

AMERICAN GINSENG: THE ROOT OF NORTH AMERICA'S MEDICINAL HERB TRADE

A TRAFFIC North America report

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Ginseng (*Panax* spp.) is arguably the most revered medicinal plant in traditional Chinese medicine and is quickly becoming one of the most popular herbs in Western markets. In the United States, where the market for medicinal botanicals is US\$3 billion (CA\$4.3 billion) and growing, ginseng is the top selling herb among first-time herbal users and ranks third, surpassed only by Echinacea and garlic, in sales of herbs in U.S. health food stores (Johnston 1997). No other plant better represents the cultural and economic value of medicine harvested from the wild in North America than *Panax quinquefolius*, American ginseng. This herbaceous plant grows in the understory of eastern U.S. and Canadian deciduous forests and is sought for its high-value and gnarled root, most of which is exported to East Asia -- the dominant ginseng market.

Although most *P. quinquefolius* roots on the market come from cultivated beds in the United States and Canada, a considerable amount is legally harvested from the wild in the United States. Concerns about the sustainability of wild harvest have been raised by conservationists, state and federal officials, herbalists, and ginseng dealers. There is much discussion about whether current levels of *P. quinquefolius* harvest threaten the viability of wild populations and whether management of the species in the United States is adequately safeguarding wild populations from intensive collection and increasingly pervasive habitat loss.

Four factors prompted TRAFFIC North America to examine the harvest, trade, conservation status, and management of *P. quinquefolius* in North America as part one of a two-part study. First, there is a continuing strong demand for ginseng in Asia. Second, there appears to be a growing number of herbal products containing ginseng available in the United States, Canada, and Europe. Third, there is substantial collection of ginseng from the wild in the United States. And fourth, habitat alteration through logging and suburbanization, particularly in the U.S. eastern hardwood forests of Appalachia where much of the wild harvest occurs, is a lurking threat to the species, and, if left unchecked, could whittle away wild populations and deny consumers a venerable source of herbal medicine (McMahan 1981).

The study aims to review harvest and trade levels and determine whether management of *P. quinquefolius* in the United States and Canada is adequately protecting wild populations from intensive collection and increasingly pervasive habitat loss. The second phase of the study, which will begin in early 1998, will take a closer look at *P. quinquefolius* production in a key ginseng-producing U.S. state and make recommendations for improving monitoring and management.

The early 18th-century commercial discovery of *P. quinquefolius* in North America propelled Canada and later the United States into a lucrative trade with the Far East that has lasted for nearly three centuries. Canada was once the leading North American exporter of wild American ginseng and is currently a major exporter of cultivated ginseng. However, Canada now prohibits the collection of wild roots for export because of the vulnerability of its wild ginseng populations. These occur predominately in Ontario where, according to The Nature Conservancy, the species' status is considered uncommon, and in Québec, where its status is classified as imperiled to uncommon. Forest clearing and historical exploitation have both taken their toll in Canada.

Today, the United States is the chief supplier of wild American ginseng to overseas markets, exporting annually an average 60 metric tons of wild root, more than 90 percent of which goes to East Asia. Wild American ginseng occurs naturally in 34 of the 50 states and is officially listed as endangered in one state, threatened in four, rare in one, and vulnerable in another. Nine states consider American ginseng a "species of special concern" or include it in a "watch list" and seven peripheral range states do not afford the species any protection. Twenty-four states, in cooperation with the federal government, regulate the harvest and/or sale of *P. quinquefolius*.

Commercial trade in American ginseng has been regulated since 1975 when its CITES Appendix II listing went into effect (CITES is the Convention on International Trade in Endangered Species of Wild Fauna and Flora.). In the United States, the U.S. Fish and Wildlife Service (USFWS) is the designated U.S. CITES scientific and management authority. Before issuing a CITES export permit, the USFWS must determine whether ginseng roots being exported were legally acquired and whether exports will be detrimental to the species' survival. In order to make these determinations, USFWS has established a joint ginseng management program with states to monitor wild ginseng populations and regulate ginseng harvest and commerce. Per program requirements, ginseng dealers must register with each state in which they

intend to purchase and sell wild and cultivated American ginseng roots and must report their transactions to the states. States submit annual information on ginseng harvest, biology, laws, and regulations to USFWS, which the federal agency uses to approve or disapprove ginseng export on a state-by-state basis.

