from farm to plate.

DID YOU KNOW?

Mussels are a good source of vitamin C, which is rare among protein sources. In fact, a 75 gram serving of mussels provides 10 milligrams of vitamin C. Compare this to a 100 gram size serving of watermelon cubes which provides nine milligrams.

The specific nutritional value of mussels varies between types and even from one season to another.

A Nutritional Powerhouse

Our blue mussels are tremendously good for you. They're loaded with nutrients and vitamins, including antioxidants and vitamin C.

▶ Less than 150 calories per pound (500 g)
▶ Low in fat and high in protein
▶ No sugar or trans fat
▶ Contains heart-healthy omega-3 fatty acids
▶ Excellent source of iron, a factor in red blood cell formation
▶ High in zinc, which plays a big role in the body’s energy metabolism
▶ Terrific source of selenium – a powerful dietary antioxidant
▶ Source of phosphorus, manganese, riboflavin, thiamine and vitamin B12

Blue Cultured Mussels are:

▶ Fresh and tender
▶ Sweet and delicious
▶ Consistently high quality
▶ Incredibly popular with consumers
▶ Available year round
▶ Naturally nutritious
▶ Easy to prepare
▶ “Pot ready” and grit-free
▶ Excellent value added menu item
▶ Sustainably grown and fully traceable

Nutritional Analysis

<table>
<thead>
<tr>
<th>per 100 g of raw product</th>
<th>Amount</th>
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<tr>
<td>Energy</td>
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<tr>
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<tr>
<td>Omega-3</td>
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<tr>
<td>Carbohydrates</td>
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<tr>
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Atlantic Canada is a global leader in mussel farming – producing the majority of fresh mussels eaten in North America. Some are flash frozen within hours of harvest to produce a variety of convenient frozen mussel products.

The blue cultured mussels grown here are one of the most sustainable seafood in the world.

Mussels are bivalve mollusks, like clams, oysters and scallops. These invertebrates have two hinged halves or ‘valves’ which are joined together on the side by a ligament and closed when necessary by internal adductor muscles. They have limited mobility and use threads – commonly referred to as their ‘beard’ — to attach themselves to structures like ropes or rocks.

Although blue mussels (Mytilus edulis and M. trossellus) are native to this region, no commercial fishery exists for wild mussels in Atlantic Canada.

Instead, farmers encourage the mussels’ natural growth in low to mid intertidal waters such as bays and inlets. Farming mussels is a detailed process that requires year-round commitment, knowledge and patience.
Mussel Farming

Each spring, farmers set out recycled frayed rope or tubes for mussel larvae to attach upon and grow. These will grow for about six to 12 months at which time the farmer collects the seeds, sorts them, grades them and places them into plastic or biodegradable mesh sleeves/socks. The socks are suspended from long lines about two to three feet under the water and never touch the bottom. Some socks are single drops while other farmers use continuous socking. As the crop grows and the mussel socks gain weight, farmers add floatation to the long lines to keep the socks from touching the bottom.

As the mussels start to grow, they move to the outside of the sock, hanging on by their “beards”, to move closer to the food supply – natural plankton. Mussels are filter feeders and eat by pumping and filtering water through gill filaments that filter out unwanted particles. As filter feeders, mussels need clean water to survive and grow. Atlantic Canada’s waters are monitored to the highest Canadian and international standards. Farmers are diligent caretakers of the coastal waters that produce these renowned mussels.

The mussels remain in the water for about 18 to 36 months until they reach market size – about two inches (five centimeters) in length.

Rope-grown mussels tend to be plumper because they have access to more food when they are suspended in the water rather than sitting on the ocean floor. They also have a cleaner shell and are grit-free, which means chefs don’t have to soak them. Also, the rope-grown farming method keeps mussels away from predators like starfish and crabs.

Harvesting occurs all year round. Mussel farming is not governed by the rules of traditional fisheries. No quotas exist; farmers grow and harvest their crops as orders are received so there is no wastage. Growers must be licensed, and they follow extensive regulations and coastal management plans on their farms.

