



## General Introduction

In our complex world of cell phones, virtual shopping malls, processed foods, and managed health care, many people desire to simplify their lives and make use of what Nature has provided us. For a rapidly expanding segment of the population, this return to a more natural life includes the use of medicinal herbs. A growing number of us take herbs as a natural source of medicine, while others use them because they are often less expensive than prescription drugs. Some people want control over what they consume, so they gather or grow their own medicines and food. The forests of the United States and Canada provide habitats for many of the most popular medicinal herbs. These plants have a special mystique that spans cultures and generations.

For some time, we have noted that there is increasing interest in growing native, perennial, woodland medicinal herbs and that many people wish to gain at least some supplemental income from their production. Small landowners, if they go about it wisely, can grow many of these native medicinals profitably while preserving and even enhancing their woodlands. This

book provides guidance not only in the cultivation of native forest herbs but also in the economics of their production and sale.

Aspiring herb growers are often attracted first to American ginseng, because it is the most valuable medicinal botanical and has a broad, well-established market, which has existed almost continuously for over 300 years. Indeed, in the southern part of its range, people often refer to ginseng as “green gold.” The first part of this book is devoted entirely to this one native plant.

While little information exists on the production of the other species covered in this book, a good deal has already been written on growing ginseng as a commercial venture, including *American Ginseng: Green Gold* by W. Scott Persons. In writing the 2005 version of this book, *Growing and Marketing Ginseng, Goldenseal, and Other Woodland Medicinals*, we borrowed much from the by then out-of-print 1994 edition of *Green Gold*. The many North American woodland ginseng farmers who read and used that first edition will find portions of the first part of the current book to be generally familiar; however, the content has

been extensively revised and rewritten to update the material and provide the most comprehensive, detailed, practical, and reliable information available on the woodland production of ginseng.

One complete chapter of *American Ginseng: Green Gold* is included in this revision. That is the interview with Oscar Wood. Oscar has passed on, but his story remains engaging and instructive to a beginning ginseng farmer; moreover, reprinting it again preserves the memory of a good and gracious man a little longer.

The second part of this book provides practical guidance in the production and marketing of other native woodland herbs that also have the potential to yield “green gold.” Goldenseal and ramps are covered in detail, because their economic potential is well established and reliable information on their propagation is available. Black cohosh, bloodroot, and nine other lesser-known native botanicals are discussed as thoroughly as present knowledge allows, with emphasis on their potential and the

uncertainties associated with each. There is not nearly as much information available on growing and marketing any of these herbs as there is for ginseng. Research studies, the experiences of many growers (including the authors), and the knowledge of several long-time buyers were the basis for the advice provided here. The production budgets are best estimates using all available information.

For the 2014 revision of this book, we completely updated the entire book and added a section for the growing number of gardeners, herbalists, and herb enthusiasts who want to grow these amazing plants for their own enjoyment and use. There is also some information about wild-harvesting and some of the new federal regulations concerning dietary supplements.

One of our hopes in publishing this expanded version is that it will encourage the herb grower to diversify as a means of reducing risk and increasing long-term potential.

# American Ginseng

For 33 years now, I have grown American ginseng (*Panax quinquefolius*) in the woods not 30 yards from my front door. It allows me a healthy, comfortable, low-stress life that is a treasure to find in our hectic culture. An individual can cultivate a forest garden of this revered herb just to have the fascinating plant around or for his (or her) own consumption, but ginseng also has great potential as a small-scale cash crop with a ready market. With little capital investment, the small farmer can net a greater profit growing ginseng on a rugged, otherwise idle, woodlot than he can net raising just about any other legal crop on an equal area of cleared land. Of course, you have to be willing to bend your back and get your hands dirty, and to take a risk and persevere when the payoff is years in the future. [Author's note: A non-commercial home gardening approach to growing ginseng is discussed in chapter 32, but the home gardener will certainly learn from the material covered in the first half of this book.]

