

Rationale For *Estrolog*TM

From a purely biological perspective, bearing children can be considered the most important reason for a woman's existence. For that matter, the same could be said about men, since both sexes are, in effect, disposable packages of genetic material. We die, but our genes continue on immortally.

With increasing population pressure and modern independent lifestyles (unlike the family farm where children were almost a necessity), procreation has become an option that is increasingly declined or at least significantly

restricted. But with these choices women take themselves out of a natural biological role. Additionally, treating the breast as an ornament rather than a feeding organ – by opting for synthetic formulas, also removes women from a natural biological function.

When these choices are coupled with the use of contraceptive hormones, hormone replacement therapy, an increasing load of estrogenic pollutants (see Addendum) in the environment and food, and a diet that has veered significantly from its natural design, the formula for hormonal pandemonium, metabolic dysfunction, and disease is in place. The result is early menses in children, infertility, abnormal and erratic menstrual cycles, cervical dysplasia, fibroids, endometrial cancer, breast cancer, premenstrual syndrome, dramatic mood swings and depression, osteoporosis, and other symptoms of abnormal menopause: hot flashes, psychological problems, decreased libido, and thinning of the vaginal wall.

This is a difficult problem with no easy solution. If women would have as many children as they are capable of, nurse them for years as they are designed to, eat natural foods, and live in a more pristine environment, most of these modern health problems would disappear. If money flowed out of our tap we would not have economic problems either, right?

The desire to limit families may soon not even be an option. We either curtail population growth or we will see through the branch we all sit on. Population is the engine that ultimately drives all environmental woes. We live on a finite planet with finite resources, but we have an infinite ability to breed. We either live within the limits of Earth's sustainable resources or we will destroy ourselves. Having children may be a natural and healthy process, but can be a deadly game for life on Earth.

So we have a conundrum. Women need to fulfill their biological reproductive role to achieve metabolic balance and health, but if they do so unlimited, the health of life on Earth is jeopardized.

ESTROLOGTM

Nutrient Support Formula

W Y S O N G

PURPOSE:

A nutritional supplement designed to support the health of the female reproductive system, reproductive cycles, sexuality and libido.

INGREDIENTS:

Natural Phytonutrient Extracts and Concentrates of Red Clover, Black Cohosh, Soy Sprouts, and Soybeans (source of isoflavones).

- Contains no additives -

Caution: This product is not recommended for use by pregnant or lactating women.

DIRECTIONS:

Suggested Dosage: One capsule four times daily. EstrologTM is best assimilated if swallowed with meals. For best results, Estrolog should be used as a part of the Wysong Optimal Health ProgramTM.

For long-term usage discontinue two days out of every week and five successive days every month to decrease the potential for intolerance developing.



In an attempt to solve this dilemma, women have turned to the quick fix of pharmaceutical synthetic hormones. Hormones that control conception, hormones that control abnormal menstrual cycles, and hormones that fix menopause. It is an overly simplistic solution to a complex problem.

The saying, “Don’t mess with Mother Nature” is particularly applicable when dosing the body with hormones. Since the 1940’s when estrogen therapy became popular, hundreds of thousands of women have succumbed to cancer. For example, a woman is nearly 13 times more likely to get endometrial cancer, and at nearly a 30% increased risk of breast cancer when she takes estrogen. Recently, researchers have identified the two top preventable

breast cancer risks: oral birth control pills and estrogen replacement therapy.

For those who justify the use of estrogen for the benefits of decreased risk of osteoporosis and cardiovascular disease, consider that proper exercise, diet and lifestyle choices can have the same beneficial effect without the potential consequence of cancer.

How have women specifically put themselves outside of their natural context to make themselves more susceptible to cancers?

The average mom gives birth to about two infants. This is unnatural in that it means that she will ovulate an incredible 438 times during her lifetime.

would have decreased the number of ovulations that a primitive mother would have had to about nine.

This means that today women cycle through their menstrual periods an abnormal number of times, creating surges of estrogen about 50 times more than our primitive ancestors living in a natural setting.

Many cancers of women are sensitive to high levels of female hormones. For example, breast cancer is sensitive to estrogen. In dogs, simply removing the ovaries can often prevent or halt the progress of mammary cancer. Tamoxifen in humans is used to block estrogen activity within the mammary glands and thus is believed to exert its protective effect in this way.

