



This monograph was prepared by The Ottawa Integrative Cancer Centre (OICC), in collaboration with the Complementary Medicine Education and Outcomes (CAMEO) Research Program. It is part of a series of monographs being developed to share results of a review of the research evidence related to common therapies and products used within cancer patient care.

The following monograph is designed to summarize evidence-based research and does not advocate for or against the use of a particular therapy. Every effort is made to ensure the information included in this monograph is accurate at the time it is published.

Please note that this monograph does not include an exhaustive list of all potential adverse events; individuals may experience unique side effects. The information in this monograph should not be interpreted as medical advice nor should it replace the advice of a licensed health care provider. Prior to using a new therapy or product, always consult a licensed health care provider.

***For the safe use of natural health products, please consider the following:***

- Consult a licensed health care provider prior to using a natural health product and make a plan to monitor its effectiveness and any side effects. This is particularly important for pregnant or breast-feeding women and people with serious medical conditions.
  - To help prevent interactions with your prescribed medication, ensure your health care provider is aware of any drugs or natural health products you may be using. Make sure to note all natural health ingredients listed in compound products.
  - Read and follow all instructions on the product label.
- If purchasing natural health products in Canada, look for Health Canada approved products. Look for Natural Product Number (NPN) or Homeopathic Medicine Number (DIN-HM) on the label to identify licensed products. Avoid internet pharmacies, as the quality of products cannot be guaranteed and products might not be licensed for sale through Health Canada. For more information, visit <http://www.hc-sc.gc.ca/dhp-mpps/prodnatur/about-appropos/cons-eng.php>

**Please note:** While the aim was to draw from the most extensive research, in some circumstances the information used was limited by the selection and caliber of available research studies. Full references are available in the corresponding full-length monographs found on the OICC website.

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## Patient Resource: Breast Cancer

### Red Clover



#### **Overview**

Red clover is a plant commonly used for the treatment of hot flashes. However, evidence of its effectiveness treating hot flashes in people with breast cancer is limited. While red clover is likely safe for most people, its use is not recommended for those undergoing surgery. Patients taking antiplatelet medications should use red clover only as recommended by a health care provider.

#### **What is red clover?**

Red clover, also known as *Trifolium pratense*, is a plant with flowering tops that are used for medicinal purposes. Red clover contains compounds called isoflavones that are similar to those found in soy, however red clover contains more of the isoflavones called formononetin and biochanin A.

#### **What is red clover used for?**

Red clover is most commonly used in treating hot flashes in women living with breast cancer and breast cancer survivors.

#### **Does red clover work?**

Evidence for the use of red clover in the treatment of hot flashes in breast cancer is limited. One observational study found an approximate 60% reduction in the frequency of several menopause-related symptoms including weight gain, night sweats, and difficulty concentrating; however this was based on a small number of women using red clover (38 out of 788). Evidence from 2 randomized controlled studies suggests red clover does not appear to increase the risk of breast cancer among women at high risk of the disease based on family history or the Wolfe breast density pattern.

#### **How does red clover work?**

Like soy, red clover contains isoflavones which are thought to modulate the effects of the female hormone estrogen. Isoflavones do not increase blood levels of estrogen, but may affect the way estrogen acts on the cells.

#### **What are some possible side effects of red clover?**

Data on the side effects associated with red clover are limited. One study reported skin-related symptoms (e.g., rash), but these effects were equally distributed between the people receiving red clover and those taking a placebo (sugar pill).

#### **Is red clover safe?**

Data on adverse events are also limited. Red clover is considered safe for most people when taking the recommended dosage.

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## **Patient Resource: Breast Cancer**

### **Red Clover**

#### **Safety specific to hormone-sensitive cancers**

*Research shows that red clover does not have estrogenic effects. These studies show no effect from red clover on blood levels of estrogen, luteinizing hormone (LH), follicle stimulating hormone (FSH), or the thickness of the endometrial lining of the uterus, which typically increases in response to estrogen.*

#### **Are there interactions with red clover?**

*There are no known potential interactions between red clover and hormonal therapies (anti-estrogen) such as Tamoxifen or aromatase inhibitors, which are commonly used treatments in breast cancer. However, more studies are needed to fully determine the effects of red clover in this population. Since red clover and soy contain similar isoflavones, some information from studies on soy may be used to predict interactions of red clover. These studies suggest the possibility of enhanced survival and reduced Disease recurrence in patients using soy alongside Tamoxifen and aromatase inhibitors. However you should consult your health care provider prior to using red clover.*

*Red clover also contains the blood-thinning substance coumarin. In theory, coumarins in red clover may boost the effect of antiplatelet medications and therefore should not be used in combination with antiplatelet therapy. However this remains a theoretical interaction and has not been documented in humans.*

*discontinue at least 2 weeks prior to and 2 weeks following surgery.*

*Red clover should only be used as recommended by a health care provider.*

#### **If you choose to use red clover:**

*Research suggests that 40mg red clover isoflavones is required for treatment of hot flashes. This dosage may be used long-term.*

*The use of red clover is not recommended for people undergoing surgery and should be*

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