To guide the reader in growing ginseng, I have drawn from my own hands-on experience, from discussions with other experi-

enced growers and agriculture professionals, and from my observations of ginseng operations throughout the United States, Canada, and Australia. Chapters 1 and 2 provide background information, much of it essential knowledge for a grower. The plant's botany, life cycle, habitat requirements, range, and related species are all covered; the regulation of commerce in ginseng is explained at the international, national, and state levels; and the long history of the ginseng trade, including recent changes in the complex ginseng market, is reviewed.

Chapters 3 through 7, in Part 2, "A Ginseng Grower's Manual," cover the three basic methods of growing ginseng (including rough production budgets for each), the harvesting and processing of seeds and roots, and the important business decisions you will need to make. Among other things, you will learn how to select and prepare a planting site; how to acquire your planting stock; what problems you are likely to encounter and how to prevent or deal with them; what has to be done when throughout the year to care for your crop;

what costs and how much labor to anticipate; and who to sell to and how to get the best price for your roots.

Then, in chapter 8, I have supplemented my own thoughts by interviewing a gentleman who was successful growing ginseng with his own individual methods. That interview personalizes the growing experience, which may help you decide whether ginseng farming is for you.

Finally, the Ginseng Resources section in chapter 9 lists root buyers, sources of planting stock, consultants, ginseng-related organizations, etc.; and the Ginseng References section in chapter 10 provides a listing of selected ginseng literature and websites.

While the References includes a few studies and accounts of ginseng's therapeutic benefits, I certainly claim no expertise in either traditional Chinese medicine or modern pharmacology, and a thorough discussion of ginseng's medicinal properties does not fall within the purview of this book. However, most ginseng growers would surely like to believe (as I do) that they are producing a commodity with real potential for human benefit. So I think the subject is worth a moment's attention before proceeding.

Although ginseng (referring loosely to all species of the *Panax* genus) has an exceptionally long and continuous history of medicinal use with an associated high market value, there remains considerable doubt (especially among many Western scientists) as to its real potency. There is compelling evidence that ginseng contains

biologically active compounds (primarily steroidal saponins and polysaccharides), but the evidence for their impact on human physiological functions is less certain. Until quite recently, studies on ginseng's medicinal properties were often undertaken without employing strict experimental controls or standardized doses of ginseng. Consequently, a consistency in scientific results has been lacking, resulting in skepticism as to ginseng's genuine benefits.

But more scientists are studying ginseng than ever before, and their new research findings (many published in respected Western journals), are consistently indicating a potential use for American ginseng, *Panax quinquefolius*, in medical therapy. Studies have shown, for example: that an extract of the ginseng berry has potent antidiabetic effects in laboratory mice; that ginseng root enhances copulatory behavior in male rodents (yes, ginseng really is a consistent and dramatically effective sexual stimulant—at least for male rats!); that regular consumption of ginseng by mice stimulates their immune system response in tissues throughout the body; and that ginseng inhibits the growth of most types of human cancer cells—including lung, skin, liver, GI, prostate, colon, and breast—when they are growing in petri dishes or have been implanted into rodents.

Perhaps the most promising research on the anticancer effects of American ginseng was done by Dr. Laura Murphy at the Southern Illinois University School of Medicine's Department of Physiology, whose entry into ginseng research was

initiated by the repeated urging of her younger brother, a woodland ginseng farmer. One line of Dr. Murphy's research focused on American ginseng as a complementary therapy, along with standard chemotherapy, for treatment of breast cancer. When cultured human breast cancer cells are implanted into mice, the mice are regularly injected with a chemotherapy drug, and some of them are also fed American ginseng, tumor shrinkage is much greater in those mice who received the ginseng together with the traditional chemotherapy drug. Thus, ginseng actually appears to help the chemotherapy drug work more effectively, and that suggests the dosage of the toxic drug could be significantly reduced.

