CHAPTER X.

LETTERS FROM GROWERS.

The culture of Ginseng has a pioneer or two located in this part of the country (N. Ohio), and having one-fourth of an acre under cultivation myself, it was with interest that I visited some of these growers and the fabulous reports we have been reading have not been much exaggerated, in my estimation, but let me say right here they are not succeeding with their acres as they did with their little patch in the garden. One party gathered 25 pounds of seed from a bed 40x50 feet last season, and has contracted 30 pounds of the seed at $36 per pound, which he intends to gather from this bed this season. He then intends to dig it, and I will try to get the facts for this magazine.

Now, to my own experience. I planted three hundred roots in the fall of '99. The following season from the lack of sufficient shade they failed to produce any seed; I should have had two or three thousand seed. Understand, these were wild roots just as they were gathered from the forest.

In 1901 I gathered about one pound or 8,000 seed, in 1.902 three pounds and am expecting 30,000 seed from these 300 plants this season. Last season I gathered 160 seed from one of these plants and 200 seed bunches are not uncommon for cultivated roots to produce at their best. I have dug no roots for market yet, as there has been too great a demand for the seed. My one-fourth acre was mostly planted last season, and is looking very favorable at the present time. It is planted in beds 130 feet long and 5 feet wide; the beds are ridged up with a path and ditch 2 feet across from plant to plant, making the beds, including the paths, 7 feet wide. Beds arranged in this manner with the posts that support the shade set in the middle of the beds are very convenient to work in, as you do not have to walk in the beds, all the work being done from the path.

My soil is a clay loam and it was necessary for me to place a row of tile directly under one bed; this bed contains 1,000 plants and has been planted two years, and I find the tile a protection against either dry or wet weather; I shall treat all beds in a like manner hereafter.

If you are thinking of going into the Ginseng business and your soil is

sand or gravel, your chances for success are good; if your soil is clay, build your beds near large trees on dry ground or tile them and you will come out all right. In regard to the over-production of this article, would say that dry Ginseng root is not perishable, it will keep indefinitely and the producers of this article will not be liable to furnish it to the Chinaman only as he wants it at a fair market price.

W. C. SORTER, Lake County, Ohio.

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Even in this thickly settled country, I have been able to make more money digging Ginseng than by trapping, and I believe that most trappers could do the same if they became experts at detecting the wild plant in its native haunts.

I have enjoyed hunting and trapping ever since I could carry a firearm with any degree of safety to myself, and have tramped thru woods full. of Ginseng and Golden Seal for twenty years, without knowing it. Three years ago last summer I saw an advertisement concerning Ginseng Culture. I sent and got the literature on the subject and studied up all I could. Then I visited a garden where a few cultivated plants were grown, and so learned to know the plant. I had been told that it grew in the heavy timber lands along Rock River, so I thought I would start a small garden of some 100 or 200 roots.

The first half day I found 6 plants, and no doubt tramped on twice that many, for I afterward found them thick where I had hunted. The next time I got 26 roots; then 80, so I became more adept in “spotting” the plants, the size of my “bag” grew until in September I got 343 roots in one day. That fall, 1904, I gathered 5,500 roots and 2,000 or 3,000 seed. These roots and seed I set out in the garden in beds 5 feet wide and 40 feet long, putting the roots in 3 or 5 inches apart anyway, and the seeds broadcast and in rows. I mulched with chip manure, leaf mold and horse manure. Covered with leaves in the fall, and built my fence.

The next spring the plants were uncovered and they came well. I believe nearly every one came up. They were too thick, but I left them. The mice had run all thru the seed bed and no doubt eaten a lot of the seed. That spring I bought 5,000 seed of a “seng” digger and got “soaked.” The fall of 1905 I dug 500 more roots and harvested 15,000 seeds from my beds. The roots were planted in an addition and seed put

down cellar. Last fall I gathered 5,500 more roots from the woods, grew about 3,000 seedlings in the garden and harvested 75,000 seeds. I dug a few of the older roots and sold them.

The worst enemy I find to Ginseng culture is Alternaria, of a form of fungus growth on the leaf of the plant. This disease started in my beds last year, but I sprayed with Bordeaux Mixture and checked it. I have not as yet been troubled with “damping off” of seedlings. I shall try Bordeaux if it occurs.

My garden is now 100 feet by 50 feet, on both sides of a row of apple trees, in good rich ground which had once been a berry patch. I used any old boards I could get for the side fence, not making it too tight. For shade I have tried everything I could think of. I used burlap tacked on frames, but it rotted in one season. I used willow and pine brush and throwed corn stalks and sedge grass on them. For all I could see, the plants grew as well under such shade as under lath, although the appearance of the yard is not so good. I also ran wild cucumbers over the brush and like them very well. They run about 15 feet, so they do not reach the center of the garden until late in the season. I planted them only around the edge of the garden.

In preparing my soil, I mixed some sand with the garden soil to make it lighter; also, woods earth, leaf mold, chip manure and barnyard manure, leaving it mostly on top. I take down the shade each fall and cover beds with leaves and brush. This industry is not the gold mine it was cracked up to be. The price is going down, lumber for yard and shade is going up. The older the garden, the more one has to guard against diseases, so one may not expect more than average returns for his time and work. Still I enjoy the culture, and the work is not so hard, and it is very interesting to see this shy wild plant growing in its new home.

In order to keep up the demand for Ginseng, we must furnish the quality the Chinese desire, and to do this, I believe we must get back to the woods and rotten oak and maple wood, leaf mold and the humid atmosphere of the deep woodlands. I have learned much during the short time I have been growing the plant, but have only given a few general statements.

