

Getting TO THE ROOT OF Ginseng

BY DAVID TAYLOR

PHOTOGRAPHS BY KEN SHERMAN

QUESTIONS ABOUT THE HERB'S HEALTH BENEFITS HAVEN'T
COOLED THE RED-HOT MARKET IN WILD AMERICAN GINSENG

THE APPALACHIAN FORESTS OF southern West Virginia yield all manner of earthly delights: the blush of a rare orchid in the leaf litter, the earthy fragrance of a truffle. But as George Albright leads me up yet another rise and sweat collects on my brow, I fear we may be on a fool's errand. We seek something in these woods that's rarer and more valuable than any of the above: wild American ginseng root.

Because wild ginseng is so valuable—and because poachers have turned it into something of an endangered species—Albright has sworn me to secrecy about where we are, not that I have the vaguest notion anyway. The former mine engineer has walked these woods all his life, but I'm lost minutes after we crest the first ridge behind his house.

Across the valley at our backs, the sound of a coal-laden freight train echoes in the morning air. The forest of poplar, beech and hickory is deep green from weeks of heavy rains. Several plants in these woods resemble ginseng, so our task is not easy. Albright stops

for a moment, leans over and pulls a stringy green plant from the soft earth. He wipes the severed root against my wrist, and little scarlet drops spread across it. "That's bloodroot," he says. "When you find this growing, you know the soil's ideal for ginseng." As we walk on, Albright says that "sang," as ginseng is known here, also likes the heavy shade we're in.

Sang, or *Panax quinquefolius*, is the American version of Asian ginseng (*P. ginseng*), which the Chinese have used to treat a wide variety of ills for several thousand years. In Chinese medicine, Asian ginseng is considered "hot" (a mild stimulant), while its American cousin is "cool" (a calming tonic). Both contain compounds known as ginsenosides, but in different proportions.

Over the past decade, the price of domesticated ginseng, which is easily cultivated, has plunged to about \$15 a pound while the price of the wild variety—West Virginia is one of the nation's leading exporters—has soared, commanding up to \$500 a dried pound.

"A small bulbous root is what the Chinese look for, a shape that occurs only in the wild," says Fred Hays, director of the West Virginia-based Center for Sustainable Resources, a nonprofit organization that helps farmers grow ginseng and other native plants. (A gnarly approximation of the human body, achieved only by wild varieties, gives ginseng more therapeutic properties, according to traditional Chinese medicine.) Some people also believe that wild roots contain higher concentrations of ginsenosides than farmed varieties.

As we walk through the woods, Albright points out more good ginseng habitat: deep-brown crumbly soil in which other indicator plants—spicebush, goldenseal and poplar—are growing. Then he kneels once more. "Here," he whispers, pointing to a small, slender stem that branches into four smaller stems about six inches above the soil.

It's a "four-prong," a fine ginseng specimen. Like poison oak, it has clusters of leaves and is not quite a foot high. The four prongs signal that this plant is at least 4 years old.

Albright takes the "singing hoe" and scrapes the earth gently on either side of the delicate stem to keep the fragile root

hairs intact. The six-inch root is oddly twisted and bent. It will soon embark on a journey of thousands of miles. U.S. Fish and Wildlife Service inspectors may count its rings to make sure it is old enough before it ends up in a shop in Chungking, China, or San Francisco's Chinatown. By then, it will command several hundred dollars.

Albright grins, not only because he's found the root but also because he planted its seed eight years ago. Wild sang does grow around here, but this particular plant represents his first efforts in the hottest sector of the market today: simulated wild ginseng. Albright says he must harvest this patch soon. Poachers stalk his forest, and, he confides, "somebody already knows that it's here." Some growers are going high-tech, using handheld GPS receivers to mark ginseng patches, thus avoiding using the flags or paint marks on trees that might attract poachers' interest.

