

Benefits of amaranth plant

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Amaranth is an extremely nutritious plant that confers a wide range of benefits, proving that diet affects many areas of body function and health. Both the leaves and seeds of the plant are edible and for the most part, the nutrients present in seeds are also available in leaves. Scientifically, amaranth is known as *amaranthus* while local names include pigweed, misbredie, marog, tepe, thepe, serepelele, theepe, umfino, imbuya, or utyutu. The following are among many reasons amaranth should be part of a healthy diet.

Reproductive health

Amaranth leaves and seeds are endowed with nutrients that are highly beneficial for reproductive health in both men and women. In terms of boosting fertility, a number of nutrients in amaranth are involved in delivering this benefit. Calcium has been mentioned by several studies as an important nutrient for maintaining a healthy reproductive system and optimum fertility. Amaranth supplies calcium needed for optimum sperm activity necessary for ensuring successful conception. Research indicates that calcium improves the ability of sperms to swim while calcium deficiency impairs that same ability.¹

Also, when it comes to reproductive health, the body's PH level is a fundamental determinant and diet happens to have a major influence on PH. Calcium in amaranth helps the body achieve proper PH setting suitable for fertility and general reproductive function.

Furthermore, amaranth has vitamin B9 or folate which is a major fertility booster. In women, folate is needed for maintaining a healthy ovulation cycle that can lead to conception. Folate ensures healthy blood levels too and this is an important condition that must be met in order for conception to take place. Folate deficiency is associated with anemia and a significantly lowered likelihood of falling pregnant.

Men's fertility is also positively influenced by foods rich in folate. This nutrient contributes to healthy sperm development as well as optimum sperm count and quality. Additionally, folate prevents abnormal sperms and any birth defects that may arise from such sperm abnormalities.

The presence of beta carotene and other antioxidants in amaranth leaves creates another advantage for fertility in men. The antioxidant activity of beta carotene and other antioxidants in amaranth maintains sperm quality by providing protection against damage from harmful radicals. Considering that sperm is highly susceptible to damage by harmful radicals, eating amaranth and other foods rich in beta carotene and antioxidants is vital for supporting sperm function. Moreover, amaranth has zinc, a nutrient renowned for playing a huge role in sperm production and function as well as keeping hormonal balance suitable for fertility.

Also, amaranth leaves and seeds are highly beneficial to men's prostate health, a key component of male reproductive function. Zinc makes a massive contribution towards prostate function and suppresses abnormal growths in the prostate area. Also, zinc is effective for prevention and treatment of enlarged prostate. Studies have also found that zinc is so important for prostate health that deficiency of the nutrient is linked to prostate enlargement.²

Selenium and folate are also major players in maintaining optimum prostate health including offsetting prostate cancer. A reliable source of zinc, selenium, and folate, amaranth undoubtedly has a significant influence in keeping the prostate in good health.

And with regards to managing menstrual pain like cramps, abdominal pain, lower back pain, and headache, amaranth is very helpful due to the presence of calcium, antioxidants, and several other nutrients. Magnesium, found in seeds as well as leaves, also eases pain by keeping muscles relaxed. Additionally, amaranth leaves are reported to prevent excessive menstrual bleeding.

Healthy pregnancy

Amaranth is rich in various nutrients essential for maintaining healthy pregnancy. For instance, the high iron content of amaranth is extremely vital for boosting blood supply to both mother and unborn child. This important attribute of iron in amaranth helps offset anemia during pregnancy. Iron also helps transportation of oxygen and nutrients to the unborn child. Then there is calcium which promotes fetal growth and development.

Folate, found abundantly in amaranth, is widely touted for its massive contribution towards healthy pregnancy. Inadequate folate during pregnancy can result in what is known as folate-deficiency anemia. Since folate is required for production of red blood cells, lack of this important nutrient may result in inadequate blood supply, putting a pregnancy in serious danger. Furthermore, folate is utilized for fetal development to such a great extent that eating folate-rich foods like amaranth prevents birth defects related to the brain and spine. Various studies have linked folate deficiency during pregnancy to an increased risk of birth defects of the brain and spine. The Centers for Diseases Control and Prevention also strongly recommend folate-rich foods for pregnant women for prevention of birth defects affecting the brain and spine.³

Moreover, eating amaranth and other folate containing foods during pregnancy appears to be instrumental for achieving a healthy birth weight. Without enough folate in a diet, there is an increased risk of low birth weight. Also, the wide range of nutrients in amaranth is useful for offsetting different conditions that may endanger pregnancy. Such conditions include high blood pressure, diabetes, and stroke.