Available Year-Round

During harsh Atlantic Canadian winters, when the ice is 12 to 14 inches (30 to 35 cm) thick, some farmers use trucks or tractors to reach their farm sites which can be up to two miles (three kilometers) from shore.

Wearing survival suits to protect them in case the ice breaks and from the freezing wind chill, farmers use divers or GPS systems to locate the long mussel lines. They use special chain saws to cut through the ice to harvest the mussels, immediately placing them into insulated covered tanks resting on sleighs to prevent them from freezing. They attach several sleighs together and drive back to shore as quickly as possible to ensure the health of the mussels are maintained.

Organic Mussels

Many of the farms that grow blue mussels are certified organic and adhere to the Canadian Organic Aquaculture Standard. Components of the standard include full traceability, respect for local habitat and multi-stakeholder engagement.

Always Fresh

Once harvested, the farmer delivers the mussels to the wharf to be delivered by truck to nearby federally-inspected processing plants. The mussels are de-clumped, washed and polished, have their beards removed, and are visually inspected. The mussels are individually inspected for any broken or damaged shells, packed into mesh bags, and then sent to market in refrigerated trucks. Typically, fresh blue cultured mussels will arrive at your door within one to two days of harvest. All of this is done gently to protect this live seafood.

All Atlantic Canadian mussel processing facilities are provincially licensed and federally registered and adhere to the requirements of an internationally recognized Quality Management Program. This program is enforced and monitored by the Canadian Food Inspection Agency through regular plant audits.

Fully Traceable

A federally regulated tagging system tracks blue cultured mussels through the supply chain. These tags record the date when the mussels were harvested, the location of the harvest and when they were shipped. The system literally tracks the history of each mussel from seed to your plate.
Fresh Mussels

**STORAGE**

When your fresh mussels arrive, remove them from their box and cover them in ice or a damp cloth. Store them in a refrigerator with a temperature between 34 to 38 °F (1 to 4 °C).

Be sure to drain the mussels daily. Mussels will drown and die if allowed to sit in the ice melt water. Providing good drainage will increase shelf-life.

Mussels that are properly cared for can live from seven to 14 days out of water. Check the tag on each bag to see when the mussels were harvested to determine how long you can store them before cooking.

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**Product Types**

**FRESH IN THE SHELL**
Cleaned, debearded and packaged in mesh bags (1 kg – 11.36 kg).

**FROZEN**
Pre-cooked and vacuum packed in its natural juices or in various flavoured sauces (available in 454 grams and 908 grams bags, or to buyer specifications). Packaging will include specific instructions on cooking times and methods.

**MODIFIED ATMOSPHERE PACKAGING (MAP)**
Oxygen is injected into the packaging which relaxes the mussels into a dormant state. Cooking methods are exactly the same as fresh mussels (1.36 kg and 2 kg).

Pack sizes and products vary by processor.

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**Third Party Certification**

Atlantic Canada blue cultured mussels are produced and processed according to the standards set out by many third party certification bodies, including the United States Food and Drug Administration; Canada’s Department of Oceans and Fisheries; the Canadian Food Inspection Agency; Environment Canada (National Shellfish Sanitation Program); BRC Global Standard; Global Trust Certification / SAI Global; Canadian Organic Aquaculture Standard; Hazard Analysis and Critical Control Points (MCCP) and the Global Aquaculture Alliance Best Aquaculture Practices certification.

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**Chef’s Tips**

- Look for fresh mussels that are wet, shiny and with shells that are blackish blue.
- Your mussels should smell like the ocean; a strong or fishy smell means they are too old and should not be used.
- Discard any gaping mussels that don’t close as well as any with cracked or broken shells.
Preparation

Blue cultured mussels are the easiest seafood in the world to prepare. All you need is: mussels, a small amount of liquid and a pot with a lid.

