

## ALL ABOUT SUPPLEMENTS

### Natural Estrogen

#### Alternatives to Synthetic Drugs Ease Menopausal Symptoms

By Dale Kiefer

Phytoestrogens are plant-derived compounds that sometimes mimic the natural estrogens women produce in abundance before menopause.

The four families of phyto-estrogens are the isoflavonoids, stilbenes, lignans, and coumestans.<sup>1</sup> Soy is one of the best-known sources of phytoestrogens, providing the isoflavones genistein, daidzein, and glycitein. Genistein and daidzein are among the most extensively studied of the phytoestrogens. Cancer has been found to be far less prevalent among populations that consume large amounts of soy, as in Asia.<sup>2</sup> In the laboratory, scientists have shown that genistein inhibits breast cell proliferation, a finding that may explain its ability to prevent breast cancer.<sup>3,4</sup> While genistein is less potent than the body's most abundant estrogen, estradiol, it is physiologically active at high concentrations.<sup>1</sup> The second class of phytoestrogens, the stilbenes, is best represented by resveratrol. Resveratrol is most concentrated in grape skins, hence the much-publicized benefits of moderate red wine consumption. Resveratrol is a potent antioxidant. Like the isoflavonoids in soy, resveratrol may also exert some influence on estrogen receptors.



The lignans are present in large amounts in flaxseed, whole grains, vegetables, and tea. Lignans are converted to estrogenic compounds by resident bacteria in the gut. A study recently published in the *Journal of Hypertension* concluded that dietary lignans, even in small amounts, are likely to exert a positive effect on blood pressure, thus reducing hypertension.<sup>5</sup> The final class of phytoestrogens, the coumestans, are present in legumes and soybean sprouts. Only a few of the coumestans have shown estrogenic activity.



#### Estrogen Builds Strong Bones

Estrogen plays a vital role in bone health. As estrogen levels drop during menopause, minerals are depleted from bone, resulting in osteoporosis. A number of studies suggest that phytoestrogens are at least somewhat effective at maintaining healthy bone mineral levels in postmenopausal women.<sup>6-13</sup> In one study, women who ate soy protein containing 90 mg of isoflavones daily for 24 weeks showed significant improvement in bone mineral density of the lumbar spine.<sup>14</sup>

Another study compared bone health in perimenopausal women who consumed high-isoflavone soy and those who consumed low-isoflavone soy. The women who received high-isoflavone soy had significantly higher bone mineral density and content after 24 weeks than women eating low-isoflavone soy.<sup>13</sup> Yet another study found that postmenopausal—but not premenopausal—women with a high dietary intake of soy experienced greater bone mineralization than women with low soy intake. The postmenopausal women with low phytoestrogen intake were also significantly more

likely to exhibit signs of hyperparathyroidism, a condition associated with postmenopausal estrogen loss and onset of osteoporosis.<sup>9</sup>

#### Contributing To Healthy Hearts

Observational and anecdotal evidence suggests that phyto-estrogens benefit heart health. For instance, soy isoflavones are known to reduce total cholesterol and harmful LDL, and to raise beneficial HDL.<sup>14, 15-21</sup> High intake of lignans and isoflavonoids has also been associated with lower triglycerides and a more favorable waist-to-hip ratio.<sup>22</sup>

#### Cancer, Cognition, and Symptom Relief

An enormous body of evidence associates consumption of isoflavonoids with reduced risk of breast, prostate, and colon cancers.<sup>2</sup> Asians who abandon their traditional high-soy diet after moving to the US have an increased risk of cancer compared to their counterparts still residing in Asia.<sup>2</sup> Scientists have determined that women with higher levels of phytoestrogens are less likely to develop breast cancer. Conversely, breast cancer patients have significantly lower levels of phytoestrogens than normal subjects.<sup>23</sup>

Evidence suggests that phytoestrogens do indeed improve these mental capacities. Studies have shown that phytoestrogens significantly improve long- and short-term memory, mental flexibility, and attention.<sup>24,25</sup>

Phytoestrogens improve heart health, cognition, and cancer risk, but what about some of the more troubling symptoms of menopause, such as hot flashes, insomnia, and mood swings? While there is little evidence to suggest that phytoestrogens help, there is evidence that other herbal products can help relieve these complaints.