Raw ginseng tastes like a bitter radish, and I can do without it. I've never felt the herb's restorative powers, either, whether it was raw, pickled, dried or powdered. Others certainly have—or think they have. In 1713, Pierre Jartoux, a Jesuit missionary in China, wrote in a letter that after eating ginseng, "I found my Pulse much fuller and quicker, I had an Appetite, and found myself much more vigorous." Four days later, so tired he could hardly stay in his saddle, he chewed some more. After an hour, he reported feeling like a new man. In his letter, almost as an afterthought, he noted that ginseng might well grow in similar environments, such as Canada.

By chance, Jartoux's letter came to the attention of a Jesuit brother visiting Quebec. An amateur medical botanist, Joseph François Lafitau soon after discovered a Canadian specimen that matched the plant in Jartoux's drawing. A short time later, Canadian suppliers began shipping tons of it to China, resulting in overharvesting within a few

decades. The Chinese began looking to the South for an alternate source.

They found it in southern Appalachia, where the Cherokee were already using ginseng medicinally. The Indians believed that it was sentient, able to make itself invisible to people unworthy of it. They so valued ginseng that they dug up only one in four plants and replenished each harvested root with a bead, a prayer and a new seed. When the Canadian supply faltered, the Cherokee stepped up production. By the 1750s, ports in Virginia and South Carolina were doing a brisk trade in the Cherokee's Appalachian ginseng. Shipped to China, it eclipsed Canadian varieties.

George Washington, conducting a survey of his lands in the autumn of 1784, made note of the trend. "I met numbers of Persons & Pack horses going in with Ginsang; & for salt & other articles at the Markets below," he wrote. The United States had no trade agreements with the Far East or even consulates there, so ginseng traders went through British middlemen.

Nonetheless, two American investors financed a trading ship to sail around South Africa's Cape of Good Hope, a huge gamble at the time for investor and sailor alike. The investors hired a vessel out of Boston, renamed it *Empress of China* and outfitted it to the tune of \$120,000, roughly ten times the cost of a cargo ship bound for Europe.

As the copper-bottomed ship lay anchored in New York Harbor, workers packed its hold with 242 casks of ginseng (nearly 30 tons), collected by the ship's surgeon in the mountainous "back park of Virginia." In addition, every officer brought along his own private supply of ginseng to sell in Canton (now Guangzhou).

Nearing the most dangerous part of the voyage in the rocky Sunda Strait of Indonesia, between Java and Sumatra, the *Empress* had the good luck to meet up with two China-trading French

ships, which showed the Yankee green-horns the way. On August 24, 1784, the American ship's captain noted in his log that he "had the honour of hoisting the first Continentol Flagg Ever Seen or maid Euse of in those Seas."

Cantonese customs officials were at first confused by the newcomers, who did not come bearing gifts. But the officials nevertheless welcomed the "Flowery Flag Devils" (the stars on their flag were mistaken for flowers), most likely because the *Empress* contained so many casks of the fabled root. When the ship returned to the port of New York City that spring, she repaid her investors with a handsome 25 percent profit.

Even Daniel Boone got into the ginseng trade. In the winter of 1787 he sent a bargeload of dried ginseng to market in Philadelphia from his trading post in what is now central West Virginia. On the way, the vessel was swamped, and Boone's ginseng ruined. Unfazed, he sent sangers back into the forest to collect a second bargeload.

In 1859, Minnesota's Big Woods witnessed a ginseng rush. High prices for the root helped many Minnesotans weather tough times brought on by an economic downturn two years earlier. In Mankato that year, a local paper reported that a ginseng dance was planned to make diggers "oblivious to musquito bite or toil of delving for the bulbous root, whilst 'tripping the light fantastic toe' to the music of the Ginseng Polka." Overharvesting soon put an end to Minnesota's ginseng boomlet. About the same time, forward-thinking farmers in neighboring Wisconsin experimented with cultivating the root. Today, the state of Wisconsin ships a half-million pounds of ginseng annually, making it the leading exporter of cultivated ginseng in the United States.

Americans themselves developed a strong appetite for ginseng only in the past decade. In 2001, Americans spent about \$170 million on ginseng supplements and products. Its growth in pop-

ularity has come despite the lack of scientific proof that ginseng has medicinal powers. Last year at Oregon State University, in a study of ginseng's purported psychological benefits, 83 students participated in a 60-day, placebo-controlled, double-blind, randomized clinical trial. The researchers found that the supplements improved the students' energy no better than sugar pills.