Mussels are cooked live, so it is important to be careful how you prepare and cook them. First, determine which mussels are suitable for cooking. Mussels will naturally “gape” when out of water. This means they naturally open and close their shells while in storage. If a mussel remains “gaping”, run cold fresh water over the mussel while tapping, agitating or lightly squeezing the open mussel between your fingers. If the mussel is still living, it will close. If it does not close, discard it. In addition, discard any mussels that have broken shells.

It is important to note that mussels are cooked by steaming, not boiling. Simply pour enough liquid to cover the bottom of the pot, add the mussels to the pot, cover, and turn the heat up to high. When steam starts to pour out from under the lid, the mussels are done. The shells will be open when they are cooked.

Don’t peek to see how they are doing while they are cooking because the more you lift the lid, the more steam you let escape, which means that mussels will take longer to cook and the meats will shrink.

Suggested Cooking Times for Mussels

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How Many Mussels Will People Eat?

There are approximately 20 – 25 mussels in a pound (500g). Each pound of mussels (500g) will produce approximately 4 oz (125g) of mussel meat. This amount varies slightly depending on the time of the year. When the mussel meats are smaller in the summer months, you may require 1 ½ pounds (750g) to yield the 4 oz (125 g) of meat.

In terms of serving sizes, the general rule of thumb is:

- 1 to 1¼ lb (500 to 625 g) per person for a main course
- ½ lb (250 g) per person for an appetizer
Cooking Liquids

Your imagination is the only limit when it comes to what cooking liquids to use with mussels. The most common is alcohol and specifically white wine. Red wine is seldom used as its strong flavour competes with the gentle flavour of the mussels. For the same reason, lighter beer usually works better than heavier beer. Spirits such as Pernod, tequila, vermouth, vodka and sambuca also work well.

Non alcoholic options include water, apple juice, apple cider, citrus juices, and even some soft drinks like root beer.

Other Cooking Methods

PICKLE
Remove cooked meats from the shell and place into a pickled brine to preserve the meats.

GRILL
Mussels can be grilled by placing them directly on the grill where they will cook in their natural juices; once the mussels are open they are ready to eat.

Another grilling option: place a ½ lb of mussels (250 grams) on a piece of foil paper, usually 12” x 12” (30 cm x 30 cm), add your preferred liquid and enhancements such as garlic or herbs. Form a “purse” leaving a steam vent at the top. Place directly onto the grill. Once steam begins to show, the mussels are ready to eat.

MARINATE
Place cooked, shucked mussels in your favourite marinade and serve with toast or crackers

Mussels can be used to enhance many dishes such as soups, chowders, stews, pastas, and salads. You are limited only by your imagination.
Care After Cooking
Mussels and broth left over from cooking can be frozen for future use. Simply put them in a covered dish or sealed plastic bag. Cover the mussels with the broth, and they will keep in the freezer for two to three months.

Getting the Most Out of Your Mussels
Blue cultured mussels make for terrific appetizers but they can also easily be added to main courses such as soups, salads and chowders. Leftover broth from cooked mussels can be frozen and used as a broth base for other dishes such as soups, sauces, and chowders. Mussels that are nearing their shelf life can be cooked and the meats can be removed and frozen in the broth for future use.

Chef’s Tips
- Always cook mussels on the highest heat you have on your stove.
  - Cover your pan or pot to allow mussels to steam.
  - The longer you cook mussels, the smaller the meat will become.
- If the mussels are undercooked, the meat will stick to the sides of the mussel shell and be both unappealing and difficult to eat. If they are overcooked, the meat will shrink and be tough.
- If your mussels don’t close before you cook them, throw them away. If your mussels don’t open when you cook them, throw them away.
**Double Smoked Bacon and Tarragon Mussels**

**INGREDIENTS**
- 5 lbs (2.5 kg) fresh blue cultured mussels
- 3 oz (85 g) double smoked bacon, diced
- 1 tbsp (15 mL) shallots, finely chopped
- 1 tsp (15 mL) freshly chopped tarragon
- ¼ cup (60 mL) white wine
- ½ cup (125 mL) cream, 35% 

**METHOD**
Sauté the bacon and shallots in a large pot over medium heat, stirring continuously. As soon as the bacon and shallots begin to caramelize, add the tarragon and stir until fragrant and then deglaze the pan with white wine. Add fresh mussels and mix to combine. Cover the pot, turn the heat to high and steam for 5 to 6 minutes or until the mussels are open. Remove the mussels from the pot and set aside, add the cream to the broth and reduce by ¼. Plate the mussels and pour the sauce over. Serve with your favorite bread for dipping.