Child development

Amaranth is an important food for child development. Folate maintains adequate blood supply in children, a necessary tool for proper development. Furthermore, amaranth has healthy omega3 fats. Seeds tend to have a much higher concentration of these fats than leaves do. An ever growing body of evidence continues to show that omega3 fats are essential for promoting cognitive performance. This greatly aids the development of a child's mental skills relating to learning ability and memory. Amaranth is also high in protein, a major player in promoting mental and physical development in a child. Adequate protein also helps a child build a strong immune system for fighting off infections and other diseases. Then beta carotene in amaranth is used for production of vitamin A, an important nutrient which keeps the immune system strong.

Cognitive health

Even past childhood, amaranth plays a role in meeting cognitive requirements. The presence of omega3 fats is important for countering memory loss related to age or chronic conditions like diabetes. Many studies have found that taking foods rich in omega3 fats is associated with low rates of cognitive impairment. Additionally, the antioxidants present in amaranth leaves are involved in maintaining cognitive function. Antioxidants protect the brain against oxidative damage which can eventually result in impaired cognitive performance. People who follow antioxidant-rich diets experience very low rates of dementia and other conditions related to poor mental skills.

Anti-cancer benefits

Amaranth has very powerful cancer fighting properties and this is very much expected considering its rich nutritional profile. Folate is effective for protecting the cervix when exposed to cancer-causing human papillomavirus. In addition to this protective role, folate slows down progression of cervical cancer. Furthermore, researchers add that folate lowers the level of homocysteine, a hormone found to facilitate cervical cancer activity. The link between folate and cervical cancer is so strong that women with cervical cancer have been found to lack folate.

Cervical cancer is not the only type of cancer suppressed by eating amaranth and other folate-rich foods. Folate intake lowers risk of cancer in general by inhibiting DNA mutations that result in cancer. Therefore, lack of folate in a diet raises the likelihood of DNA mutations that promote cancer activity. Multiple studies indicate that eating folate-rich foods is instrumental for cutting the likelihood of breast cancer. For instance, a study published in British Journal of Cancer found that taking folate-rich food may have a protective effect against breast cancer risk.⁴

Furthermore, regular consumption of amaranth and other folate-rich foods like leafy green vegetables, different legumes, and whole grains might slash the risk of pancreatic cancer, according to research. This documented impact of folate on pancreatic cancer risk is highly consistent with the low rates of pancreatic cancer among people following Mediterranean and rural African diets which tend to be rich in unprocessed plant foods that contain folate. Other studies also show folate-rich foods to make prostate and colon cancer less likely.

Beta carotene is another powerful cancer fighting nutrient found in amaranth leaves. All green, yellow, and orange fruits and vegetables are great sources of beta carotene. To combat cancer, beta carotene stimulates the immune system, making it easier for the body to recognize and destroy cancer cells. In addition, beta carotene functions as a powerful antioxidant that effectively scavenges harmful radicals that promote cancer activity.

And like folate, beta carotene is known to substantially lower the likelihood of cervical cancer. This connection is verified by research showing beta carotene to be present in insufficient quantities among cervical cancer patients. As a result, eating a variety of beta carotene-containing foods like amaranth leaves is often recommended for fending off cervical cancer. According to the University of Maryland Medical Center, a diet that contains a multitude of fruits and vegetables as well as other unprocessed plant foods provides beta carotene important for preventing cancers such as cervical cancer.⁵

Beta carotene has also been studied for its effect on ovarian cancer risk. So far, findings indicate that beta carotene can stave off ovarian cancer. The incidence of ovarian cancer is dramatically lower among women whose diets have plenty of beta carotene-rich foods. Researchers explain that this pattern suggests that beta carotene from various foods is a huge factor in providing protection against development of ovarian cancer.

And the presence of selenium in amaranth further boosts the cancer fighting ability of this super food. According to physicians committee for responsible medicine, selenium plays a crucial role in defending body cells against cancer. This valuable nutrient helps the body get rid of harmful cancer-causing radicals. Additionally, selenium is utilized for recycling antioxidants throughout the body and these antioxidants protect body cells against damage by harmful radicals. Furthermore, selenium protects the body against potentially cancerous contaminants such as mercury, helps speed up elimination of cancer cells, and slows tumor growth.

