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## **Watermelon from rind to flesh: a complete guide to its health benefits**

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**Abstract:** Juicy, sweet, and downright refreshing—watermelon is the undisputed hero of summer. More than just a picnic favorite, this bright red fruit captures everything we crave during hot weather: hydration, light sweetness, and vibrant freshness. But beyond its sun-soaked charm lies a deeper story.

**Key words:** Watermelon (*Citrullus lanatus*); nutritional composition; bioactive compounds; lycopene; l-citrulline; antioxidant activity; watermelon rind; functional foods; hydration; health benefits.

This guide goes beyond the surface, exploring watermelon from rind to flesh. Every part of the fruit, often overlooked or tossed aside, holds unique nutritional value and surprising uses. From skin-loving antioxidants in the vibrant pulp to the nutrient-rich rind tucked beneath the surface, watermelon proves itself as more than just a seasonal treat—it's a powerhouse ingredient hiding in plain sight.

**Introduction.** Slice open a chilled watermelon on a summer afternoon, and you're not just cutting into a refreshing fruit — you're diving into a nutrient-packed superfood. Every bite serves up an impressive balance of hydration, vitamins, and essential minerals, making watermelon much more than a seasonal treat.

### **Macronutrients: A Light Snack with Big Benefits**

Watermelon is celebrated for its low calorie and fat content, yet it still satisfies your sweet tooth. One cup (about 154 grams) of diced watermelon delivers:

- **46 calories** — ideal for those seeking a light, nutrient-rich snack.
- **6 grams of carbohydrates** — primarily from natural sugars like fructose and glucose.
- **Less than 0.2 grams of fat** — effectively fat-free.
- **A negligible amount of protein** — around 0.9 grams per cup.
- **Over 90% water** — precisely about 91.5% by weight, making it one of nature's most hydrating fruits.

This high water content not only cools you down but also helps regulate body temperature and aids digestion. Ever feel instantly refreshed after a few pieces? That's your cells absorbing pure hydration, bite for bite.

### **Micronutrients: Small Compounds, Major Impact**

Don't let the soft, sweet flesh fool you — watermelon is dense with vital micronutrients that your body craves. Here's what hides beneath that juicy red surface:

- **Vitamin C** – One cup provides about 12.5 mg, which is 14% of the Recommended Daily Intake (RDI). This antioxidant-rich vitamin fights cell damage, promotes healthy skin, and strengthens your immune system.

- **Vitamin A** – Thanks to beta-carotene, a precursor to vitamin A, watermelon supports eye health and maintains mucous membrane integrity. You'll find about 865 IU (17% of RDI) in that same cup — and yes, it adds to that healthy summer glow.
- **Vitamin B6** – Used in protein metabolism and cognitive development, this vitamin helps maintain healthy brain function and energy systems. Watermelon contributes a small but meaningful dose to your daily intake.
- **Potassium** – Essential for fluid balance, nerve signaling, and muscle contractions. A cup offers around 170 mg, helping support cardiovascular function and prevent muscle cramps, especially in the heat.
- **Magnesium** – Crucial for over 300 enzymatic reactions, including muscle and nerve functions. Watermelon gives you a light 15 mg per cup — an easy, hydrating way to add to your daily total.

### **Watermelon + Water: Hydration You Can Eat**

At approximately 92% water, watermelon lives up to its name. But this isn't just plain water — it's packed with electrolytes, nutrients, and antioxidants that amplify its rehydrating effect. Compared to sports drinks or artificially sweetened beverages, watermelon restores fluids with zero synthetic ingredients and zero added sugars. Your cells absorb the hydration, your taste buds get the reward. So the next time you're replenishing after a workout, battling the summer heat, or simply [craving](#) something sweet — reach for a slice of watermelon. You're not just eating a fruit; you're feeding your body a cocktail of hydration, vitamins, and energy-fueling carbs all at once.

### **Health Benefits of the Red Watermelon Flesh**

When you bite into a juicy slice of watermelon, you're not just enjoying a refreshing summer snack—you're giving your body an impressive dose of vital nutrients. The red flesh is more than eye-catching; it's a wellness powerhouse packed with immune-boosting vitamins, anti-inflammatory compounds, and natural [plant-based sugars that fuel your body without the crash](#).

### **Strengthening Immunity with Vitamin C and A**

Red watermelon flesh is a rich source of **vitamin C**, delivering around 12.5 mg per 154-gram cup—over 13% of the daily recommended intake for adults. Vitamin C plays a crucial role in supporting immune function by enhancing white blood cell activity and protecting against oxidative stress. Alongside C, watermelon also contains **vitamin A** in the form of beta-carotene. Your body converts this antioxidant into active vitamin A, essential for maintaining mucosal barriers and strengthening resistance to infections. These two nutrients work synergistically to fortify your immune response, especially during times when your body is under [stress](#) or exposed to pathogens.