(Source: The Kilted Chef Alain Bossé)

**Brie and Basil Mussel Chowder**

**INGREDIENTS**
- 2 tbsp (30 mL) butter
- 1 lb (500 g) yellow flesh potatoes skin on, diced
- 1 clove garlic diced
- juice of ½ lime
- 12 mini colored tomatoes, finely diced
- 12 Kalamata olives, chopped
- juice and zest of 1 lime
- ¼ cup (60 mL) extra virgin olive oil
- 6 tails of chives, chopped
- sea salt and pepper to taste

**METHOD**
Cook half of the potatoes and half of the shallots in 4 cups of the mussel broth until tender, puree and set aside.

In a large pot, sauté the bacon, remaining shallots and the celery in the butter until transparent, then deglaze the pan with white wine and Dijon mustard. When the wine has reduced, add the rest of the potatoes, the herbs and the remaining mussel broth. Bring to a boil, and then reduce heat to a gentle simmer until the potatoes are just fork tender.

Incorporate the tomatoes, red onions, olives, lime zest and juice, olive oil and the herbs in a large bowl, toss and then finish with salt and pepper to taste. Refrigerate.

Choose 10 shells and unhinge them and place the half shells on a baking sheet and place 1 or 2 mussels in each shell. Spoon the vegetable mixture into each shell. Top with crumbled feta and bake in a preheated 350°F (180°C) oven for 5 to 6 minutes.

(Source: The Kilted Chef Alain Bossé)

**Summer Garden Fresh Mussels on the Half Shell**

This is the perfect choice for a canapé reception; flavors are so vibrant and fresh.

**INGREDIENTS**
- 1 lb (500 g) fresh blue cultured mussels
- 1 clove garlic diced
- juice of ½ lime
- 12 mini colored tomatoes, finely diced
- 12 Kalamata olives, chopped
- juice and zest of 1 lime
- ¼ cup (60 mL) extra virgin olive oil
- 6 tails of chives, chopped
- ¼ red onion, diced
- salt
- pepper
- crumbled goat cheese

**METHOD**
Place the mussels in a medium pot, add the white wine, garlic and lime, cover and place over high heat, cook for 4 to 5 minutes or until the mussels are open. Remove the mussels from the pot and set aside, add the cream to the broth and reduce by ¼. Plate the mussels and pour the sauce over. Serve with your favorite bread for dipping.

(Source: The Kilted Chef Alain Bossé)

**Mussel Soup à la Chummie**

**INGREDIENTS**
- 4 lbs (2 kg) fresh blue cultured mussels
- 2 tbsp (30 mL) butter
- 2 tbsp (30 mL) olive oil
- 1 large onion, chopped
- 3 cloves garlic, minced
- 1 cup (250 mL) dry white wine (chicken, vegetable, or fish stock may be substituted)
- 1 can chopped or crushed tomatoes (28 oz undrained)
- ½ tsp (8 mL) dried basil
- pepper to taste
- crumbled parsley for garnish

**METHOD**
Rinse the fresh mussels in tap water.

In a heavy soup pot or Dutch oven, heat the butter and olive oil on medium-high heat. Add the garlic and onion; cook until the onions have softened, about 4 minutes.

Add the wine (or stock), tomatoes, lemon or lime juice, olive oil and the herbs in a large bowl, toss and then finish with salt and pepper to taste. Refrigerate.

Incorporate the tomatoes, red onions, olives, lime zest and juice, olive oil and the herbs in a large bowl, toss and then finish with salt and pepper to taste. Refrigerate.