Perhaps the resting periods of lower estrogen that women experienced in the premodern setting during pregnancy and lactation served a protective effect to spare organs and tissues from cancer.

Women who nurse for a total period of time of even as little as two years are known to have a decreased incidence of mammary cancer.

This excess ovulation hypothesis seems like a very plausible explanation for the life-wrecking tragic phenomenon of female cancers. If the cause is being out of our natural context, then the solution is to restore it.

A Healthy Alternative Approach

1. Refer to the Wysong Optimal Health Program for guidelines on life choices that can enhance overall health and thus hormonal health (see Optimal Health page 1).
2. To optimize nutrition, cycle through the Wysong Foundations Formulas.

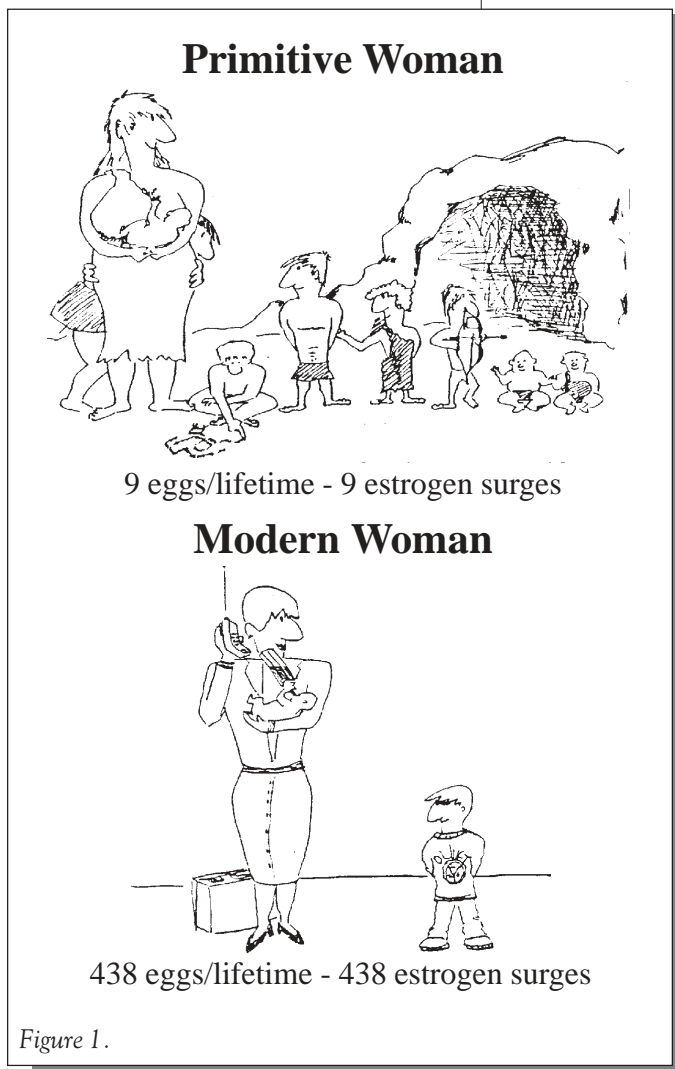


Figure 1.

On the other hand, women in the primitive natural setting who may not even know what causes pregnancy or how to prevent it even if they wanted to, would have started menstruating and ovulating at age twelve and would have delivered nine babies and breast fed them all. When they did breast feed, they did so for ages up to two, three, four, even some up to five or more years of age. The combination of pregnancy along with breast feeding (which inhibits hormone cycling) in the premodern setting

3. Emphasize fresh raw foods in the diet and avoid processed foods as much as possible.
4. Eliminate hydrogenated oils and refined sugars. Hydrogenated oils displace healthful dietary fats and have been shown to be carcinogenic, and sugars can stimulate a rise in estrogens.
5. Try to use organic foods as much as possible and avoid synthetic materials in cosmetics, at home and in the workplace to help reduce exposure to environmental estrogens.
6. Do not attempt "low fat" or "low cholesterol" fad diets which often create dependence upon processed carbohydrates and seriously reduce important natural dietary fats and essential fatty acids.
7. Increase the consumption of natural vegetable foods such as soy and fresh greens containing phytoestrogens which tend to counteract estrogens.