Scientists do not yet know how their findings in laboratory animals are clinically relevant to humans, but ginseng, particularly its polysaccharides, may stimulate immune cells located in our digestive tract to produce more potent immune cell stimulators that ramp up the immune system throughout our body. Dr. Murphy investigated one of these immune cell products, called TNF, or tumor necrosis factor, which is a compound known to kill cancer cells. Mice fed whole-ginseng extract for four weeks have four times more TNF in their blood stream. Having obtained these results in mice, Dr. Murphy "fed" ginseng extract to human gut immune cells in petri dishes. After the gut immune cells had time to secrete TNF (and many other compounds), she introduced some of those

secretions into petri dishes with human breast cancer or colon cancer cells. Consistently, within 24 hours, the human cancer cells were all dead!

Knowing of Dr. Murphy's work and other recent scientific evidence of ginseng's beneficial properties adds a small sense of satisfaction to the daily chores of my ginseng business (as well as to the writing of this book). I believe it is a good business that I am engaged in and that you are considering.

As this revised edition of *Growing & Marketing Ginseng, Goldenseal & Other Woodland Medicinals* is about to go to press, the prices being paid for wild ginseng are higher than ever before. While this certainly makes woodland ginseng growing even more attractive, should roots continue to bring such high value in the future, wild populations could be threatened by over-harvesting, and the United States Fish and Wildlife Service might well feel compelled to prohibit the export of wild ginseng in order to protect the plant. Growers are therefore advised to proactively document their purchases of planting stock and their growing operation in order to be able to prove that their roots were not foraged from wild populations. Increased production of high-grade roots by woodland growers is the best way to keep supply in balance with demand, thereby keeping prices down and protecting the still widespread populations of wild ginseng.



## American Ginseng: Its Life Cycle, Range, Related Species, and Government Regulation

Though it is one of the world's most valuable herbs, American ginseng, *Panax quinquefolius* (Linnaeus, 1753), is a rather ordinary-looking little plant—about 20 inches high—that grows inconspicuously on the floor of hardwood forests throughout eastern North America. Ginseng produces a new stem and leaf top each year, but its value lies buried in its slow-growing tuberous rootstock. The great demand for its root has led to the regulation of American ginseng's harvest and export.

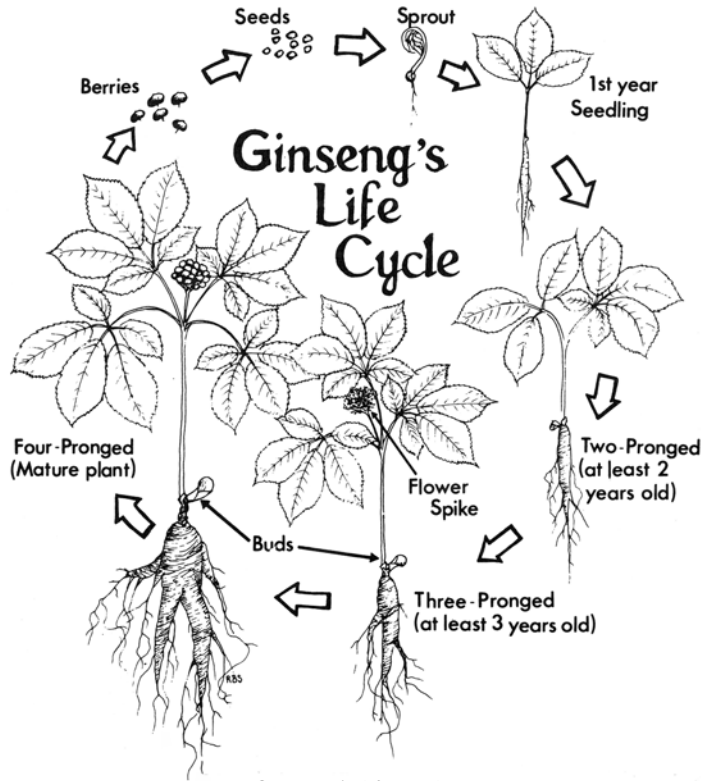
### Life Cycle

#### The First-year Seedling

When it sprouts between late April and early June, a ginseng seedling has a small, short stem supporting three tiny furled leaflets. Within four or five weeks of sprouting, the herb is about three inches tall and leaflets are unfurled and fully developed. At this point, the seedling looks something like a wild strawberry plant. No further

foliar growth occurs after midsummer, even if leaflets are damaged or lost. This is true in subsequent growing seasons as well. In autumn, the foliage turns a rich yellow ochre and soon dies off, often hastened by frost.