Choose 10 shells and unhinge them and place the half shells on a baking sheet and place 1 or 2 mussels in each shell. Spoon the vegetable mixture into each shell. Top with crumbled feta and bake in a preheated 350°F (180°C) oven for 5 to 8 minutes.

(Source: The Kilted Chef Alain Bossé)

(Source: Newfoundland and Labrador Department of Fisheries and Aquaculture)
Mussels with Roasted Peppers and Salsa Verde

**METHOD**
Rinse blue mussels in a colander and set aside. Discard any mussels that do not close when tapped.

Preheat broiler to high. Put peppers (whole) on a cookie sheet and slide directly under the broiler. Broil peppers, turning with tongs. This can also be done on a barbecue, directly over the flame. Once peppers are charred, place in a bowl and cover with plastic wrap. The steam will loosen the charred skin. When cool enough to handle, remove core, seeds and blackened skin. Chop flesh into cubes and set aside.

Heat olive oil over medium heat in a large, heavy-bottomed pan. Add onion, stirring, until slightly translucent. Add garlic and chili flakes and sauté two to three minutes more. Turn up the heat to medium high. Add tomatoes and their juice, chopped peppers, white wine and salt and pepper to taste. Stir well, add fresh mussels and cover. Cover the pot and steam for five to seven minutes, or until mussels are open. Discard any mussels that do not open.

While mussels are steaming, blitz Salsa Verde ingredients, without the oil, together in a food processor. Add oil until you have a liquid-y paste.

Transfer mussels to a serving dish and toss everything together. Top with generous drizzle of Salsa Verde and serve.

**SHORT CUTS**
- Make ahead: prepare tomato sauce, except for the white wine and mussels, up to two days in advance. Before serving, heat sauce in a large pot, add white wine and mussels.
- Salsa Verde can be made up to four hours in advance. Cover surface directly with plastic wrap and refrigerate until needed. Or, substitute purchased pesto, thinned with a little olive oil, instead.
- Instead of roasting your own peppers, substitute roasted peppers from a jar. Drain liquid, rough-chop peppers, and add to sauce as above.

(Source: Mussel Industry Council of PEI)

Bonavista Stuffed Mussels

**INGREDIENTS**
- 1 lb (500 g) fresh blue cultured mussels
- 2 tbsp (30 mL) sour cream
- 2 tbsp (30 mL) mayonnaise
- 1 tbsp (15 mL) dry white wine
- 1 tsp (5 mL) dijon-style mustard
- 1 tsp (5 mL) chives, finely chopped

**INSTRUCTIONS**
Rinse the fresh blue mussels in tap water.

Place in a large saucepan with a small amount of water on high heat. Cover and let steam until shells open (5 to 7 minutes). Remove half of shell. Cool mussels.

Mix remaining ingredients and spoon ½ tsp of mixture over each mussel.

(Source: Newfoundland and Labrador Department of Fisheries and Aquaculture)
COOKING FRESH MUSSELS

- Mussels must be alive before you cook them.
- Mussels are cooked by steaming, not boiling.

Simply pour enough liquid to cover the bottom of the pot, add the mussels to the pot, cover, and turn the heat up to high. When steam starts to pour out from under the lid, the mussels are done. The shells will be open when they are cooked.

COOKING TIMES

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SERVING SIZES

- There are approximately 20-25 mussels in a pound (500g)
- 1 to 1¼ lb (500 to 625 g) per person for a main course
- ½ lb (250 g) per person for an appetizer

CHEF’S TIPS

- Look for fresh mussels that are wet, shiny and with shells that are blackish blue.
- Your mussels should smell like the ocean; a strong or fishy smell means they are too old and should not be used.
- Mussels will naturally "gape" (open) when out of water. Run cold fresh water over the mussel while tapping, agitating or lightly squeezing the open mussel between your fingers. If it does not close, it is dead and you must discard it. In addition, discard any mussels that have broken shells.

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