Estrolog™ Design

Estrolog contains ingredients that are highly concentrated in natural plant compounds, which interfere with estrogen activity. Estrogen binds to tissue, in the uterus and breasts for example, by attaching to estrogen receptor sites. It is then carried into the cytoplasm of the cell and to genetic material to work its estrogenic effect by stimulating specific protein syntheses.

Estrolog phytoestrogens competitively bind to these receptor sites, but once attached exert a much more mild estrogenic effect. A phytoestrogen is 40 times weaker than estrogens. They can also lower luteinizing hormone levels, which tend to rise at menopause causing symptoms such as hot flashes.

Phytoestrogens include triterpenes (actein, cimici-fugicide,

27-desoxyacetylacteol), isoflavones (daidzein, genestein, biochanin, formononetin), aromatic acids (isoferulic acid, ferulic acid, salicylic acid) and others.

The use of phytoestrogens has been shown in scientific studies to decrease hormone-related problems associated with menstruation, menopause and oncogene (tumor) expression.

Estrolog is the result of several years of research seeking non-toxic natural nutritional supplements. Ingredients have been selected based upon the weight of scientific evidence and traditional experience with their use. Supplementation with natural nutrients and "nutraceuticals" is an emerging science and precise mechanisms of action have not been determined in many cases.

A reference section at the end of this book is available for review. Clinical studies reported there regarding some of the ingredients in Estrolog include:

1. In a study of 625 menopausal female patients using Estrolog, results from 131 doctors showed 80% measured improvements in

associated ailments;

2. Comparisons to estrogen therapy and Valium in 60 patients showed a superior response to the Kupperman Menopausal Index;
3. Compared to estrogen and placebo better results were obtained on the Kupperman Index, the Hamilton Anxiety test and vaginal lining testing;
4. A double-blind study of 110 females showed improvement in blood hormone levels;
5. In 60 women who had partial hysterectomies and were experiencing surgical menopause, symptoms were relieved;
6. Epidemiological studies of Eastern societies which consume much higher levels of natural dietary phytoestrogens show them to be far more free of menopausal or menstrual problems and to have a much lower incidence of estrogen sensitive cancers.

Estrolog-type phytoestrogens have been used since the 1950's in Europe and are highly successful and safe. The only possible contraindications would be in the presence of pregnancy, lactation, estrogen-dependent tumors and heart disease.

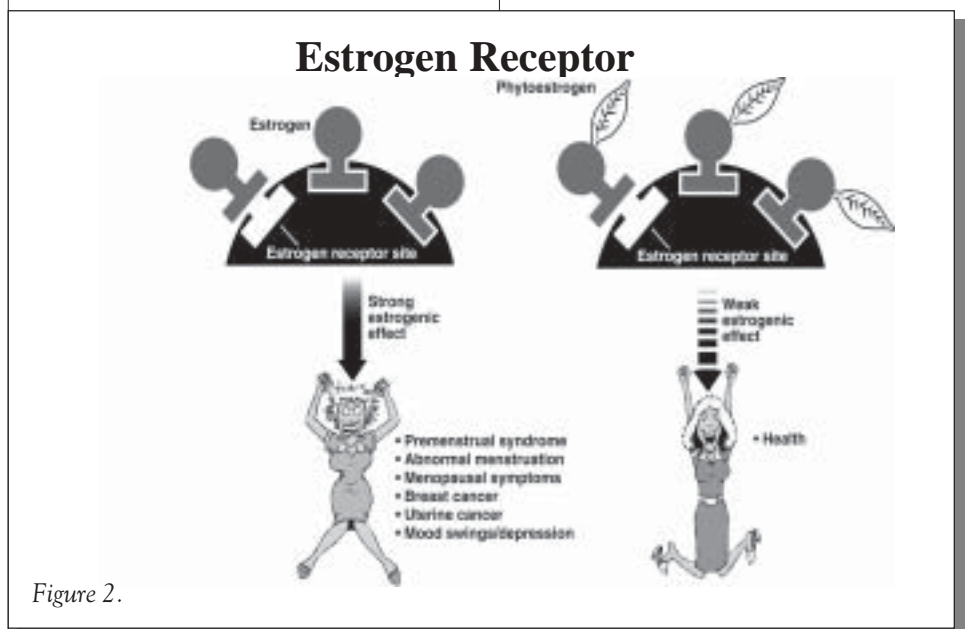


Figure 2.

