

## Red Clover

Botanical Name: *Trifolium pratense*

Red clover, a wild plant primarily used as grazing food for cattle and other livestock, has also been used medicinally to treat a wide array of conditions. These have included cancer, mastitis (inflammation of the breast), joint disorders, jaundice, bronchitis, spasmodic coughing, asthma, and skin inflammations, such as psoriasis and eczema. Red clover is thought to "purify" the blood by promoting urine and mucous production, improving circulation, and stimulating the secretion of bile. Recently, specific chemicals in red clover -- known as isoflavones -- have been isolated and tested for their effectiveness in treating a variety of conditions. Although isolated isoflavone products are very different from the whole herb, they have shown promise in the treatment of a number of conditions associated with menopause, such as hot flashes, cardiovascular health, and the bone loss associated with osteoporosis.

Red clover is a perennial herb that commonly grows wild in meadows throughout Europe and Asia, and has now been naturalized to grow in North America. The red flowers at the end of the branched stems are considered to be the source of its medicinal properties and are usually dried for therapeutic use.

Red clover is a source of many valuable nutrients including calcium, chromium, magnesium, niacin, phosphorus, potassium, thiamine, and vitamin C. Red clover is also considered to be one of the richest sources of isoflavones (water-soluble chemicals that act like estrogens and are found in many plants).

### **Cardiovascular Health**

Menopause increases a woman's risk for developing cardiovascular disease. Supplementation with red clover isoflavones has been associated with a sizeable increase in high-density lipoprotein (HDL) cholesterol, or "good" cholesterol in pre- and postmenopausal women, leading some researchers to believe that these isoflavones may help protect against cardiovascular disease. Other studies, however, have refuted this finding. Interestingly, one recent study found that menopausal women taking red clover supplements experienced a significant improvement in arterial compliance (a measure of the strength and resilience of the arterial walls). Arterial compliance diminishes during menopause and may increase a woman's risk for heart disease.

### **Menopause**

While not all studies are thoroughly convincing, several studies of a proprietary extract of red clover isoflavones suggest that it may significantly reduce hot flashes in menopausal women.

### **Osteoporosis**

Menopause increases a woman's risk for developing osteoporosis (significant bone loss). Some studies suggest that a proprietary extract of red clover isoflavones may slow bone loss and even boost bone mineral density in pre- and perimenopausal women.

### **Cancer**

The isoflavones isolated from red clover have been studied for their effectiveness in treating some forms of cancer. It is thought that the isoflavones prevent the proliferation of cancer cells and that they may even destroy cancer cells. Laboratory and animal studies have found that red clover isoflavones may protect against the growth of breast cancer cells. This is surprising because estrogens (and isoflavones have estrogenic properties) have generally been thought to stimulate the growth of breast cancer in women. Until

further research has been conducted and more information is available, the use of red clover isoflavones or other red clover products should probably be avoided in women with a history of breast cancer.

## **Other Uses**

Traditionally, red clover ointments have been applied to the skin to treat conditions such as psoriasis, eczema, and other rashes. Red clover also has a history of use as a cough remedy for children.

Red clover is available in a variety of preparations, including teas, tinctures, tablets, capsules, liquid extract, and extracts standardized to specific isoflavone contents. It can also be prepared as an ointment for topical application

Because of the estrogen-like properties in red clover isoflavones, women with a history of breast cancer should avoid red clover (some studies suggest that synthetic and/or natural estrogens may increase the risk of breast cancer). Red clover isoflavones should be used with caution, if at all, by people receiving hormone therapy (including birth control pills) containing estrogen, progesterone, androgen or any derivatives of these hormones. Because of the increased risk of bleeding associated with red clover, individuals taking blood-thinning medications (such as warfarin or aspirin) or blood-thinning herbs and supplements (such as ginkgo, ginger, garlic, and vitamin E) should avoid red clover.

## **An Anticancer Clover**

When James Duke, Ph.D., an economic botanist and former U.S. Department of Agriculture researcher, tosses red clover sprouts into salads, he isn't seeking simply flavor or crunch. Red clover (*Trifolium pratense*) contains genistein, an anticancer compound that prevents new blood vessels from forming within a tumor. (Genistein can also be found in soy, black beans and peanuts.) Since tumors rely on new blood vessels to grow, genistein effectively starves the cancer.

## **Clover Sprouts**

Red clover is one of the world's oldest and most common natural cancer remedies. In fact, one study found that 33 cultures use the herb against the disease. However, it may create problems for certain cancer patients. For example, says Labriola, women being treated for breast cancer with the drug tamoxifen should avoid red clover because tamoxifen prevents estrogen from reaching a tumor, and phytoestrogenic compounds in red clover could undermine that action. In this case, it's possible red clover could feed, not starve, an estrogen-dependent breast tumor, Labriola warns. (Editor's Note: These same phytoestrogenic compounds can be helpful with menopausal symptoms in women who wish to naturally increase their estrogen levels.)

The scientific study of red clover is still new. Although its anticancer compounds make it an effective cancer-fighting food for some people, only further research will clarify red clover's future cancer treatment role (Cancer Research, vol. 48, no. 22).