The physicians committee for responsible medicine also cites research indicating that foods containing selenium cut the risk of esophageal, gastric, liver, lung, and prostate cancer. Besides, selenium is effective for suppressing colon polyps, abnormal growths in the colon which may develop into cancer. ⁶

The zinc content of amaranth is yet another integral cancer fighting aspect. This vital nutrient is present in leaves as well as seeds. The anticancer powers of zinc are rooted in its outstanding ability to stimulate immune function, setting an important foundation for the body to overpower cancer. Besides stimulating the immune system, zinc combats cancer by easing oxidative stress which happens when the body cannot handle the amount of harmful radicals. Oxidative stress is an underlying pro-cancer activity which must be minimized as much as possible. By eating amaranth and other foods rich in zinc, the body is able to offset oxidative stress, thus tremendously reducing cancer risk.

Additionally, zinc is known to boost efficacy of antioxidants found in amaranth and other healthy foods. Antioxidants have an important role in prevention and treatment of cancer because they eliminate harmful radicals that cause and worsen cancer. What's more, zinc has powerful anti-inflammatory powers, a property that is a fundamental anti-cancer tool. Continuous inflammation has been cited as a root cause of cancer and different chronic conditions. And due to its powerful anti-inflammatory powers, zinc has the ability to shrink tumors. Besides, zinc induces mass suicides of cancer cells through a process referred to as apoptosis. Therefore, including amaranth and other zinc containing foods tackles the primary causes and triggers of cancer.

Another way zinc affects cancer risk is related to hormonal activity. Zinc has tremendous influence on helping the body maintain hormonal balance and this is particularly vital for dealing with hormone dependent cancer such as prostate and breast cancer. Unbalanced hormones are known to encourage cancer activity.

With all these proven anticancer traits of zinc, it is no surprise that zinc deficiency is linked to high incidence of cancer. A study in the Indian Journal of Medical Research states that there is evidence to suggest that zinc is an important aspect of a viable anti-cancer diet and that deficiency of zinc raises cancer risk. ⁷

The fiber content of amaranth is another reason this food quells cancer. Fiber is essential for lowering the risk of cancer especially colon cancer. Diets rich in unprocessed plant foods are inherently rich in fiber and research has consistently indicated that people following such diets have very low rates of cancer.

Amaranth also happens to be a rich source of antioxidants, compounds that protect cells from harmful radicals. A diet rich in antioxidants is an absolute necessity for fighting cancer. There are various means through which antioxidants are engaged in combating cancer. Firstly, antioxidants neutralize cancer causing radicals. Also antioxidants induce death of cancer cells by cutting off blood supply to cancer cells. The incidence of cancer is significantly lower among people whose diets lean heavily towards unprocessed plant food and one key reason such diets are tied to low cancer rates is the high content of antioxidants.

Anti-diabetic properties

Amaranth has several nutrients that make it a super-food for diabetes. Fiber, which is renowned for its ability to improve insulin sensitivity, is abundantly present. A substantial body of evidence has continued to show that foods rich in fiber are extremely vital for regulating blood sugar. Severe lack of fiber is a major reason people following modern diets have a higher incidence of diabetes compared to those who follow diets rich in fiber. By improving insulin sensitivity, fiber is able to keep blood sugar under control, thereby preventing damage to blood vessels and serious health complications related to unmanaged diabetes like heart disease, poor circulation, and high blood pressure. Furthermore, fiber nurtures healthy bacteria or probiotics. These healthy bugs have been found to play a pivotal role in blood sugar control because they improve insulin response.

Antioxidants in amaranth play a role in balancing blood sugar as well. Antioxidants tend to strengthen the body's ability to control blood sugar so the more antioxidants there are in a diet, the easier it is for the body to keep blood sugar in a balanced state. Another key reason modern diets increase the likelihood of diabetes is that foods in these diets are lacking in antioxidants due to the high content of processed foods and meat while insufficient in natural sources of antioxidants such as amaranth

Furthermore, antioxidants are helpful because they reduce inflammation which is an underlying contributor to diabetes. When the body is exposed to uncontrolled systemic inflammation, the ability of insulin to balance blood sugar is severely impaired, thus raising the risk of diabetes.

A rich source of protein, amaranth is also a healthy substitute for meat. Eating too much meat can result in inflammation and an increased risk of different health problems including diabetes. An important strategy for fighting diabetes involves eating less meat and opting for more plant-based sources of protein. Amaranth being a healthy source of protein fits well in a diabetes-proof diet. Both seeds and leaves supply protein.

Cardiovascular health

Cardiovascular disease is the leading cause of death worldwide. Irrefutable research shows that diet has a fundamental influence on risk of cardiovascular disease. Studies also suggest that eating a variety of healthy foods substantially reduces the risk of cardiovascular illness and deaths resulting from these diseases. Amaranth is among various unprocessed foods packed with a multitude of nutrients that promote cardiovascular well-being.