When the ginseng seed germinates in the spring, it is the young root, or radicle, that first emerges through the seed husk. However, the root does not develop to any appreciable extent until mid-summer, after the leaflets have unfurled and completed their season's growth. The small skinny root then grows from midsummer through the fall and develops a solitary bud at its top, below the ground. The root survives the winter, freezing as the ground freezes. It is from the bud that the single stem and leaves will grow and unfurl the following spring. Interestingly, examination of the bud under magnification reveals the configuration of the next year's foliar top (that is, the number of prongs and leaflets).



Ginseng's life cycle.

### Foliage and Berries

In its second year, under optimal growing conditions, the plant can reach five or more inches in height and produce two prongs branching from the central stem, each prong being a single leaf composed of three to five leaflets. If conditions are friendly and fertile, the number of prongs will increase with age, and the plant may eventually reach a height exceeding two feet. In cultivated shade gardens, ginseng typically produces three prongs in its third growing season and often four prongs in its fourth. However, in the wild, plants are usually five to nine years old before they add a third prong and begin to produce berries (with

seeds) in any quantity. In later years, particularly healthy and vigorous specimens can have as many as five prongs radiating from the top of the stem, with each prong typically having five leaflets (occasionally, as many as eight).

The species name, *quinquefolius*, means five-leafed. The two smallest leaflets on a prong are less than two inches long and the other three larger leaflets are three or four inches in length. The shape of the leaflets is *lanceolate*, with saw-toothed edges ending in a sharp point.

From the center of the whorl of prongs, a delicate cluster of small, nondescript blossoms arises in early summer, usually on





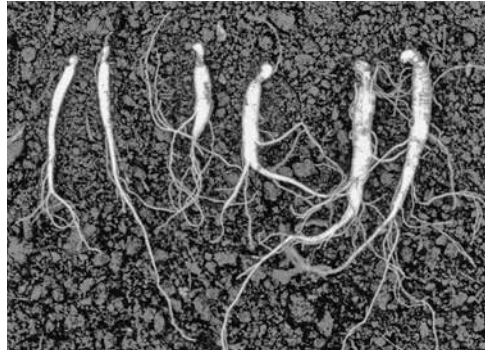
American Ginseng (*Panax quinquefolius*) during its first summer of growth. Photo by James W. Wallace, Jr.



Second-year plant with typical two-pronged leaf development. Photo by James W. Wallace, Jr.



Third-year plant with typical three-pronged leaf development. Photo by James W. Wallace, Jr.



Pairs of roots from one-, two-, and three-year-old woods-cultivated plants. Note bud for next season's growth at top of roots. Photo by Kim Fadiman.



Flower spike beginning to blossom in early summer. Photo by James W. Wallace, Jr.

plants that are at least three years old. Each blossom has five greenish-white petals only a few millimeters in width. A ginseng plant is capable of self-pollination, but reproductive success is greater when sweat bees and other insects cross-pollinate the flower clusters. By July or August, as few as two or three green berries or (on large, older plants) as many as 50 berries follow the blossoms. These kidney-shaped berries about the size of bloated black-eyed peas turn a beautiful bright crimson color as they ripen. Each ripe berry usually contains two slightly wrinkled, hard whitish seeds about the size and shape of a children's aspirin tablet. Young plants sometimes produce berries containing only one seed, and vigorous older plants often have berries with three seeds in them. Under normal conditions, the seeds do not germinate and sprout until 18 to 20 months after they fall from the plant in August or September.

### **The Root**

The root continues to develop each growing season. Young roots are long, slender, and generally light in color. As the root matures, its color often darkens, and the root may become forked with tendrils extending from the main body. Occasionally, the mature root grows into a form suggesting human arms, legs, and torso. The name ginseng means "man root" or "man essence" in Chinese. First-year roots are usually between  $\frac{1}{8}$  and  $\frac{1}{4}$  inches in diameter, while the main trunk root of four-pronged plants may thicken to an inch or more in diameter and often exceed four inches in length.