Since the export of wild American ginseng root is banned under provincial law in Québec and Ontario, the Canadian government has not been obligated by CITES to make a "no-detriment" finding for exports. However, cultivated ginseng is exported from Ontario and British Columbia, which together are the top North American producers and exporters of cultivated roots.

Of the 24 U.S. states approved by the USFWS for *P. quinquefolius* export, 19 are authorized to export wild and cultivated roots and five are authorized to export cultivated roots only. In 1996, according to the USFWS, approximately 64 metric tons of wild ginseng root were harvested in the United States: 46 metric tons (85%) were exported to Hong Kong, and smaller amounts were exported to Taiwan (3.6 mt), Singapore (2.7 mt), Malaysia (769 kg), and Canada (459 kg).

The United States is also a sizable importer of wild ginseng, which may in fact be a variety of *Panax* species seeded and grown under wild conditions. According to U.S. Bureau of the Census (Customs) data, which refer to all species of ginseng, the United States imported 208 metric tons of wild ginseng from China, 1990-96; 59 metric tons from South Korea; 34 metric tons from Mexico; and 19 metric tons from a handful of other countries, including Canada. Presumably, the large volume of U.S. imports of wild ginseng from China consists of roots harvested from naturalized populations of *Panax* in China, or roots of wild-collected American ginseng that originated in the United States and were reexported from China. The high numbers may also be the result of misreporting, as wild ginseng is rare in China and unlikely to be exported in any great quantity. U.S. imports of wild ginseng from Canada, which prohibits the export of wild ginseng, could be *P. quinquefolius* or another ginseng species exported from the United States or elsewhere to Canada for processing, and subsequently reexported to the United States.

Kentucky is located in the center of *P. quinquefolius*' range and has consistently been the top wild ginseng-producing state; in 1996, it reported a harvest of 14.8 metric tons. Other states producing significant amounts of wild ginseng in 1996 included West Virginia (8.4 mt), Tennessee (8.3 mt), Virginia (5.5 mt), and Indiana (5.4 mt) (OSA 1997). Wisconsin, which produces

about 1.8 metric tons of wild ginseng annually, is the leading producer of cultivated American ginseng in the United States, producing nearly 1,000 metric tons of cultivated roots annually. Wisconsin also serves as a major center for the foreign and domestic redistribution of wild roots harvested in other states.

The amount of wild American ginseng harvested and exported has remained relatively constant in recent years, although a growing number of ginseng harvesters in U.S. National Forests suggests that the collection of wild roots may be escalating. One measure of the increase in demand for wild ginseng might be extrapolated from the number of collecting permits issued for the species in U.S. national forests; national forests in seven states reported increases in permits issued for *P. quinquefolius* in 1996 or 1997. At Indiana's Hoosier National Forest, where the number of permits issued increased from 176 to 519 (nearly 300 percent) from 1993 to 1996, authorities may raise permit fees and impose additional restrictions on collection later this year.

Given the steady rise in the demand for and commercial value of wild American ginseng, it is critical that harvest and trade continue to be monitored, reported, and regulated to identify and avert potential conservation problems.

There is little doubt that the joint federal-state program has bolstered state ginseng monitoring, regulation, and management, and is the only mechanism for systematically gathering important information on ginseng biology and harvest. However, based on this report's analysis, and on discussion with states, aspects of the program are deficient or onerous and specific changes should be considered at both the federal and state level to ensure that the program maximizes its conservation benefits. USFWS administrators should look at the extent to which states are capable of meeting federal criteria and at whether the program can be streamlined without jeopardizing the quality of information needed to satisfy CITES requirements. Similarly, states should seek creative partnerships and alternative approaches to managing a high-value resource that is increasingly under pressure from commercial collection and habitat loss.

This report makes specific recommendations on steps that can be taken at the federal and state levels to streamline and improve the effectiveness of ginseng management, harvest and ecological monitoring, and trade controls. TRAFFIC hopes that lessons from the successes and shortcomings of the ginseng program can be applied to the management of other commercially exploited wild medicinal plants in the United States.