

# Milk Thistle

Latin Name: *Silybum marianum*

Also known as: Our Lady's Thistle, Marian Thistle, St. Mary's Thistle, Holy Thistle, Silybin

## Scientific Classification

Only two species are currently classified in this genus.

*Family:* Asteraceae – aster, daisy and sunflower family

*Genus:* Silybum – milk thistle

*Species:* *S. marianum* – blessed milk thistle

Influence on the Body	(PRINCIPAL ACTIONS are listed in CAPITAL LETTERS)
<i>Blood and Circulatory System</i>	heart problems • high blood pressure • varicose veins • hemorrhage
<i>Blood Sugar</i>	hypoglycemia • diabetes
<i>Body System</i>	Stimulant / tonic • depression • demulcent (softens and soothes inflammation of mucous membranes) • protects against chemotherapy
<i>Digestive Tract</i>	appetite stimulant • heart burn • indigestion • gas
<i>Infections and Immune System</i>	cholera • spleen congestion
<i>Liver and Gall Bladder</i>	LIVER CONGESTION • LIVER DAMAGE • CIRRHOSIS (hardening of the liver) • alcoholism • fatty deposits • HEPATITIS • JAUNDICE • cholestasis (suppression of bile flow) • cholagogue (promotes the flow of bile) • gallbladder
<i>Nervous System</i>	convulsions • epilepsy • delirium • nervous conditions
<i>Poisons</i>	toxic poisons • snake bites • radiation
<i>Reproductive System</i>	<i>Female:</i> • promotes lactation • galactagogue (enhances lactation of nursing mothers) • suppresses menstruation
<i>Skin, Tissues &amp; Hair</i>	boils • skin diseases
<i>Urinary Tract</i>	KIDNEY CONGESTION

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### **Key Properties:**

- HEPATIC – supports and stimulates the liver, gall bladder and spleen, increases the flow of bile
- nervine – improves nerve function
- stimulant / tonic – increases internal heat, dispels chill, increases energy, strengthens metabolism and circulation

**Primarily affecting: LIVER • GALL BLADDER • KIDNEYS**

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#### **History**

According to tradition, the milk-white veins of the leaves of the plant came from the milk of the Virgin Mary which fell upon the thistle plant and stained it forever more. Milk thistle thus became known as Our Lady's Thistle, St. Mary's Thistle, Holy Thistle, and other similar names.

Pliny the Elder (23-79 AD), a Roman naturalist and philosopher, reported that the juice of the plant mixed with honey was excellent for 'carrying off bile.' Dioscorides, the Greek herbalist (ca. 40-90 AD), believed that 'the seeds being drunk are a remedy for infants that have their sinews drawn together, and for those that be bitten of serpents.'

It is recorded in old Saxon remedies that 'this wort [plant] if hung upon a man's neck it setteth snakes to flight.' By the Middle Ages, herbalists were using milk thistle to treat depression and other 'melancholy'. In 1597, Gerard, a prominent herbalist wrote of this aspect. The word melancholy is taken from the Greek meaning 'black bile,' and in Gerard's day, it referred to any liver or biliary malady.

Milk thistle was quite popular as a food and almost all parts of it were eaten. The roots were eaten raw, boiled and buttered, or par-boiled and roasted. In spring, the young shoots were cut down to the root, then boiled and buttered. The spiny leaves on the flower head were eaten like globe artichoke, and the stems (after peeling) were soaked overnight to remove bitterness, then stewed. The leaves (trimmed of their spines) were boiled and made a good spinach substitute or added raw to salads.

Nicholas Culpeper, English botanist, herbalist, physician and astrologer (1616-1654), recommended the infusion of the fresh root and seeds for jaundice, breaking and expelling stone, and dropsy when taken internally. In addition, the infusion was to be applied with cloths externally to the liver

and the young leaves eaten in the spring as a blood cleanser. He also considered milk thistle to be efficient in preventing and curing the plague.

Today, milk thistle is used to protect and strengthen the liver. In 1986, Germany's Commission E approved an oral extract of milk thistle as a treatment for liver diseases.