Under ideal growing conditions, roots can double or triple their size during each of the first few seasons. During harsh conditions such as prolonged drought or if fertilization of otherwise poor soil is stopped, roots can actually decrease in size with commensurate reduction in the size of the foliar top. Of course, malnourished plants eventually die when there is no energy left in the root to support a top. Even under optimal conditions, once the plant begins fruiting heavily, its growth rate gradually slows until increases in root weight are only about 20 percent each year.

When the foliage dies in the fall, the base of the stem breaks off just below ground level, leaving a scar at the top of the root. The next year's bud will have developed on the opposite side of and just above that scar. This yearly scarring produces a root "neck," technically called a rhizome, which bears a series of alternating and ascending marks that indicate the age of the ginseng. Under harsh conditions, plants will lie dormant for one, or even several, growing seasons, and no stem and hence no scar will form. Twenty-year-old plants are not rare, and one venerable survivor over 132 years of age has been documented. (See photo in color section.)

### **American Ginseng's Wild and Cultivated Range**

Ginseng occurs naturally throughout the eastern half of North America as part of the forest flora under hardwood timber. Its range runs from southern Ontario and Quebec to central Alabama, and from the



also supplied seed for an experimental operation in the treeless Golan Heights of Israel. Even in the Southern hemisphere—in Argentina, Chile, New Zealand, and Australia—enterprising individuals are attempting ginseng cultivation. (Chapter 2 covers more about the history of farming American ginseng.)

### Related Species

American ginseng, *Panax quinquefolius*, is one of approximately 700 plant species in the ancient Araliaceae family, which also includes English ivy, schefflera, and sarsaparilla. The 700 modern species of Araliaceae are grouped into approximately 70 genera, one of which is *Panax*. (*Panax*, incidentally, translates as “panacea,” or cure-all, which is what ginseng is believed to be.)

### The *Panax* Genus

Depending on who is doing the taxonomy, there are anywhere from 5 to 13 species of the *Panax* genus—all forest plants. The five species about which there is little debate are the following:

1. *Panax ginseng* C. A. Meyer, found (now rarely in the wild) in northeast China, the Korean peninsula, Manchuria, and extreme eastern Russia near the Chinese border (where the only sizeable populations remain). It is usually referred to as Oriental or Asian ginseng, or sometimes as “true” ginseng.
2. *Panax quinquefolius* L., found in eastern North America, and commonly called American or Canadian ginseng, or colloquially, “sang” in its southern
3. *Panax trifolius* L., found in North America, and called dwarf ginseng.
4. *Panax notoginseng* Burkill, found in southwest China and Vietnam, and sometimes called Sanchi ginseng.
5. *Panax japonicum* Nees, found only in Japan, and called Japanese ginseng or bamboo ginseng.

Of these five ginseng species, *Panax quinquefolius* and *Panax ginseng* are thought to have exceptional curative properties, and they have the greatest commercial value. (As raw root, *P. quinquefolius* is the more valuable per pound.) They have similar, but distinctive, chemical compositions and are used differently in traditional Chinese medicine. Thus, they do not compete directly with each other in the Asian marketplace. Their foliage is strikingly similar in appearance, as are the roots. The best way to tell the two apart is to break a root in two and look at the cross section. The vascular bundles in *P. quinquefolius* are round, while those of *P. ginseng* appear jagged and irregular, which contributes to its more fibrous quality. Like trillium, mayapple, and other flora that have close counterparts in eastern Asia, American ginseng probably did not evolve into a separate species until the ancient land bridge between Alaska and Siberia disappeared.

Modern chemical analysis shows *Panax notoginseng* has pharmacological proper-

ties similar to the two more widely valued species, which it resembles, and its popularity and commercial value in the world of medicinal herbs is increasing. *Panax japonicum* is used in some regions of China and has modest economic value. *Panax trifolius* is distinctively different in appearance from other ginsengs and has virtually no medicinal use or worth.