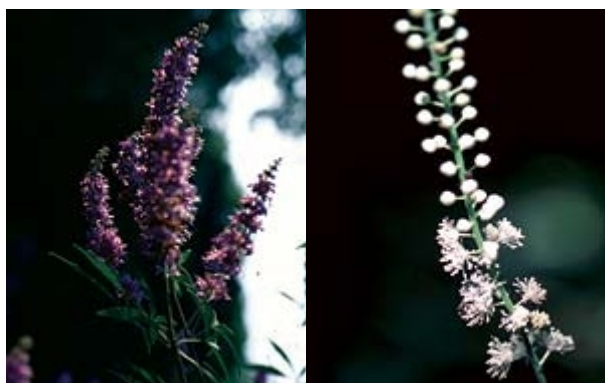
- **Black cohosh** (*Cimicifuga racemosa*), a native North American perennial plant in the buttercup family, has long been used as a folk medicine for treatment of perimenopausal symptoms. As noted by the American College of Obstetricians and Gynecologists (ACOG), at least a dozen small studies have shown that black cohosh improves symptoms of sleeplessness, hot flashes, and mood disturbance in postmenopausal women.<sup>26</sup> According to ACOG, there have been no reports of toxicity, though long-term safety remains to be evaluated rigorously.



Soy is one of the best-known sources of phytoestrogens, providing a variety of different isoflavones.

Although it is not known how black cohosh relieves hot flashes or whether black cohosh contains estrogen-like compounds, numerous potentially active constituents have been identified. The National Center for Complementary and Alternative Medicine (NCCAM) at the National Institutes of Health is now funding a study of black cohosh's efficacy in reducing the frequency and intensity of hot flashes and other menopausal symptoms.

- **Dong quai** (*Angelica sinensis*) has been used in Asia for centuries to treat a variety of female complaints. The rhizome of this perennial herb is chiefly used to regulate menstruation and ease symptoms of menopause, especially hot flashes. It is also believed to relieve symptoms of premenstrual syndrome and promote bone growth. Scientific studies of dong quai, however, have been few. One recent study found that an aqueous extract of *Angelica sinensis* directly stimulated the growth of cells responsible for new bone formation, indicating that dong quai promotes bone health.<sup>27</sup> Because dong quai inhibits platelet activity, ACOG warns against mixing it with anticoagulant drugs.<sup>26,28</sup>



Chasteberry and black cohosh are herbal remedies that relieve some menopausal symptoms.

- **Licorice root** (*Glycyrrhiza glabra*) contains medicinal compounds with anti-inflammatory properties. Recent scientific studies indicate that it improves memory and learning in mice,<sup>29</sup> and suppresses clot formation, potentially reducing the risk of stroke and possibly accounting for improvements in brain function.<sup>30</sup>

- **Chasteberry** (*Vitex agnus castus*) has long been used to treat premenstrual syndrome and other symptoms associated with PMS and menopause, including breast tenderness and mood swings. Several studies have confirmed its efficacy.<sup>31-34</sup> In one such study, women with premenstrual dysphoric disorder, a severe form of PMS, responded equally well to treatment with the prescription antidepressant Zoloft® and treatment with the *Vitex* extract.<sup>31</sup> In a placebo-controlled, double-blind study of premenstrual breast tenderness, *Vitex* proved significantly better than placebo at controlling discomfort.<sup>32</sup> *Vitex* is well tolerated by a vast

majority of patients and effectively controls mood swings and breast tenderness.

The benefits and potential hazards of hormone replacement drugs remain the subject of fierce debate and controversy among medical researchers. As a result, growing numbers of women are turning to traditional alternatives such as phytoestrogens and herbal remedies for relief from menopausal symptoms. Centuries of experience and modern medical research indicate that these traditional remedies not only offer relief from menopausal symptoms, but also may confer protection against cancer, heart disease, and bone loss.

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