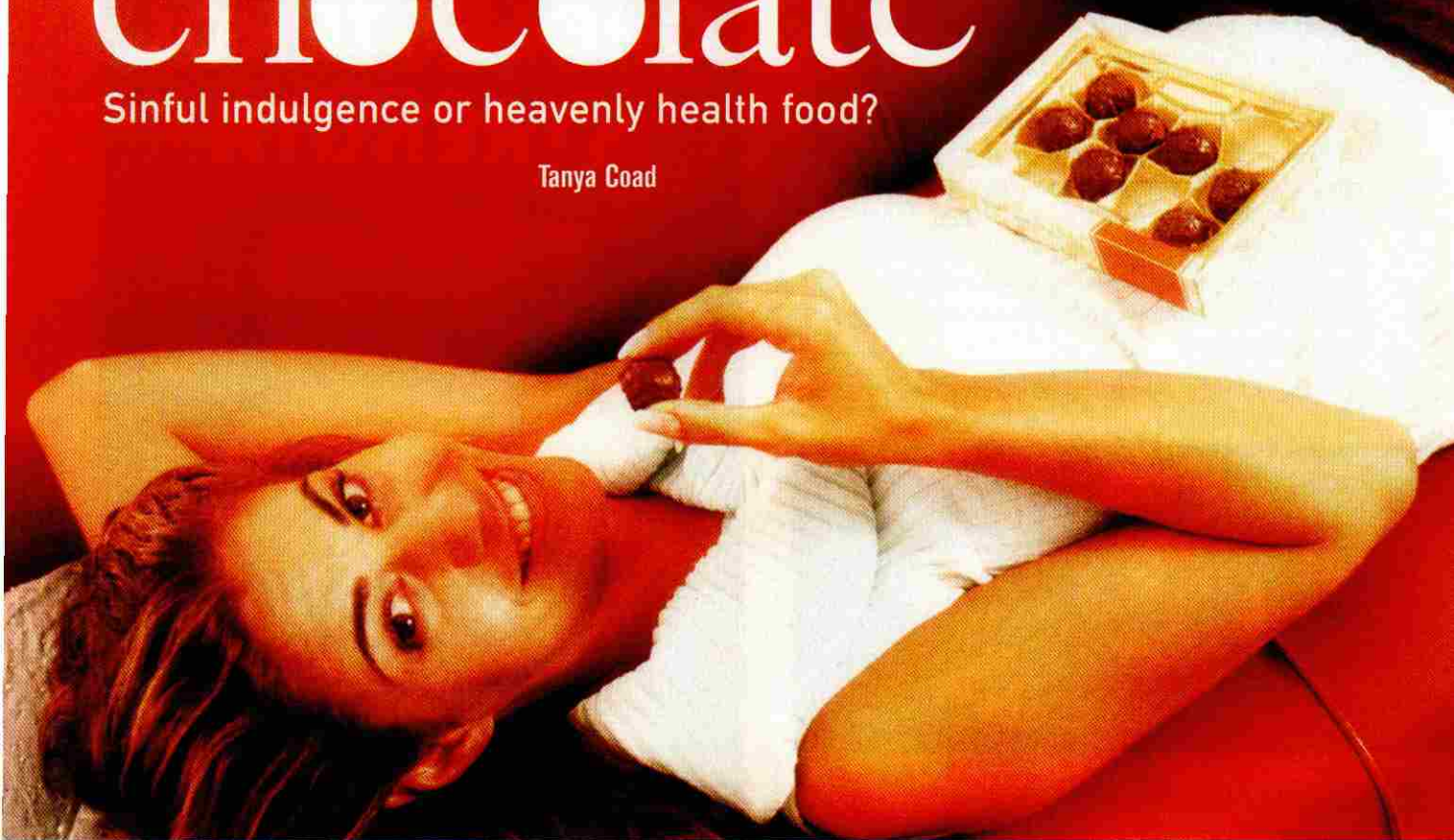


chocolate

Sinful indulgence or heavenly health food?

Tanya Coad



WHATEVER THE FORM—be it a decadent fondue, a liqueur-drenched torte, a velvety mocha mousse or your favourite cookie recipe—chocolate is the world's favourite flavour by a landslide. According to a recent US study, it is also the single most craved food in the country!

Ironically, chocolate also sits atop the list of foods we feel guiltiest about eating. The good news is, researchers now suggest we abandon those guilt pangs and simply enjoy this delectable confection. But it's important to choose "good" quality chocolate—here's what you need to know.

Chocolate has its virtues

Made from cocoa beans of the *Theobroma cacao* tree, chocolate naturally contains more than 600 different compounds, including protein, the minerals magnesium, copper, zinc and iron, and valuable phytochemicals such as flavonoids and procyanidins.

Moreover, scientists are discovering the same kinds of heart-healthy antioxidant action in this so-called "junk food" that they previously found in red wine and green tea. Polyphenols, compounds contained in all three of these sources, appear to work as antioxidants by eradicating free radicals, which are unstable molecules resulting from oxidation that attack healthy cells in the body. Oxidation causes abnormal cell behaviour, as with cancer, where tissues grow uncontrollably.