Several other Asian species (or perhaps only subspecies or geographical variations of *Panax japonicum*) have been identified—some fairly recently. These include three species found in western China: *Panax pseudoginseng* Wall, or Tienchi ginseng; *Panax zingiberensis* Wu and Feng, or San qi ginseng; and *Panax stipuleanatus*, or Pingbiann ginseng. None of these is widely used medicinally, and none has significant commercial value at present.

### Other “Ginsengs”

The plant commonly called “Siberian ginseng,” which has been widely marketed as ginseng, is also a member of the Araliaceae family; however, it is not a true ginseng, as it is not a member of the *Panax* genus. Its proper botanical name is *Eleutherococcus senticosus*, and it is a shrub, not an herb. Traditional Chinese medicine uses *E. senticosus* as a sleeping aid and to treat acute bronchitis, but never as a substitute for ginseng. Both the bark and the root of *E. senticosus* do produce some medicinal effects similar to ginseng, and in the 1960s, Soviet scientists touted it as a useful, cheap substitute for Asian ginseng. An American importer, in the process of persuading

a customs agent to allow his shipment of *E. senticosus* from Siberia into the United States, explained that it was similar to ginseng. The agent, who apparently could find no guidelines covering *Eleutherococcus*, solved his dilemma by labeling it “Siberian ginseng” and letting it through, thereby setting a precedent. Since then, when sold in Europe or the United States, much of *E. senticosus* was misleadingly labeled as “Siberian ginseng” or even just as “ginseng.” Federal legislation, enacted in 2002, now prohibits such false labeling in the United States.

Another member of the Araliaceae family, *Echinopanax horridum*, or devil’s club, is found in wet areas all over northwestern North America and is sometimes referred to as Rocky Mountain or Alaskan ginseng. Although a medicinal plant in Native American culture and related to ginseng, it does not have the same medicinal properties.

There are at least ten other plant species from all over the world that are sometimes marketed as ginseng, though they have no botanical relationship to the *Panax* genus or even the Araliaceae family.

Finally, anyone shopping for ginseng is likely to encounter “red ginseng” and “white ginseng.” Red ginseng is made from high grade, usually six-year-old, Asian ginseng (*P. ginseng*) roots that are steamed (sometimes with other ingredients) and dried at high temperatures for at least eight hours. This process produces a translucent reddish brown root with the look and feel of hard candy. When sold (usually at high prices) as whole root, red ginseng is

separated into three grades: heaven, earth, and good—with each grade having nine size categories. American ginseng and other species can be processed in this same way, but little market has been developed for such products. Asian ginseng roots are also the source of white ginseng, traditionally made from roots that are of lower grade than those processed into red ginseng. Scraping or removing the outermost layer of root tissue before drying lightens the appearance of the roots. However, sometimes the term “white ginseng” refers to fresh roots or to any ginseng roots—regardless of species—that are dried normally. For example, *P. quinquefolius* that is grown in China and dried normally is sometimes misleadingly labeled as “China White.”

### Government Regulation of the Ginseng Trade

#### Convention on International Trade in Endangered Species

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) identifies *Panax quinquefolius* as one of the species that needs the protection of an international trade agreement. (Only ginseng *roots* are included under CITES; seeds and leaves are not.) The United States and Canada are two of more than 160 countries that are party to the Convention, having signed on in 1977. CITES monitors, controls, and restricts trading in the identified species to prevent adverse impacts on their populations and to insure the continued existence of those species in their natural habitat.

In the United States, obligations under the CITES agreement are the responsibility of the United States Fish and Wildlife Service (USFWS), more specifically the responsibility of two divisions of USFWS: the Division of Scientific Authority (DSA) and the Division of Management Authority (DMA). Under the authority of CITES (Article IV), the USFWS will only allow export of American ginseng—both cultivated roots and roots collected from the wild—if the DSA advises the DMA that such export will not be detrimental to the survival of the species. In addition, the DMA must be satisfied that the specimens intended for export were legally collected or cultivated. (Ninety percent of our ginseng is eventually exported—see next chapter.)