Chemical Structures of Progesterone, Testosterone, Estrone, Formononetin and 27-Deoxyactein

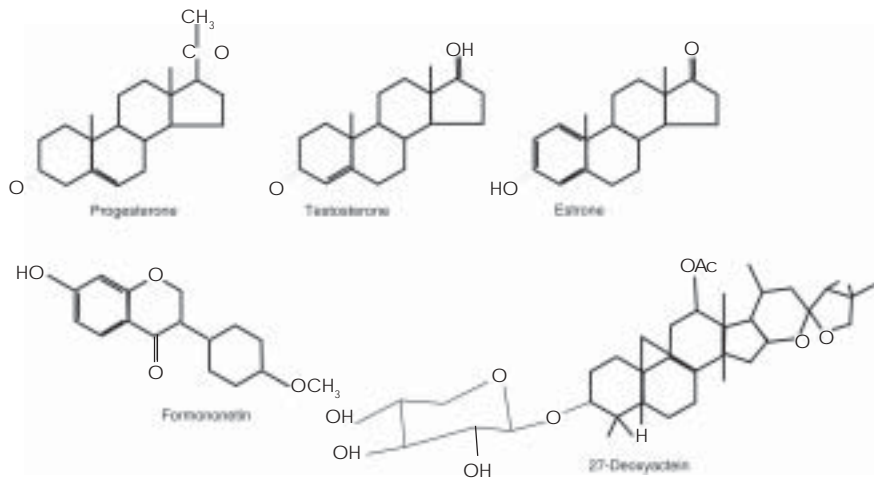


Figure 3.

Estrolog is unique in formulation incorporating a variety of phytoestrogen-rich foods to present a more natural and safe spectrum of potentially beneficial ingredients.

Estrolog, as with all Wysong Nutrient Support Formulas, is designed to enhance and complement the lifestyle and dietary guidelines in the Wysong Optimal Health Program and the Wysong Foundation Formula supplements which should be taken routinely. Taken alone, Estrolog will exert benefit, but these benefits will be greatly enhanced by the synergy of using it in conjunction with these other Wysong-designed programs.

Additionally, Estrolog should not be viewed as a pharmaceutical with which immediate powerful results may occur (often with a tradeoff of powerfully dangerous side effects). Problems that may have developed in the body over decades cannot be expected to be resolved in a day or two. Restoring healthy balances in the body takes time and usually several weeks must pass before results can be seen. Patience and commit-

ment to an ideal of safe natural nutrition is critical to long-term results.

Estrolog is carefully designed to be safe and to avoid excesses or imbalances. If taken with the Foundation Formulas, even though the Foundation Formulas may contain some of the same ingredients, excess above researched allowable limits will not occur. This also applies to taking Estrolog in conjunction with other Nutrient Support Formulas. Uniquely among supplement programs, all Nutrient Support Formulas and all Foundation Formula supplements can be taken

simultaneously without exceeding safe limits.

*Addendum -
Feminization Of The World
(from Wysong Health Letter
Vol. 8, No. 3, see pages 8 & 9).*

While science is busy scurrying around trying to find the genes that cause homosexuality or genital birth defects, a new chemotherapeutic agent to cure female cancers, new diagnostic tests to detect prostate cancer earlier in men, (hoping that such discoveries can create new billion-dollar pharmaceutical hey-days), let's explore a likely fundamental cause for the alarming decay in the health of wildlife and humans.

Sex hormones are critical in governing a broad range of biological activities. Early in the life of the fetus, through a series of molecular switches, hormones signal the development of either male or female structures. It is the relative amount of female to male hormones, which dictates whether we become male or female.

Over the past couple of decades, research has demonstrated that a kaleidoscope of synthetic chemicals and pollutants that have been introduced

Therapeutic success with just one of the nutrients in Estrolog

<u>SYMPTOM</u>	<u>% WITH SYMPTOMS IMPROVED OR NO LONGER PRESENT</u>
Hot flashes	86.6%
Profuse perspiration	88.5%
Headache	81.9%
Vertigo	86.8%
Heart palpitation	90.4%
Ringling in the ears	92.9%
Nervousness, irritability	85.6%
Sleep disturbances	76.8%
Depressive moods, etc.	82.5%

Figure 4.

