

COLOR SCIENCE: IS REDDER BETTER?

EDUCATION

SCIENCE — ASTAXANTHIN

How do wild Steelhead and Rainbow Trout get their red flesh color?

Did you know that the flesh of Steelhead and Rainbow Trout is originally white? That's right — the beautiful red color that we've come to know and love is actually developed through the diet the fish eats. In wild Steelhead and Rainbow Trout, this is caused by the plankton, krill and the small fish that they consume. Just like us, what they eat has a profound impact on their body. As you might've heard, "We are what we eat."

What role does the deep redness play?

It's no secret that the ruby red color of Steelhead meat is appealing to consumers. But beyond aesthetic value, it's important to ask: **is redder better? Why does it matter?** The presence of a deep red color in the flesh indicates the presence of "**Astaxanthin**", a key micronutrient that recent studies indicate has beneficial effects for consumers.

Astaxanthin: Nature's recipe for "red"

The plankton, krill and small fish that wild Steelhead and Rainbow Trout consume all contain Astaxanthin, which is beneficial for the fish, and contributes to health benefits for consumers. Though the name sounds like a heavy metal band name, it's actually derived from the Latin name for lobster - where it was first identified. **It's the same micronutrient that gives shrimp and lobster their pink-red pigmentation**, and imparts a red color in the flesh of various species of Salmon.



Astaxanthin is an excellent anti-oxidant that removes breakdown products in the body (free-radicals).

By removing free-radicals and oxidation by-products in the body of the fish (and the people eating the fish having Astaxanthin present), membrane integrity is better maintained.

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At Evaqua Farms, a main goal is to produce better, healthier seafood for consumers. As such, we take careful measure to supplement our feed with Astaxanthin...for many research-supported reasons:

Why we supplement our Steelhead/Trout feed with Astaxanthin

- **Astaxanthin is one of nature's best-known anti-oxidants, much better than Vitamins C and E.** It is a micronutrient which the fish and people benefit from.
- Astaxanthin has a coloring effect on the flesh where the carotenoid is deposited. The fish **flesh turns a pink/red tone** due to the presence of Astaxanthin. In Steelhead, the level is between 8 and 12 ppm at harvest.
- Astaxanthin **exists in nature** and is in the diet of wild salmonids. Steelhead/Trout belong to the salmon family. Steelhead/Trout under farming conditions cannot make their own Astaxanthin but it must be provided to them. In the case of farmed Steelhead/Trout that means via the fish feed.
- Astaxanthin requirement in Salmon/Trout has been scientifically examined (Christensen 1995). **An improvement in the survival rate, broodstock performance and growth performance has been proven.**
- Astaxanthin is **safe and approved for use in all countries** raising salmon/trout, including the USA. Astaxanthin has been **used in fish farming for over 25 years.**
- Numerous **human studies** have been conducted around Astaxanthin with positive results.
- People who are taking Astaxanthin supplements (4 to 12 mg per day) benefit from the **superior antioxidant properties.**
- In more recent years, Astaxanthin has been identified in human medicine as a potential **nutrient of merit.** Scientific studies for treating Alzheimer's, Parkinson's disease, strokes, high cholesterol, eye conditions, skin protection against sunburns, preventing cancer, improvement in immunity and sports performance have been carried out with success.

According to the International Institute of Fisheries Economics and Trade...

In 2001, the International Institute of Fisheries Economics and Trade ran a consumer study on the role a fish's flesh color plays in consumer purchases. The study showed that **color is one of the first things a consumer will consider when purchasing salmon and trout.** To a consumer, color indicates: species, age, origin, price, expected flavor/texture, freshness and quality. The study showed that consumers perceive that redder fish is equated to these characteristics: **fresher, better flavor, higher quality and higher price.** Furthermore, fish that were redder in color were preferred by a **2:1 margin.**



INTERESTED IN LEARNING MORE ABOUT OUR HEALTHY, SUSTAINABLY RAISED,
USA RED STEELHEAD OR RAINBOW TROUT?

We would love to speak with you! We sell to distributors, restaurants, institutions and other commercial retailers. If you'd like to request our price list, place an order or request a sample, we'll be happy to help.