The vast benefits of fiber in amaranth also apply to cardiovascular health. Following a fiber-rich diet is a key necessity for keeping all aspects of the cardiovascular system in good health. To begin with, fiber tends to improve overall heart function. Additionally, fiber is super-effective for balancing cholesterol by lowering bad cholesterol while also boosting the good cholesterol. This kind of cholesterol profile also cuts the risk of heart disease and stroke. What's more, a fiber-rich diet is associated with healthy blood pressure. Another important role of fiber is offsetting obesity and minimizing belly fat by improving metabolism. Having too much belly fat or what is referred to as abdominal obesity is extremely harmful to the cardiovascular system. Belly fat represents visceral fat which is fat covering the heart, liver, and other vital organs. This situation substantially raises the risk of heart disease, high blood pressure, stroke, and other cardiovascular-related conditions. This impact of fiber on heart health is highly consistent with observed patterns of cardiovascular disease and obesity. There is an extremely low rate of cardiovascular conditions in rural Africa where diets tend to be rich in high fiber foods like amaranth. On the other hand, the rate of cardiovascular disease among people following westernized diets which are deficient in fiber tends to be high.

Fiber is also known to improve the feeling of fullness and this attribute of fiber is particularly important for curbing obesity. To avoid overeating which can lead to overconsumption of calories and accumulation of body fat, eating high fiber foods like amaranth is highly recommended. Fiber is available in all unprocessed plant foods so it is a good idea to eat amaranth as part of a varied diet. When it comes to controlling obesity and other health conditions, focusing on overall diet rather than putting emphasis on a single food is what yields good results.

The magnesium present in amaranth is another key cardiovascular-friendly nutrient. Different areas of cardiovascular function stand to benefit from a magnesium-rich food. Starting with blood pressure, research shows magnesium to be an effective regulator of blood pressure. What happens is that magnesium keeps blood vessels relaxed and dilated thereby keeping blood pressure in a healthy range. Improved vasodilation also means the heart has access to ample blood and oxygen, thereby preventing heart attack. Additionally, enhanced blood and oxygen supply to the brain significantly slashes the likelihood of stroke. Magnesium is so essential for cardiovascular health that some experts say that eating amaranth and other foods

rich in magnesium can reduce the harmful impact of stroke and heart attack as well as speed up the recovery process.

Furthermore the rich content of folate and pyridoxine or vitamin B6 is another reason amaranth is the go-to food for cardiovascular benefits. Folate and pyridoxine are members of the B vitamin family and they contribute to heart health by reducing the amount of homocysteine, a hormone associated with an increased risk of heart disease.

Also, amaranth is an excellent angiotensin converting enzyme (ACE) inhibitor. This means that amaranth suppresses production of angiotensin a harmful substance that narrows blood vessels thereby restricting the amount of oxygenated blood flow throughout the body. Narrowed blood vessels raise blood pressure and increase the risk of heart attack and stroke due to limited blood supply to the heart and brain.

The ability to inhibit production of angiotensin is such a powerful antihypertensive aspect of amaranth. With low levels of angiotensin, blood vessels stay relaxed and dilated thus ensuring healthy blood pressure and significantly reducing the likelihood of health complications related to high blood pressure.

And since amaranth is a great source of protein, it serves as a far healthier substitute for meat which is has been linked to poor cardiovascular health. Studies say that meat, especially red, is harmful to the cardiovascular system. A study published in Nature Medicine found red meat to increase heart disease risk. According to this study, red meat is unhealthy even without fat due to harmful substances contained in the meat itself.⁸

Healthy vision

Amaranth is great for promoting healthy vision. Beta carotene helps deliver this benefit because it is converted into vitamin A which is known to be essential for sight. One way vitamin A functions is by helping the surface of the eye and mucous membrane act as effective barriers to bacteria and viruses. This kind of activity by vitamin A helps minimize eye infections. Vitamin A also prevents dry eyes.

Another advantage is that amaranth contains other antioxidants and they synergize with beta carotene to keep the macula region of the eye in good health. Beta carotene and other antioxidants also prevent harmful radicals and ultra violet rays from damaging the macula. Lack of antioxidants increases likelihood of macular degeneration and this condition is a leading cause of age related blindness. Clearly, the nutritional attributes of amaranth show that age related blindness can be avoided by following a healthy diet rich in antioxidant-containing foods.