Vaginal Wall Proliferation in Double-blind Study

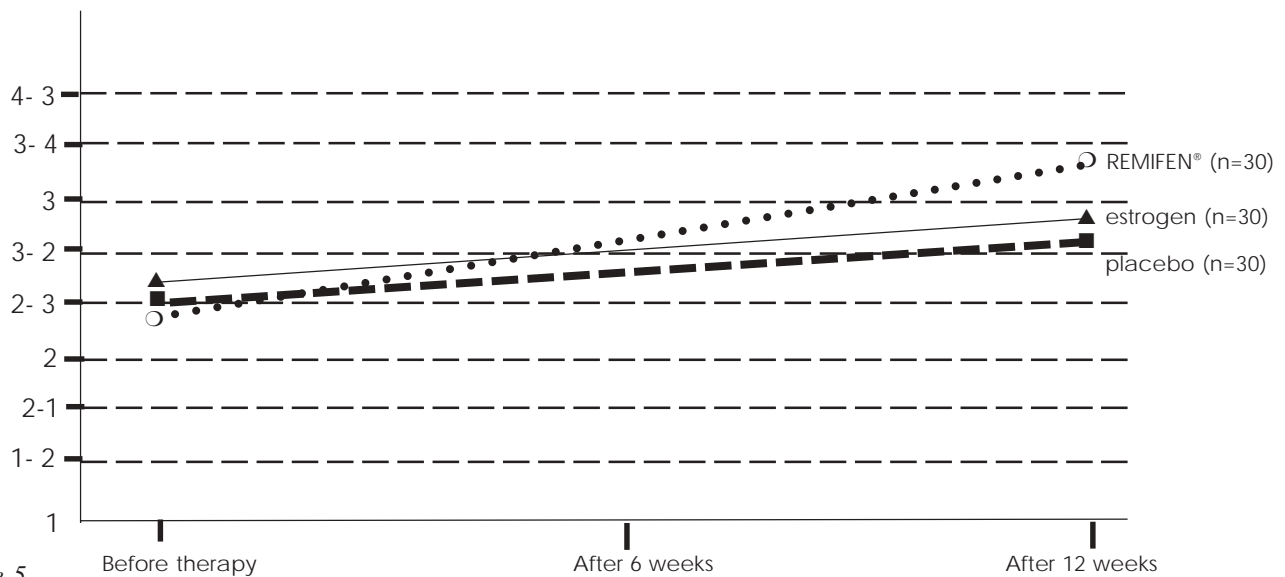


Figure 5.

into our environment are capable of mimicking the effects of natural sex hormones. There are now some 45 environmental pollutants known to cause changes in the reproductive system. Examples include herbicides, pesticides, fungicides, insecticides, nematocides, PCB's, styrenes, combustion pollutants, a variety of metals, ingredients in plastics, break-down products of common detergents and other industrial by-products and commercial chemicals.

Estrogenic pesticides have now even appeared in detectable levels in the Antarctic penguin. 2,4-D is the largest selling broad-leaf herbicide in North America, with some 60 million pounds of it and its chemical analogs used annually in the United States. This compound is another estrogen mimicker. A diverse array of chemical structures, many structurally quite unlike natural hormones, have been shown to specifically mimic the female sex hormone, estrogen. Thus, it is not possible to determine by molecular analysis whether these chemicals will mimic sex hormones until they are released into our environment and produce damage.

Environmental hormone mimickers may not only induce female and male cancers – but in levels far less than required to produce cancer – may trigger reproductive effects. Here are some examples of what these pollutants are doing in the animal kingdom. The eggshells of many birds have been thinned. The result is that embryonic birds can be crushed by the mother, as has occurred in the past as a result of DDT contamination. Gulls have developed grossly feminized reproductive tracts and some female gulls, called lesbian gulls, share nests. Gonads developed intersex characteristics such that tissues had both the characteristics of ovaries and testicles. Males lost interest in mating and developed feminized sex organs.

Reproduction in bald eagles is known to drop when PCB's in their bodies exceed 4 to 6 parts per million, or when DDE, a descendant of DDT, exceeds 1 part per million. In the Great Lakes area, eggs are being found with PCB concentrations as high as 120 parts per million.

