**What the heck is Wheat Germ?**

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2. Whole grain wheat kernels have 3 parts to them: the bran, the endosperm, and the germ. When you remove the tough outer “shell” (The Bran) and the starchy middle (The endosperm) you’re left with the germ. ***(Show attached diagram)*** 
   1. The Bran makes up about 14% of the kernel. This outer skin is considered the “Roughage” because it is mostly insoluble fiber. Bran also contains many B vitamins, protein, minerals, and phytochemicals.
   2. The Endosperm makes up about 83% of the kernel. This is the main source for white flour and has the greatest amount of carbohydrates, protein, and iron. It contains a small amount of B vitamins, and some soluble fiber.
   3. The Germ only makes up about 3% of the kernel, but is the powerhouse of the nutrients and is the sprouting section of the seed. This part is what actually feeds the plant. It contains an abundance of B vitamins, minerals, and fiber. The germ also contains fat (a healthy fat!) Because of this, it is removed when processing white flour so it can have a longer shelf life.
3. When you purchase and eat foods that are “100% Whole Wheat” you are getting all 3 parts of the kernel and all the beneficial nutrients.
4. You can find wheat germ in grocery stores by brands such as Bob’s Red Mill or Kretchmer ***(See attached pictures)***
5. Wheat Germ has a nutty flavor and is very oily.
6. The germ and bran are removed to make white flour which is used to make such products as white bread, white rice, regular pasta, etc. (Most sweets such as donuts, muffins, cookies, etc too) These are called “refined” grains. 70% of nutrients are lost when this happens. But why remove the most nutrient part of the grain?
   1. It provides a longer shelf-life when you remove the germ and bran.
   2. Some claim they taste better.
   3. Many companies “add back in” many of the vitamins to white flour that would otherwise be found in the bran and germ which is termed “enriched.” (It also seems silly to remove the natural vitamins then add them back in an unnatural form!!)
7. Wheat germ is still wheat, so if you have Celiac disease or have other wheat or gluten allergies or sensitivities, you should stay away from wheat germ, as well as other wheat products.
8. **History of Wheat Germ**
9. The Kretschmer brand of Wheat Germ has been around since the 1930s.
   1. In the 1960s and1970s they had a big advertising campaign focused on the importance of eating right. They used the slogan “You are what you eat” and stated this on their wheat germ ads: “For energy and stamina one important thing you must do is eat right” which often featured famous athletes like Mickey Mantle and Gale Sayers. ***(Show attached ads)***
   2. These ads also stated that wheat germ would give stamina back to husbands whose tensions at work were wearing them out. “Serve your husbands this amazing food and see what happens!” one ad said.
   3. Wheat Germ Oil has also been used in cosmetic products, such as hair products. ***(Show attached ad)***
   4. **Does anyone remember these types of ads?**
   5. All wheat types trace their ancestry to einkorn, the oldest grain in existence. Wheat has been cultivated in Europe and Asia since the beginning of recorded history.
   6. According to Ayurvedic medicine, wheat can be used to treat variable stress and mental problems and is good for improving musculature.
   7. Other ancient health benefit effects include nurturing the heart and calming or focusing the mind.
10. **Nutrition & Health Benefits of Wheat Germ**
11. Wheat Germ is sodium and cholesterol free, and dense in nutrients. It is rich in Vitamin E, Magnesium, Phosphorus, Zinc, and B Vitamins.
    1. Vitamin E is an antioxidant, which is thought to protect the immune system and fight against free radicals in the body that could possibly cause cancer.
    2. Magnesium assists the body is producing and transferring energy, and helps to maintain heart, bone, muscle, and heart health.
    3. Pantothenic acid (Vitamin B5) helps the body process and use energy from food, and metabolizes cholesterol and fatty acids.
    4. Phosphorus helps the body build bone and teeth and assists in metabolism.
    5. Thiamin (Vitamin B1) is essential for normal growth and building healthy skin, muscle, bone, and hair. It promotes the function of the nervous system.
    6. Zinc is a trace mineral and antioxidant which is essential for proper growth, immune function, and hormone production.
12. Two Tablespoons of wheat germ powder contains 65 calories – 6 grams of protein, 2 grams of unsaturated fat, and 2 grams of fiber.
13. Two Tablespoons of wheat germ oil contains 240 calories, 14 grams of fat, no fiber or protein.
    1. The concentrated oil form of wheat germ is one of the most concentrated forms of Vitamin E.
    2. Just one Tablespoon of Wheat Germ Oil contains 20 mg of vitamin E which is more than 100% of the 15 mg that is recommended for adults to get in their daily diet.
14. Wheat Germ is also high in fiber, and contains about 1 gram of fiber per tablespoon. Remember that a high fiber diet can help prevent constipation and help keep you regular! High fiber diets are especially beneficial for those heart disease, diabetes, and diverticulosis.
15. Wheat germ contains phytosterols which are steroid compounds that are similar to cholesterol. However, these phytosterols can lower unhealthy cholesterol and promote heart health.
    1. One French study from 1992 found that eating 30 grams (about ¼ cup) of raw wheat germ a day for 14 weeks, lowered total cholesterol by 7.2%. It also lowered bad cholesterol by 15.4% and triglycerides by 11.3%.
    2. Another study in 2003 showed that if is phytosterols from the germ, you would not have the same cholesterol-lowering effect.
16. Wheat Germ also contains Omega-3 fatty acids. We know that omega-3 fatty acid can help lower cholesterol, lower inflammation in the body, and support a healthy nervous system – which can help lower anxiety levels and improve mood.
17. Remember 100% whole wheat products still contain the germ, so the best way to incorporate it in your diet is to eat whole grain products. You can find almost all wheat products in the 100% whole grain form: bread, pasta, cereals, rice, and more!
18. **Preparation, Storage, and Consumption of Wheat Germ.**
19. Wheat germ is extensively used in animal feed, but for human consumption you can find it in cereal or oil form. Both are widely available in grocery stores.
20. A jar of vacuum-packed wheat germ can be safely stored up to one year unopened. Opened jars should be refrigerated, where they can be stored up to 9 months if stored properly and tightly sealed.
    1. Because it contains a fat, it should be stored in the refrigerator so it doesn’t spoil and go rancid once opened.
21. You can substitute 0.5-1 cup of regular flour with wheat germ to increase fiber content and nutrients in breads and cereals.
22. Many of us get enough wheat in our diet – but is it always 100% whole wheat? Because the germ is removed during processing of most wheat, we usually don’t get enough of this best of part of the wheat.
    1. Because you can find it in a coarse powder, you can easily incorporate into foods such as protein shakes, oatmeal, casseroles, muffins, and sprinkled over cereal or yogurt. You can also make into pancakes.
23. **Wheat Germ Fun Facts**
24. You need over 50 pounds of wheat to get one pound of wheat germ.
25. You can actually make a tea out of wheat germ by brewing 1-2 tablespoons per 2 cups of water; steep for 20 minutes, then filter and drink. ***(I can’t promise this tastes good though!)***
26. There is actually a form of wheat germ called fermented wheat germ which has had some studies done showing it has benefits in cancer and arthritis treatments.
27. You can use wheat germ oil as a facial cleanser. It’s a natural oil and can help seal in moisturizer. You can add a few drops on your skin or add to your face mask even.
28. In ancient times, wheat represented prosperity, fertility, abundance, and life.
29. Fertility gods from Egypt, Greece, and Rome all had wheat as one of their symbols.
30. Global production of wheat is 553 trillion tons annually. Asia leads the whole with 60%. There are no wheat shortages in the foreseeable future.