The combination of beta carotene and other antioxidants in amaranth also works well for countering eye cataracts. These nutrients fight off harmful radicals that cause oxidative damage to the eye lens. This property of amaranth is highly consistent with the recommendation to follow a diet high in antioxidant-rich foods like fruits and vegetables for offsetting cataracts and improving vision health in general. Though the exact cause of cataracts is not so clear, experts believe that oxidative damage to the eye lens may be responsible.

Furthermore, vitamin A prevents different forms of eye disease. Deficiency of this nutrient is also associated with night blindness which is basically impaired vision in dim light or at night. The impact of amaranth on vision health is also particularly helpful for people with diabetes because the condition may impair vision and in severe cases blindness occurs. For this reason, amaranth and other foods rich in vitamin A and other antioxidants are highly recommended for people battling diabetes. People who are aging are also at risk of impaired vision so eating amaranth and other unprocessed plant foods can significantly help maintain healthy vision and improve quality of life for the aging population.

Anti-aging properties

With its impressive nutritional profile, amaranth is an age defying food. The antioxidants contained in this food fight harmful radicals that attack healthy cells and cause premature aging. With a great supply of antioxidants, minerals, and other nutrients, amaranth is known to offset wrinkles, fine lines, gray hair, and other visible signs of aging. Premature aging is a sign of poor health so including foods that delay aging creates a major boost to overall wellbeing.

Skeletal health

Amaranth has nutrients that boost skeletal health. Calcium has long been recognized as an essential nutrient for keeping the skeletal system strong. With appreciable levels of calcium, amaranth is suitable for improving bone density and fending off osteoporosis and other bone diseases.

In addition to calcium, magnesium in amaranth is a major contributor to skeletal wellbeing. An important function of magnesium involves boosting the efficacy of calcium. In amaranth, these two nutrients conveniently co-exist and fulfill vital tasks related to maintaining bone health. Furthermore, calcium relies heavily on vitamin K to fulfill its several roles. Vitamin K is also abundantly present in amaranth leaves and qualifies as a major contributor towards bone health. It is also important to note that taking enough vitamin D is important for calcium absorption so it is advisable to include vitamin D-containing foods such as mushroom and egg. Exposure to sunlight also produces vitamin D.

Furthermore, amaranth seeds and leaves have manganese which happens to be an indispensable aspect of promoting bone health. The University of Maryland medical center states that manganese is one of several trace elements that are necessary for bone health and may be helpful for managing osteoporosis. While there is no specific evidence indicating that manganese can prevent osteoporosis, a study found that taking a combination of calcium, zinc, copper, and manganese helped lessen spinal bone loss in a group of menopausal women.⁹

And copper, which is mentioned as an important nutrient for bone health, is also present in amaranth. Based on the findings of this study and so many others, it is wise for menopausal women to include amaranth leaves and seeds in their diet so as to minimize age-related bone loss.

Gluten-free

For people who exhibit adverse reaction to gluten, amaranth seed is a gluten-free food that serves as an excellent replacement for gluten containing grains like wheat, rye, and barley. Celiac disease is a severe form of gluten sensitivity and people with this condition are strongly advised to stay away from foods with gluten. In order to keep a diet nutritionally balanced, it is important to come up with as many healthy alternatives as possible and amaranth seed is one of the many options that can help maintain nutritional balance and variety.

Preparation and serving suggestions

Amaranth seeds are cooked and eaten in much the same way as rice. A straightforward way to cook amaranth seeds is to simply boil over medium heat in a covered pot. For amaranth seeds to be properly cooked, one cup of amaranth requires two to three cups of water. Boiled amaranth seeds also make a great addition to salads. For something different, amaranth seeds can be popped in healthy cooking oil like extra virgin coconut oil.

As for the leaves, preparation is similar to that of spinach. Various accounts on how to prepare amaranth leaves involve cooking. There are also some suggestions on the internet that young raw amaranth leaves are great for salad.

Where to find amaranth

Amaranth grows as a weed and many people may have it in their gardens. When in season, amaranth leaves are sold at different markets. However, mainstream food stores rarely stock amaranth leaves. The seeds are not as readily available to the average consumer as the leaves are. The best chance of finding amaranth seeds is going to a health food store or checking the health food section in a regular grocery store.

Conclusion

Amaranth is a highly nutritious food and it demonstrates that food is a key determinant of health. The health properties of amaranth also attest to the importance of including various unprocessed plant foods like fruits, vegetables, and seeds in a diet. Furthermore, amaranth is found locally in South Africa and different parts of Africa at a very low cost. Part of the message here is that there are plenty of healthy foods that are locally available and highly affordable.

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