In Florida, there are super female alligators with ratios of estrogen to tes-

tosterone twice as high as normal. Some entire groups of hatchlings show no characteristics of maleness at all. Males had what looked like ovaries and stunted genitalia, and the ovaries of the females, on the histological (tissue) level, looked as though they were exhausted. These anomalies in Lake Apopka were the result of effluent from the Tower Chemical Company. Their pesticide, called Dicofol, is a molecule that looks identical to DDT except it has an extra oxygen atom. Spills into the lake were also laced with DDT and DDE, even though these chemicals have been outlawed long ago.

Trout exposed to industrial effluent have 500 to 100,000 fold increases in vitellogenin, a bio-marker for exposure to estrogenic pollutants. The Pallid Sturgeon, an endangered fish native to the Mississippi and Missouri rivers, simply doesn't reproduce anymore. Some have gonads neither distinctly male nor female.

Ethinylestradiol is the main estrogenic compound in birth control pills. Women who take the pill excrete this compound in their urine, which then

passes through water treatment plants and on into the environment. The level of these birth control pill by-products in potable water supplies is in concentrations below the limits of detection. Yet, these compounds are exerting biological effects on wildlife in the waterways.

Breakdown products of alkylphenol polyethoxylates, a class of surfactants used in various soaps and even in pesticides, herbicides and cosmetics, have the ability to directly activate the body's estrogen receptors. These compounds bioaccumulate in tissues, particularly fat tissues. Some 360 million pounds of these surfactants are sold in the United States each year.

Even electromagnetic fields (EMF) generated by power lines, household appliances and wiring demasculinize mature males. EMF abnormalities in rats include the development of huge testes and prostate glands. Researchers remark that the reproductive system of the rat is "built like a Sherman tank." Certainly, then, if they are affected by electromagnetic fields, humans may be even more susceptible.

Sixty-seven percent of male Florida panthers, an endangered species with only about 30 to 50 animals still surviving, have undescended testicles. Only 14% of males had this condition just 10 years earlier. Even normal males are producing abnormal and deformed sperm cells. Some males had an estrogen to testosterone ratio that was inverted, having more estrogen than testosterone rather than vice-versa.

Environmental estrogenic pollutants are particularly dangerous to the male since the male-developing reproductive system is more sensitive to the effects of estrogen than any other organ system.

Even though adult animals may appear perfectly normal, they may be

reproductively dysfunctional. Some species of animals, though apparently healthy right now, may be in effect extinct.

The ubiquitous nature of feminizing hormones in our environment effectively bathes us in a sea of estrogenic substances. The full consequences of this exposure are only beginning to be understood. We are breathing it in our air, eating it on our fruit, and absorbing it through our skin; children are receiving it in the blood and milk from their mothers.

Now to humans: many countries are now seeing a sharp rise in testicular cancer. It has more than tripled over the past 50 years. Also, the sperm count in men has fallen almost 50%, as documented in a study of some 15,000 men between the years of 1940 and 1990. The rate of cryptorchidism (undescended testicles) has increased by almost two-fold in the years from 1950 to 1970. [We are so clever. First we saturate the bodies of our babies with feminizing pollutants and cause their testicles not to descend, then we cleverly implant a silicone prosthetic testicle in the scrotum so that they appear normal. Then, the silicone causes an autoimmune disturbance resulting in the debilitating disease lupus erythematosus. (Vol. 8, No. 2).]

Another condition, hypospadias, in which the urinary tract is not formed properly in the fetus, doubled between the years 1964 and 1982.

Early exposure to feminizing hormone pollutants may disrupt the Sertoli cell in the testicles. These cells direct the development and descent of the testes and control the development of sperm and the secretion of male hormones responsible for masculinization. Sertoli cells are particularly sensitive to stimulation by follicle stimulating hormone (FSH), but

FSH is inhibited by exogenous estrogenic pollutants.

Reproductive problems experienced in the general population are identical to the problems experienced by the male offspring of women who, during pregnancy, receive treatment with diethylstil-boestrol (DES), a potent synthetic estrogen.

The broad range of estrogenic substances in our environment makes it almost impossible to determine a person's exposure. Though a limit might be set on each of the estrogenic compounds, their effects are additive. Thus, if a person were only taking a tenth of the supposedly safe dosage of 10 different compounds, the additive effect would be toxic.