Other studies, however, suggest that ginseng may have some health benefits. In 2001, the National Institutes of Health (NIH), citing a Vancouver study, said that "ginseng does appear to have antioxidant properties." Antioxidants are found in a variety of foods, especially fruits and vegetables, and some lab studies suggest they may help prevent certain types of cancer. (Clinical studies have been inconclusive.) The NIH's National Center for Complementary and Alternative Medicine notes that ginseng "may help the body's disease-fighting and glandular systems."

Two years ago, clinical trials conducted in Toronto, Canada, suggested that American ginseng can lower blood sugar in Type II diabetics. Vladimir Vuksan, the study's lead investigator, says, "We found that what matters is not only the quantity of ginsenosides but the ratio of different ginsenosides that determines the effect on blood glucose." Vuksan, a medical doctor at the University of Toronto's St. Michael's Hospital, cautions that these results are only preliminary.

James Gordon, a professor of psychiatry and family medicine at Georgetown University and one of ginseng's most respected proponents, says ginseng has reduced fatigue and other side effects in his patients going through chemotherapy. "It offers them relief without the agitation caused by other drugs," he says. He also believes that the root can reduce stress and boost the immune system.

"I tell cancer patients they should consult a qualified herbalist," says Gor-

don. But he warns against over-the-counter ginseng supplements. One recent study by ConsumerLab.com, an independent organization that tests herbal and nutritional supplements, found that only 9 of 22 international ginseng supplements met its criteria for quality and purity; some even contained dangerous amounts of lead and other heavy metals. "The quality and reliability of ginseng supplements is a major problem," says Gordon, who chairs the White House Commission on Complementary and Alternative Medicine Policy. "We're interested in making sure that what's in the bottle is on the bottle."

In the United States, ginseng is second only to ginkgo as the most popular herbal supplement. It has made its way into a number of products, from teas and chewing gum to tinctures, snack chips and "smart" drinks, which are nutrient-enriched drinks marketed to counter stress. Health claims for ginseng also vary widely—and arouse suspicion from regulators and consumer advocates. Wyeth Consumer Healthcare, one of the largest producers of health care products in the world, claims that its Centrum Herbals Ginseng supplement "helps maintain stamina and energy levels and may enhance physical performance." Marketers of Ginsana, the most popular ginseng supplement, boast that the product will "enhance physical endurance" and "improves oxygen utilization." Other claims include increasing sexual potency, reducing problems associated with menopause and even improving memory.


"What is most striking about ginseng is the amount of misinformation in ads and on packages," says nutritionist David Schardt at the Center for Science in the Public Interest (CSPI). "*Panax ginseng*, the most commonly available type, does not boost energy levels, mood, or memory and doesn't reduce stress."

After reviewing studies over the past two decades, the CSPI asked the Food

and Drug Administration three years ago to halt phony claims. During the past two years, the FDA has sent letters to about half a dozen manufacturers, ordering them to limit product health claims due to the lack of evidence to support them.

Ginseng's effectiveness, or its lack thereof, will likely not be definitively determined anytime soon, partly because the traditional underwriters of large-scale clinical studies—pharmaceutical companies—have little incentive to test an ancient nostrum that is already widely sold and largely unpatentable. In the meantime, ginseng's most therapeutic effect may be in breathing economic life into poor, rural communities in the southern Appalachian mountains.

"Ginseng is an economic answer for West Virginia, where things like coal mining are on the way out," says Fred Hays. "A small landowner can sell his lumber and wait a generation for it to grow back," he says, or plant Christmas trees. "But in the same little square that you can grow one little Christmas tree in eight years, you could grow \$3,000 to \$4,000 worth of ginseng."

Which would make ginseng, cure-all or not, worth rooting for. 

David Taylor wrote about the Federal Writers' Project in the March 2000 issue. Photographer Ken Sherman is based in West Virginia.