In accordance with CITES, the DSA has chosen to use a state-by-state basis in determining whether or not ginseng export will be detrimental to the survival of the species. As of this writing, the DSA has determined that the export of cultivated American ginseng roots would not be detrimental to the survival of the species if a state has a program in place to certify the roots for export. The following states have such a program: Alabama, Arkansas, Georgia, Idaho, Illinois, Indiana, Iowa, Kentucky, Maine, Maryland, Michigan, Minnesota, Missouri, New York, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, Tennessee, Vermont, Virginia, Washington, West Virginia, and Wisconsin. Of these states, Oregon, Washington, Idaho, Maine, and Michigan export only cultivated ginseng. The remaining states have all established

laws and state programs, including a legal foraging season, that regulate the harvest of wild ginseng and require the certification of ginseng roots as either wild or cultivated prior to their export. At present, the DSA finds that in all these remaining states the export of both wild and cultivated ginseng would not be detrimental to the survival of the species.

Every year the DSA reconsiders its nondetriment findings based on information from each state, such as pounds of wild ginseng harvested, average number of roots per pound, average age of harvested plants, and trends in abundance of wild ginseng populations as measured in field surveys. In 1999, the DSA found that throughout all states the continued harvest of wild plants younger than five years would be detrimental to the survival of the species. Therefore, all states must now prohibit the harvest and sale of wild roots less than five years old (as evidenced by the number of scars on the neck, or rhizome). In anticipation of future ginseng harvests, the DSA continues to seek trade and biological information concerning the impact of ginseng harvest and international trade on wild populations of the species. The DSA seeks input from the public, the ginseng industry, and scientific authorities, as well as from conservation groups and other interested parties.

For its part, the DMA requires that each state monitor all commerce in American ginseng (wild or cultivated) within its borders. Beginning with the 1978 harvest season, all states seeking export approval for wild or cultivated ginseng roots

were required to have legally mandated ginseng programs that included the following: (1) state registration of dealers who purchase ginseng in the state; (2) requirements that such dealers maintain records and submit annual reports to the state government concerning their purchases and sales of ginseng; and (3) inspection by state officials and the issuance of accompanying State Certificates of Origin for each lot of ginseng being shipped out of the state, documenting that the ginseng was legally foraged or grown within the state. In addition, the DMA issues its own CITES permits, which must be obtained in order to ship American ginseng out of the United States.

In all of Canada, the export of wild ginseng has been prohibited since 1989. In Quebec, the harvest of wild ginseng was prohibited since the species was listed on Appendix II of CITES in 1973. The harvest of wild ginseng (but not the export, since 1989) was allowed in Ontario until June 30, 2008, but both the harvest of, and the trade in, wild ginseng is now prohibited there. Moreover, to be exported, roots can now only be cultivated in open fields under artificial shade on land licensed (with a fee) by the Ontario Ginseng Grower's Association under the Farm Products Marketing Act.

All shipments of field-grown ginseng artificially propagated in Canada must be accompanied by valid CITES documentation. Exports of woods-grown ginseng are currently assessed on a case-by-case basis by the Canadian Scientific Authority. According to Adrienne Sinclair of Environment Canada's Canadian Wildlife Service,

no Canadian export permits are being granted for woods-grown ginseng, due to concerns related to habitat disturbances associated with site preparation and maintenance, the introduction of seed-borne pathogens that are common in cultivated seed sources, and the potential for genetic contamination of wild ginseng populations. Also of concern is the difficulty in differentiating between the roots of wild and woods-grown ginseng. Not surprisingly, there is now very little commercial woodland ginseng farming in Canada. [Author's note: Despite, and perhaps in part because of, these regulations, wild ginseng in Canada is under increasing pressure.]

#### **United States Department of Agriculture**

The USFWS works closely with the United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) to enforce and implement ginseng regulations. APHIS is responsible for inspecting all exported and imported ginseng to make sure that it is properly certified as to state of origin, is accompanied by the required CITES permit, and is at least five years old. Since the necks (which are needed for proof of age) of many dried ginseng roots easily break off during shipping and handling, it is fortunate that so far the inspectors are not being too rigorous and technical in their assessments (because every container of roots has individual roots with their necks broken off and therefore of unverifiable age and subject to rejection for export). In addition, a general

export permit must be obtained from the USDA in order to export any agricultural product. [Author's note: Contact PPQ-APHIS-USDA, Permit Unit, listed in the Comprehensive Resource Directory under USDA.]