In our clamor to rid our environment of carcinogenic (cancer-causing) substances, we have ignored the estrogenic effects. Alarming, the levels of compounds that can produce reproductive and sexual aberrations are often far less than those necessary to produce cancer.

These compounds are capable of changing virtually every reproductive tissue in the body, as well as disrupting hormone balances. Might they not also affect sexual behavior? Might the rise in sexual crimes and homosexuality be at least partially a result of our swimming in an increasingly concentrated sea of estrogens?

What can we do? Take seriously the dangers of synthetic chemicals and pollutants in our food and environment. Don't worry about being picayunish. It is likely that you simply can't be careful enough. So restore your environment by using organic foods when possible. Carefully scrutinize food labels. Also, decrease industrialization by decreasing consumption and waste. In essence, try to implement as best

you can all the things that we continue to explore in the Health Letter.

It is of interest that phytoestrogens found in whole grains such as rye, as well as in legumes such as soy – although estrogenic – possibly have the ability to compete against environmental pollutant estrogens. They are antagonistic to estrogenic adverse effects and apparently do not exert the harmful estrogenic effects of the environmental pollutants.

Since estrogenic compounds are fat soluble, the more fat you have, the greater the potential reservoir for these pollutants. Strive to maintain a healthy body weight by using the effective methods described in the Synorgon Diet.

The ubiquitous nature of synthetic estrogenic compounds and their potential adverse effects is enough to make the hair stand up on the back of your neck. Our continuing theme that we must restore our natural context if we are to enjoy health and leave a livable world to our children, is amplified by this research and should make everyone serious about taking steps now to clean up our act.