<b>Attributes</b>	<b><u>Key Components: (including, but not limited to)</u></b>
<i>Nutrients</i>	<u>Vitamin E</u> <u>Bitter</u> • <u>Mucilage</u> • <u>Silymarin Complex</u> including the group of flavonoids: <u>Silybinin</u> • <u>Silidianin</u> • <u>Silicristin</u>
<i>Functions of the Liver</i>	<p>Silymarin is the active component in milk thistle found principally on the inner seed coat.</p> <p>Milk thistle protects and supports the liver. By so doing, it has the overall effect of preserving health and well-being of the entire body. The liver is a vital organ which is responsible for a wide range of functions in the body and is necessary for survival. Among other tasks, the liver acts to:</p> <ul style="list-style-type: none"><li>• Help filter, cleanse and detoxify the blood (it is the toxic waste disposal plant of the body)</li><li>• Break down toxic substances and most medicinal products</li><li>• Synthesize and degrade proteins</li><li>• Produce and excrete bile (assists in the digestion of fats)</li><li>• Metabolize fats</li><li>• Produce albumin (part of blood serum), coagulation factors, fetal red blood cells, and insulin-like growth factors</li><li>• Break down insulin, other hormones, and hemoglobin</li><li>• Store glucose, Vitamins A, D, B12, iron and copper</li><li>• Help filter out antigens</li></ul>
<i>Liver, Spleen and Gall Bladder</i>	<p>Milk thistle helps eliminate obstructions and detoxify the liver and spleen.</p> <p>Milk thistle helps repair and rejuvenate liver cells damaged</p>

by alcohol and other toxic substances. Reversal of acute and chronic liver problems has been observed, including viral hepatitis, alcohol and chemically induced fatty liver disorders, cirrhosis, cholestasis, and hepatic organ (liver) damage. It also helps rebuild the gall bladder.

Multiple studies from Europe suggest benefits of oral milk thistle for cirrhosis. In experiments that follow subjects for up to five years, milk thistle has improved liver function and decreased the number of cirrhotic patient deaths.

Researchers have shown that silymarin stimulates liver regeneration by stimulating ribosomal RNA (Ribonucleic acid) activity, which helps carry out and control protein synthesis in liver cells.

After just one week of therapy with oral silymarin, decreased serum transaminases (elevated levels can be an indicator of liver damage) and decreased bilirubin values (higher bilirubin levels occur in certain diseases) were observed.

Workers who had been exposed to vapors from toxic chemicals (toluene and/or xylene) for 5-20 years were given either a standardized milk thistle extract (80 percent silymarin) or placebo for 30 days. Workers taking milk thistle extract showed significant improvement in liver function tests over the placebo group.

Milk thistle protects liver cells and stabilizes liver cell membranes. Silymarin induces an alteration of liver cell membranes that prevents toxins from penetrating into the interior of the cells. Silymarin appears to displace toxins trying to bind to the liver. This has been observed and recorded with liver-toxic medications (such as acetaminophen, Dilantin, alcohol, psychotropic drugs, and phenothiazines), amanita mushroom poisoning, common dry-cleaning fluid (carbon tetrachloride poisoning), and cadmium poisoning.

Milk thistle is especially indicated for people living in or working around environmental toxicity, industrial pollution, radiation, hydrocarbon fumes, and bad water.

*Anti-Oxidant*

Milk thistle is a potent antioxidant which inhibits free radical oxidation. It stimulates the liver to produce superoxide dismutase (SOD), an antioxidant enzyme.