#### **Impact of Government**

##### **Regulation on the Individual**

Because state laws vary slightly, the impact of CITES regulations on the individual will differ from state to state. To determine what the laws are in your state, ask your county agricultural extension or conservation agent about ginseng regulation and what department of state government is administering your state's program. If your agent does not know, then you can contact the United States Fish and Wildlife Service, Division of Management Authority. The DMA will advise you whom to contact in your state. I urge you to learn your state's law, whether you are a digger, a grower, or a buyer. Contact information for the DMA is listed under USFWS in the Comprehensive Resource Directory.

To hunt wild ginseng, you will need to know your state's legal season and any other state laws, such as a license for hunting 'sang, or requirements that you only take plants old enough to bear seeds or that you immediately plant some of the seeds on the site where you dig the plant. Selling wild roots out of state requires a State Certificate of Legal Take. This document will accompany the roots on any resale because ginseng roots (alive or dead) cannot



be exported without state certification. An in-state buyer will have certification forms available himself.

If you are interested in just growing ginseng, then CITES will probably affect you only when you are ready to sell your roots. Furthermore, if you always sell to an in-state buyer or to an out-of-state dealer who has registered as a buyer in your state, then you will likely never have to deal with permits or certifications of any kind. (All you have to do is grow the roots.) In any case, contact your state regulatory office, as they may be able to put you in touch with fellow growers and other knowledgeable people in your area. In addition, if your state should ban the collection of wild ginseng sometime in the future, you may need support from a representative of the state to verify that your roots were grown from seeds that you planted. Along this line (and, of course, for tax purposes), keeping records of your purchases of planting stock is important. A few states require growers to acquire nursery licenses and meet other reporting regulations.

If a grower wishes to sell his roots out of state, he will have to comply with regulations. Like wild roots, cultivated roots must have proper documentation before they can be bought and sold. All ginseng sold across state lines is required to have a State Certificate of Origin accompanying it. State personnel must inspect the roots and determine whether they are wild or cultivated and then issue an appropriate certificate documenting the state of origin. My

experience in North Carolina has been that this documentation is convenient to obtain. (Note that seeds or live roots intended for transplanting in the United States need no certification, even if sold out of state.)

In addition to the documentation needed to ship out of state, a grower who wishes to directly export his roots must also obtain a USDA General Export Permit and a CITES permit from the DMA. The grower must then ship or hand carry the roots, along with the necessary documentation, to a designated port of export for APHIS inspection. (Contact the USDA for a list of ports.)

If you live in a state where there is no regulation of ginseng commerce as mandated by CITES, then there can be no legal ginseng buyers in your state, and any ginseng you grow (or forage) cannot be legally exported directly from your state. You will have to ask your county agricultural extension agent or some other state official to write an informal certificate of origin on some official state letterhead, which will allow you to move your roots (accompanied by the informal certification) out of state. Then you will be able to sell your roots to a registered dealer in a state that complies with CITES, and, in turn, that dealer can legally export or resell them as long as he documents buying roots from your state in his annual report to his state's administering office.

While compliance with government regulations is no great burden for the 'sang digger or most growers, anyone who wishes

to buy and resell ginseng is destined to fill out a lot of paperwork. Ginseng buyers must register with their state as dealers and are required to fill out and submit forms supplied by the state, recording all root purchases and sales. In addition to knowing state law and becoming a state-registered dealer, a buyer must thoroughly understand and comply with the CITES regulations (which can be obtained from the

DMA—see the Comprehensive Resource Directory under USFWS). To export ginseng, a dealer must follow the same procedures as a grower. This includes acquiring CITES permits and a USDA General Export Permit, and shipping or hand carrying roots (along with the necessary documentation) to a designated port of export for APHIS inspection.