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

- Aldercreutz H, et al. Urinary excretion of lignans and isoflavonoid phytoestrogens in Japanese men and women consuming a traditional Japanese diet. *American Journal of Clinical Nutrition*. 54:1093-1100. 1991.
- Aldercreutz H, et al. Dietary phytoestrogens and cancer: *In vitro* and *in vivo* studies. *J. Steroid Biochem. Mol. Biol.* 41:331-7. 1992.
- Aldercreutz H, et al. Plasma concentrations of phytoestrogens in Japanese men. *The Lancet*. 342:1209-10. 1993.
- Aldercreutz H, et al. Lignan and isoflavonoid conjugates in human urine. *J. Steroid. Biochem. Mol. Biol.* 52(1):97-103. 1995.
- Anderson J, et al. Meta-analysis of the effects of soy protein intake on serum lipids. *The New England Journal of Medicine*. 333:276-82. 1995.
- Benigni R, et al. *Piante Medicinali-Chimica, Farmacologiae Terapiae Vol. I*. Inverni and Della Beffa. Milan. pp. 310-3. 1962.
- Berger S, et al. 27-Deoxyactein: A new polycyclic triterpenoid glycoside from *Actaea racemosa*. *Planta Medica*. 54:579. 1988.
- Beuscher N, *Cimicifuga racemosa* L. - Die traubensilberkerze. *Zeitschrift fur phytotherapie*. 16:301-2, 305-10. 1995.
- Duker E, et al. Effects of extracts from *Cimicifuga racemosa* on gonadotropin release in menopausal woman and ovariectomized rats. *Planta Medica*. 57:420-4. 1991.
- Epstein S, et al. The Breast Cancer Prevention Program. Macmillan General Reference. 1997.
- Folman Y, et al. Effect of norethisterone acetate, dimethylstilboestrol, genistein and coumestrol on uptake of [³H]oestradiol by uterus, vagina and skeletal muscle of immature mice. *J. Endocrin.* 44:213-8. 1969.
- Forsythe W. Soy protein, thyroid regulation and cholesterol metabolism. *J. Nutr.* 125(3):619-23. 1995.
- Foster S. Black Cohosh - *Cimicifuga racemosa*. Botanical Series No. 314. American Botanical Council. 1998.
- Fostis T, et al. Genistein, a dietary-derived inhibitor of *in vitro* angiogenesis. *Proc. Natl. Acad. Sci. USA*. 90(7):2690-4. 1993.
- Genazzani E, et al. Vascular action of acteina: Active constituent of *Actaea racemosa* L. *Nature*. 194:544. 1962.
- Goldin B, et al. The relationship between estrogen levels and diets of Caucasian American and Oriental immigrant women. *American Journal of Clinical Nutrition*. 44:945-53. 1986.
- J Endocrinol Metab.* 1999.
- Jarry H, et al. Studies on the endocrine effects of *Cimicifuga racemosa*: 1. Influence on the serum concentration of pituitary hormones in ovariectomized rats. *Planta Medica*. 1:46-9. 1985.
- Jarry H, et al. Studies on the endocrine effects of the contents of *Cimicifuga racemosa* 2. *In vitro* bindings of compounds to estrogen receptors. *Planta Medica*. 4:316-9. 1985.
- Jaspersen-Schib R. *Cimicifuga* et troubles de la menopause. *Schweiz. Apoth. Ztg.* 128:155-7. 1990.
- Koeda M, et al. Three novel cyclolanostanol xylosides from *Cimicifuga* rhizome. *Chemical Pharmaceutical Bulletin*. 42:2205-7. 1994.
- Koo L. Dietary habits and lung cancer risk among Chinese females in Hong Kong who never smoked. *Nutr. Cancer*. 11:155-72. 1988.
- Lee H, et al. Dietary effects on breast-cancer risk in Singapore. *The Lancet*. 337:1197-1200. 1991.
- Lehmann-Willenbrock E, et al. Clinical and endocrinologic studies of the treatment of ovarian insufficiency manifestations following hysterectomy with intact adnexa. *Zentralblatt fur Gynakologie*. 110(10):611-8. 1988.
- Ling W, et al. Dietary phytoestrogens: a review of metabolism, benefits and side effects. *Life Sciences*. 57(3):195-206. 1995.
- Lock M. Contested meanings of menopause. *The Lancet*. 337:1270-2. 1991.
- Messina M, et al. The role of soy products in reducing the risk of cancer. *J Natl. Cancer Inst.* 83(8):541-6. 1991.
- Messina M, et al. Soy intake and cancer risk: A review of the *in vitro* and *in vivo* data. *Nutr. Cancer*. 21:113-31. 1994.
- Messina M. To recommend or not to recommend soy foods. *J. Am. Diet. Assoc.* 94(11):1253-4. 1994.
- Murkies A, et al. Dietary flour supplementation decreases post-menopausal hot flashes: Effect of soy and wheat. *Maturitas*. 21(3):189-95. 1995.
- Pelletier X, et al. A diet moderately enriched in phytoestrogens lowers plasma cholesterol concentrations in normocholesterolemic humans. *Ann. Nutr. Met.* 39:291-5. 1995.
- Potter S. Overview of the proposed mechanisms for the hypocholesterolemic effect of soy. *J. Nutr.* 125(3):606-11. 1995.
- Severson R, et al. A prospective study of demographics, diet, and prostate cancer among men of Japanese ancestry in Hawaii. *Cancer Res.* 49:1857-60. 1989.
- Shibata M, et al. Pharmacological studies on the Chinese crude drug ShomaII, anti-inflammatory action of *Cimicifuga rhizoma*, *Cimicifuga simplex* worms. *Yakugaku Zasshi*. 97:911-5. 1977.
- Siess V, et al. Studies on the effects of *Pulsatilla pratensis*, *Cimicifuga racemosa* and *Aristolochia clematitis* on the estrus in infantile and castrated white mice. *Arzneimittelforschung*. 10:514. 1960.
- Snow J. *Cimicifuga racemosa* L. *The Protocol Journal of Botanical Medicine*. Spring: 17-9. 1996.
- Soy Supplements Reduce Frequency of Hot Flashes in Postmenopausal Women. 91: 6-11. 1998.
- Stammnitz U. Heiflanze fur das kilmakterium. *Pharm Ztg*. 138:36-8. 1993.
- Swanson C, et al. Dietary determinants of lung-cancer risk: Results from a case-control study in Yunnan Province, China. *Intern. J. Cancer*. 50:876-80. 1992.
- Watanabe Y, et al. A case-control study of cancer of the rectum and the colon. *Nip. Shok. Gak. Zass.* 81:185-93. 1984.
- Zava DT, et al. *Nutrition and Cancer*. 27(1):31-40. 1997.
- Zava DT, et al. Estrogen and progestin bioactivity of foods, herbs, and spices. *PSEBM*. 217:369-78. 1998.