



# Aboriginal Aquaculture Association Finfish Facts Rainbow Trout

## Rainbow Trout

*(Oncorhynchus mykiss - Latin name)*

The rainbow trout is a species of salmonid native to tributaries of the Pacific Ocean in Asia and North America.

The steelhead is a sea-run rainbow trout (*anadromous*) usually returning to freshwater to spawn after two to three years at sea; rainbow trout and steelhead trout are the same species. The fish are often called salmon trout.

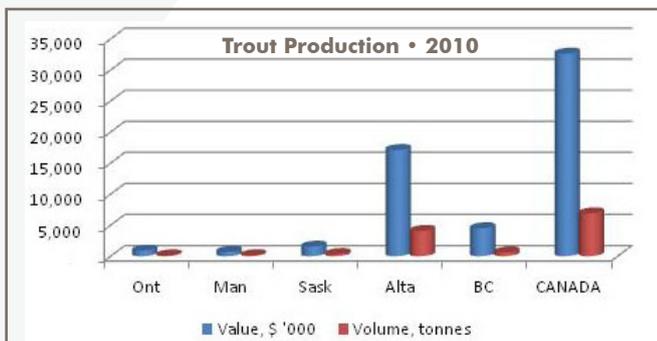
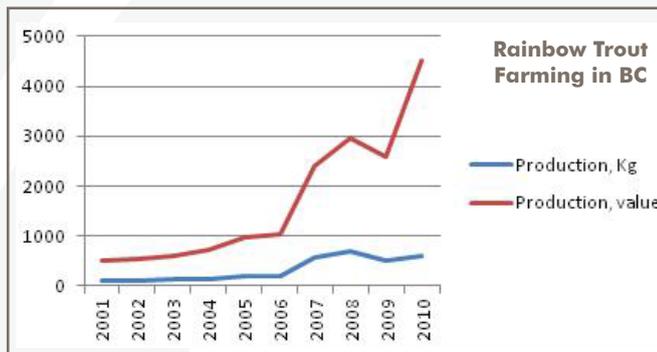
Several other fish in the salmonid family are called trout; some are anadromous like salmon, whereas others are resident in freshwater only. The species has been introduced for food or sport to many countries, and every continent except Antarctica.

The first rainbow trout hatchery was established on San Leandro Creek, a tributary of San Francisco Bay, in 1870, with trout production beginning in 1871.

Today, they are farmed in many countries throughout the world. Since the 1950s, commercial production has grown exponentially, particularly in Europe and recently in Chile. In Chile and Norway, ocean cage production of steelheads has expanded to supply export markets. Inland production of rainbow trout to supply domestic markets has increased in countries such as Italy, France, Germany, Denmark and Spain. Other significant producing countries include the USA, Iran, Germany and the United Kingdom.



Rainbow trout fillets



### Nutrition Facts for Rainbow Trout:

per 3.5 oz (100 g) cooked weight

<b>Energy</b>	<b>131 calories</b>
<b>Protein</b>	<b>18.4 g</b>
<b>Total fat</b>	<b>5.8 g</b>
<b>Saturated fat</b>	<b>.09 g</b>
<b>Cholesterol</b>	<b>56.0 mg</b>
<b>Total carbohydrates</b>	<b>0 g</b>
<b>Sodium</b>	<b>39.0 mg</b>
<b>Omega-3</b>	<b>1.1 g</b>

Source: Seafood Business





## Rainbow Trout Life Cycle:

Rainbow Trout begin their lives at a domestic Brood Stock facility. Wild Rainbow Trout typically spawn in the fall, but through genetic selection and manipulation of day length with lights, egg producers are able to stagger the normal spawning cycle to provide a continuous supply of eggs year 'round.

After fertilization, eggs are placed in incubators for about 25 days until they reach the "eyed" stage, and then they are typically shipped to a production farm. Eyed eggs are quite hardy and tolerant to handling. Production farms in B.C. can obtain eggs from suppliers in the U.S. at any time of the year.

At the production facility, eggs are received and placed in incubators for about 10 days until they hatch. The young fish, called fry, are transferred to indoor ponds to begin their growth cycle. The fry spend about a month indoors and then are transferred to outdoor ponds, tanks, raceways or net pens where they are carefully nurtured until they reach a market weight that will depend on the customer and the rearing environment. (Rainbow trout prefers temperatures in the 13-16°C range during the growout cycle.) For the "pan size" market of 16 - 18 oz (~454 -510 gram), this can take about eight months or so. From freshwater farms, some styles and portion sizes require fish in the 35 - 42 oz. (~990 - 1,190 gram) range. Rainbow trout grown in net pens in the ocean can easily be harvested at sizes in excess of 3-4 Kg.

In land-based farms, the Trout are typically graded and sorted about four or five times during the outdoor growing phase using bar graders, which are placed in the pond's upstream end and gradually moved downstream, allowing the smaller fish to swim through. Production farms are continually monitored and inventoried to provide highly accurate production forecasts.

Depending on anticipated market needs, the growth rate of the Trout can be altered by varying the amount of food they receive.

## Production farms for Rainbow Trout come in many forms

For example:

- Earthen ponds (typically lined with plastic/vinyl liners)
- Concrete raceways (popular in Washington, Idaho and Oregon, where large amounts of fresh groundwater is available)
- Circular tanks (usually in connection with recirculation/ filtration systems)
- Net pens in lakes (one such commercial operation in B.C. - others used by government)
- Net pens in ocean (popular in Norway, Chile- fish sensitive to algae blooms)

In other words- almost any containment structure that can be supplied with clean water can be used to produce Rainbow Trout.



### Alevins

After the eggs hatch, the small fish are called alevins until they use up the yolk sac, after which stage they are called fry.



Hatchery tanks



Trout raceways at Troutlodge, Sumner, WA

### Did you know....

The first evidence of aquaculture can be found in ancient Egyptian tomb paintings which depict fish farms. By the 5th century B.C., Chinese scholars wrote of aquaculture as a long-established practice. Trout were the first fish to be spawned in captivity. This was achieved by a German scientist in the 1760's.

Trout- mostly Rainbow trout- is now farmed in more than 60 countries. Today, about 7,000 tonnes of Rainbow Trout is produced each year in net pens in lakes in Canada, while the total world production is over 600,000 tonnes.

**For more information contact:** Aboriginal Aquaculture Association  
1400B Drake Road, Campbell River, BC  
Tel: 250-286-9939 • Fax: 250-286-9931  
Email: [info@aboriginalaquaculture.com](mailto:info@aboriginalaquaculture.com)

[www.aboriginalaquaculture.com](http://www.aboriginalaquaculture.com)

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