Polyphenols are made up of several subgroups, the largest of which is flavonoids. Catechins, a member of the flavonoid family, are what give cocoa beans their brown colour. Chocolate also contains cocoa butter, which is partly comprised of oleic acid, a monounsaturated fatty acid. Some studies indicate oleic acid may have beneficial cardiovascular effects. Cocoa butter also contains stearic acid, which studies show does not boost blood cholesterol levels the way other saturated fats do.

Chocolate addiction isn't imaginary

About 15 per cent of men and 40 per cent of women admit to having chocolate cravings. The fact that women are more drawn to this sweet treat may be partially explained by its rich calcium and magnesium content—these minerals often become depleted during menstruation. Studies have shown that the majority of chocolate cravings associated with the menstrual cycle occurred between ovulation and the start of menstruation. This may be due to elevated premenstrual levels of progesterone, which can cause periodic cravings for fatty foods, usually most intense in the late afternoon and early evening.

Debra Waterhouse, a registered dietitian and the author of the book, *Why Women Need Chocolate* (DIANE Publishing, 1999), has studied some of chocolate's mood-affecting chemicals, including serotonin, endorphins and phenylethylamine (a hormone linked to

feelings of romance and excitement). "Recognize [chocolate cravings] as a message from your body that you need the fat and sugar and phenylethylamine," says Waterhouse. "The best way to manage them is to satisfy them immediately with a small amount, let go of the guilt, and go on with life."

Cocoa's low levels of serotonin, a neurotransmitter, may also encourage chocolate cravings. Foods high in carbohydrates seem to boost the amount of serotonin in the brain, thus inducing a sense of well-being. Endorphins, another type of mood-elevating neurotransmitter, may also increase when eating fat-containing foods such as chocolate, thus encouraging us to eat even more.

Chocolate has its drawbacks

Numerous research studies refute the long-held notion that chocolate causes acne. The chocolate-migraine connection, however, is less contested. Studies show that large amounts of chocolate can indeed trigger headaches, probably because of the phenylethylamine content, which can dilate blood vessels in the brain, thereby triggering headaches, particularly migraines, in susceptible people.

According to Donald O. Castell, MD, of the University of Pennsylvania, chocolate also commonly contributes to heartburn. Theobromine, a caffeine-like alkaloid in chocolate, can relax the esophageal sphincter muscle, which allows stomach acid to squirt up into the esophagus. Heartburn sufferers should therefore go easy on chocolate.

Probably the biggest drawback is chocolate's high caloric content. Depending on the brand, a bar of pure chocolate may contain 85 to 150 calories per ounce (30 grams). That could mean up to 600 calories in a four-ounce (125-gram) bar!

How to be a discerning chocolate consumer

The cocoa mass in finished chocolate ranges anywhere from seven to 35 per cent in milk chocolate to 30 to 80 per cent in dark chocolate. Consequently, not all chocolate contains the same amounts of beneficial flavonoids and procyanidins, as well as polyphenols, which can be lost in processing. North American chocolate bars often contain high amounts of fat, sugar and fillers. To derive the best nutritional profile, select chocolate made with cocoa butter and a high percentage of cocoa mass (by weight).

A 1999 study by chemist Joe Vinson at the University of Scranton, Pennsylvania, showed that dark chocolate contains twice the polyphenols as milk chocolate. And a 1996 study by Andrew Waterhouse and colleagues at the University of California at Davis suggested that a 1.3-ounce (40-gram) serving of dark chocolate contains twice the polyphenol load as a glass of red wine. White chocolate contains no polyphenols.

Moderation is the key

Further research is needed to fully understand this complex food. For now,

Chocolate Tidbits

In Canada, total annual chocolate consumption in 1996 was 5.41 kilograms per person. In Mexico—where cocoa beans are grown—consumption was 0.17 kg per person in 1996.

abandon the guilt and enjoy the *occasional* chocolate fix. Purchase small (one to two ounces/30 to 60 g), high quality, dark organic chocolate. Savour it slowly. Don't buy the larger bars thinking you'll only eat half. Trust me, it never works! Only reward yourself with a chocolaty treat at certain times, such as the end of the work week or after a weekend walk.

If you give chocolate as a gift during the holidays, try not to overdo it. Simply give small but tasteful packages of premium chocolate. ■

Tanya Coad is a freelance writer and researcher with a longtime interest in natural medicine. She has worked in the health food industry for seven years. Her articles have appeared in numerous health journals and magazines.

We invite your feedback at editorial@teamalive.com. For more information, please search "chocolate" at alivepublishing.com.

Be choosy about chocolate manufacturers

Most of the world's cocoa is grown in Third World countries where there may be little or no pesticide regulations or fair labour laws. Fair trade ensures that fair prices have been paid to farmers and that no child labour is involved (see fairtrade.net and transfair.ca). It's best to choose chocolates certified to be both organic and fair trade.

- La Siembra's Cocoa Camino - all organic and certified to meet fair trade standards
- Rapunzel Chocolates - offers organic chocolate and supports farmers in developing countries through Hand in Hand/Fair Trade Program

- Cloud Nine - a line of gourmet bars made from organic beans from a 150-family co-operative in Mexico
- Tropical Source bars - dairy-free and organic varieties
- Denman Island Chocolate - organic Belgian chocolate, less sweet than most
- The Endangered Species Chocolate Company - organic ingredients in beautiful wrappers depicting endangered animals or ecosystems. Part of gross sales goes to support environmental organizations.

Talk to your local health food store representative to discover these or other chocolates available.