In a study to determine the efficacy of silymarin in preventing

	<p>liver damage in patients taking long-term psychotropic drugs (known to cause liver damage from oxidation of lipids), patients taking silymarin had less hepatic damage than patients taking the placebo.</p>
<i>Digestion</i>	<p>Traditionally, a tea made from the whole plant is used to improve appetite, allay indigestion, and restore liver function.</p>
<i>Other Organs</i>	<p>Milk thistle has also been shown to protect the kidneys, brain and other tissues from chemical toxins. It strengthens memory because of its effect on circulation. Cleansing the blood of toxins directly affects the healing of skin. Milk thistle has been found to be beneficial to those with psoriasis and other skin conditions.</p>
<i>Blood Sugar</i>	<p>Medical research suggests that milk thistle may improve diabetes. Studies have shown a decrease in blood sugar levels and an improvement in cholesterol and serum triglyceride levels in people with Type 2 diabetes.</p> <p>In a randomized, placebo-controlled trial, glycemic control was significantly improved, indicated by lower blood glucose, glycosylated hemoglobins and improved insulin resistance.</p> <p>Diabetic patients taking silymarin should carefully monitor their blood glucose when fasting, as they may require a reduction in medications.</p>
<i>Immunity</i>	<p>Milk thistle blocks allergic reactions, eradicates infection and soothes inflamed tissues. It is mucilaginous (a slippery substance that protects and soothes mucous membranes and inflamed tissues) in nature and aids the immune response by increasing the production of T-lymphocytes and interferons (soluble proteins).</p>
<i>Cancer</i>	<p>Early reports indicate that silymarin and silibinin in milk thistle reduce the growth of breast, cervical, and prostate cancer cells. There is one report of a patient with liver cancer who improved following treatment with milk thistle.</p>
<b><i>Herb Parts Used</i></b>	<p>Seeds harvested when mature and dried, roots, sprouts, and fresh young leaves (divested of the spines)</p>
<b>Preparations and Remedies</b>	<p><i>Fresh:</i> For a wonderful tonic, the stalks and young leaves are palatable and nutritious. Young shoots should be cut in the spring, close to the root with part of the stalk. They are generally eaten fresh in a salad, cooked as greens, or</p>

	included in hearty soups. Milk thistle is a bitter and therefore good for digestion.
<i>Sprouted Seeds</i>	Sprouted seeds are quite good in salads and provide a gentle stimulant to the liver and bile.
<i>Dried Seeds</i>	Dried seeds are ground and taken plain, mixed into yogurt, sprinkled on cereal, or put into herbal preparations.
<i>Infusions</i>	Water extracts are not very useful unless the seed is ground and the whole plant consumed.  <i>Milk Thistle Tea:</i> Steep 2-3 teaspoons of dried, ground seeds in 1 cup hot water for 10-15 minutes. Do not strain, consume the whole plant and all the water from the tea.
<i>Encapsulated</i>	<i>Liver Formula:</i> 8 parts Milk Thistle 8 parts Barberry root 2 parts Wild Yam root 1 part Cramp bark 1 part Fennel seed 1 part Catnip leaves 1 part Peppermint leaves  Combine herbs in quantities indicated and encapsulate. This formula nutritionally supports the body by assisting, repairing and rebuilding the liver. Thus, cleansing the bloodstream more effectively.  It is not recommended that this formula be made into an extract. Milk thistle is not water soluble and the active ingredients must be extracted into an alcoholic liquid. Alcohol is hard on the liver and would be counter-productive.
<b>Safety</b>	No health hazards or adverse side effects are known.
<b>Plant Profile</b>	<i>Natural Habitat:</i> Milk thistle is native to the Mediterranean regions of Europe, North Africa and the Middle East. It has been naturalized in North America and Australia and is widely cultivated.
<i>Description</i>	The stout thistle grows on an erect stem that branches at the top and reaches a height of four to six feet. It has wide, waxy, green toothed leaves with white blotches that exude a milky white fluid when crushed. The solitary flower head at the end of the stem is pink to purple and surrounded with

	thistle spines.
<i>Growing Milk Thistle</i>	The small, hard-skinned fruit is first white, then turns nearly black, spotted, and shiny with hairy tufts at maturity. Milk thistle's active ingredients are more abundant in the mature, darker seeds.
<i>Planting</i>	<p>Milk thistle thrives in dry, well-drained, or even stony soils in fields and roadside ditches. The plant self-sows freely and spreads quickly. It matures in less than a year. Many farmers consider it to be a nuisance weed.</p> <p>The best way to grow milk thistle for seed production is to sow it directly in the garden in the summer. Leave plenty of room for these plants to grow (a healthy one can easily be 4 feet across and up to 6 feet tall). The first germination is about 30 percent (fairly typical for wild plant seeds that contain plenty of inhibitors). These first plants will develop strong rosettes, which then overwinter and go to flower the following spring, producing the thorny capitula filled with liver-protective seeds by midsummer. Over the next year or 2 the majority of seeds will eventually germinate.</p>
<i>Harvesting</i>	For medicinal use, collect the seeds when ripe as the purple flower dies back. Put seed heads in a container and stir daily with a stick (not by hand) to dry evenly.
<i>Storage</i>	Whole seeds are naturally protected against degradation, but when ground, the seed flour easily goes rancid. Seeds are best stored whole and only ground as needed.