**Reducing Inflammation at the Cellular Level** color: #000000;">Chronic inflammation accelerates [aging](#) and contributes to the development of various



diseases. Fortunately, watermelon's red flesh is abundant in **lycopene**—a carotenoid pigment responsible for its vibrant color and powerful antioxidant abilities. Lycopene neutralizes free radicals and inhibits inflammatory markers like NF-kB and COX enzymes.

In a 2014 study published in the journal *Nutrition Research*, participants who consumed watermelon juice for four weeks showed lower levels of C-reactive protein (CRP), a common indicator of systemic inflammation. This shows how incorporating watermelon into your diet can actively lessen inflammation, even at a biochemical level.

### Supporting Muscle Recovery with Citrulline

Here's something most people don't realize: watermelon flesh contains **L-citrulline**, a naturally occurring amino acid that promotes muscle repair and reduces soreness. While levels are more concentrated in the rind, the red flesh still offers beneficial doses that can improve [workout recovery](#).

According to a 2013 study in the *Journal of Agricultural and Food Chemistry*, athletes who drank natural watermelon juice experienced reduced muscle soreness 24 hours after exercise compared to a placebo group, thanks to citrulline's ability to enhance nitric oxide production and increase blood flow to muscles.

### A Sweet Treat Without the Guilt

Thanks to its **natural sugar profile** balanced with fiber, water content, and antioxidants, watermelon is a smart choice for those looking to curb sugar cravings without reaching for processed sweets. One cup contains about 9 grams of natural sugar—a moderate amount that offers a sweet taste without dramatically spiking blood glucose when eaten in reasonable portions.

Unlike refined sugar, the natural sugars in watermelon come paired with hydrating properties and nutrients that support metabolic function. It's a [dessert your body will thank you for](#).

- **Boosts immunity** with high levels of vitamin C and A
- **Combats inflammation** through the antioxidant power of lycopene
- **Enhances muscle recovery** with L-citrulline after physical activity
- **Satisfies sweet cravings** as a healthy sugar alternative

So next time you enjoy a slice of watermelon, know that every bite is delivering targeted health benefits beyond hydration and taste. From antioxidant strength to immune resilience, the red flesh serves your body in powerful ways. And we're just getting started—there's more goodness waiting in the parts of the fruit most people overlook.





## Hidden Treasure: Health Benefits of Watermelon Rind

When most people think of watermelon, they stop at the sweet, juicy red flesh. But there's a part that often goes unnoticed—and wasted—the pale green rind. Far from being just compost material, the watermelon rind holds unique compounds and nutrients that offer meaningful health benefits. Let's explore why this humble layer deserves a permanent spot in your diet.

### More Citrulline Than the Flesh—And That's a Game Changer

The outer rind of watermelon contains a significantly higher concentration of **citrulline** than the red flesh. Citrulline is a non-essential amino acid, but its effects on the human body are nothing short of essential when it comes to circulation and performance. Once ingested, the body converts citrulline into **L-arginine**, which then boosts nitric oxide production. Here's why that matters:

- **Improved blood flow:** Nitric oxide relaxes blood vessels, leading to better circulation, especially in muscle tissue and peripheral arteries.
- **Reduced muscle fatigue:** A 2010 study published in the Journal of Agricultural and Food Chemistry showed that athletes who consumed natural watermelon juice high in citrulline experienced less muscle soreness after intense workouts.
- **Support for exercise performance:** Researchers from Texas A&M University identified watermelon rind as a promising source of citrulline for increasing endurance and delaying fatigue.

If you've been paying for citrulline supplements, the solution might already be in your kitchen scraps.

**The Digestive Perks of Tough Fiber.** Unlike the juicy flesh, the rind is rich in **insoluble fiber**. This type of fiber doesn't dissolve in water but plays a critical role in digestion. It adds bulk to the stool, stimulates intestinal movement, and encourages regularity—a vital element in maintaining a healthy gut microbiome. Adding just a small portion of rind to your meals can noticeably improve [digestion over time](#).

Think about how your body thanks you after a fiber-rich salad. Watermelon rind offers a similar benefit—with a refreshing crunch.

### **Heart Health and Blood Pressure: Subtle but Strong Effects**

There's a quiet [cardiovascular advantage](#) in [consuming](#) watermelon rind regularly. Thanks to its citrulline content and fiber composition, this part of the fruit contributes to **reduced blood vessel stiffness** and supports **healthy blood pressure levels**. Research published in Hypertension Research points out that citrulline supplementation can reduce systolic and diastolic blood pressure, especially in people with prehypertension or mild hypertension.

Couple that with fiber's ability to lower LDL cholesterol indirectly by promoting a healthier gut, and the rind transforms from food waste to heart helper.

**The Antioxidant Angle.** Though not as brightly pigmented as the flesh, the rind still contains traces of **phenolic compounds**—plant-based antioxidants that help reduce oxidative stress and inflammation. While their levels are lower compared to the red part, you're still getting measurable protection against cell damage by snacking or cooking with the rind.

So, the next time you slice up a watermelon, don't stop at the red. From citrulline to fiber to vascular benefits, the rind is a hidden treasure with real, science-backed impact on your health.

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