JOHN HOOPER, Jefferson Co., Wis.

Bed of Mature Ginseng Plants Under Lattice.

I believe most any one that lives where Ginseng will grow could make up a small bed or two in their garden and by planting large roots and shading it properly, could make it a nice picture. Then if they could sell their seed at a good price might make it profitable, but when it comes down to growing Ginseng for market I believe the only place that one could make a success would be in the forest or in new ground that still has woods earth in it and then have it properly shaded.

The finest garden I ever saw is shaded with strips split from chestnut cuts or logs. There are thousands of young “seng” in this garden from seedlings up to four years old this fall, and several beds of roots all sizes that were dug from the woods wild and are used as seeders. These plants have a spreading habit and have a dark green healthy look that won't rub off. It is enough to give “seng” diggers fits to see them.

I have my Ginseng garden in a grove handy to the house, where it does fairly well, only it gets a little too much sun. I have a few hundred in the forest, where it gets sufficient shade and there is a vast difference in the color and thriftiness of the two.

The seed crop will be a little short this fall in this section, owing to heavy frosts in May which blighted the blossom buds on the first seng

that came up. My seed crop last fall was ten quarts of berries which are buried now in sand boxes. My plan for planting them this fall is to stick the seeds in beds about 4x4 inches.

I see where some few think that the mulch should be taken off in the spring, which I think is all wrong. I have been experimenting for seven years with Ginseng and am convinced that the right way is to keep it mulched with leaves. The leaves keep the ground cool, moist and mellow and the weeds are not half so hard to keep down. It is surely the natural way to raise Ginseng.

My worst trouble in raising Ginseng is the damping off of the seedlings. My worst pest is chickweed, which grows under the mulch and seems to grow all winter. It seeds early and is brittle and hard to get the roots when pulling. Plantain is bad sometimes, the roots go to the bottom of the bed. Gladd weed is also troublesome. I think one should be very careful when they gather the mulch for it is an easy matter to gather up a lot of bad weed seed.

Some Thrifty Plants — An Ohio Garden.

I see in the H-T-T where some use chip manure on their “seng” beds. I tried that myself, but will not use it again on seed beds any way. I found it full of slugs and worms which preyed on the seedlings. Sometimes cut worms cut off a good many for me. Grub worms eat a root

now and then. Leaf rollers are bad some years, but the worst enemy of all is wood mice. If one does not watch carefully they will destroy hundreds of seed in a few nights.

I find the best way to destroy them is to set little spring traps where they can run over them. There was a new pest in this locality this year which destroyed a big lot of seed. It was a green cricket something like a katydid. They were hard to catch, too.

THOS. G. FULCOMER, Indiana Co., Pa.

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The notions of the Chinese seem as difficult to change as the law of the Medes and Persians, and his notion that the cultivated article is no good, if once established, will always be established. This will be a sad predicament for the thousands who may be duped by the reckless Ginseng promoter. One principle of success in my business is to please the purchaser or consumer. This is the biggest factor in Ginseng culture.

The Chinaman wants a certain quality of flavor, shape, color, etc., in his Ginseng, and as soon as the cultivators learn and observe his wishes so soon will they be on the right road to success. Ginseng has been brought under cultivation and by doing this it has been removed from its natural environments and subjected to new conditions, which are making a change in the root. The object of the Ginseng has been lost sight of and the only principle really observed has been to grow the root, disregarding entirely the notions of the consumer.

Thousands have been induced by the flattering advertisements to invest their money and begin the culture of Ginseng. Not one-half of these people are familiar with the plant in its wild state and have any idea of its natural environments. They are absolutely unfit to grow and prepare Ginseng for the Chinese market. Thousands of roots have been spoiled in the growing or in the drying by this class of Ginseng growers. Many roots have been scorched with too much heat, many soured with not the right conditions of heat, many more have been spoiled in flavor by growing in manured beds and from certain fertilizers. All these damaged roots have gone to the Chinese as cultivated root and who could blame him for refusing to buy and look superstitious at such roots?

Now as to profits, Not one-half the profits have been made as

represented. Not one-half of those growing Ginseng make as much as many thousands of experienced gardeners and florists are making with no more money invested and little if any more labor and no one thinks or says anything about it. Many articles have appeared in the journals of the past few years, and when you read one you will have to read all, for in most part they have been from the over-stimulated mind of parties seeking to get sales for so-called nursery stock.

Probably the first man to successfully cultivate Ginseng was Mr. Stanton, of New York State. His gardens were in the forest, from this success many followed. Then the seed venders and wide publicity and the garden cultivation under lattice shade. Then the refusal of the Chinese to buy these inferior roots.

Now, it is my opinion the growers must return to the forest and spare no labor to see that the roots placed on the market are in accordance with the particular notions of the consumer. Ginseng growers may then hope to establish a better price and ready market for their root.

The color required by the Chinese, so far as my experiments go, come from, certain qualities of soil. The yellow color in demand comes to those roots growing in soil rich in iron. The particular aromatic flavor comes from those growing in clay loam and abundant leaf mold of the forest. I have found that by putting sulphate of iron sparingly in beds and the roots growing about two years in this take on the yellow color.

I have three gardens used for my experiments, two in forest and one in garden. They contain altogether about twenty-five thousand plants. One garden is on a steep north hillside, heavily shaded by timber. These plants have a yellowish color and good aromatic taste. They have grown very slow here; about as much in three years as they grow in one year in the garden. The other forest garden is in an upland grove with moderate drain, clay loam and plenty of leaf mold; the trees are thin and trimmed high. The beds are well made, the roots are light yellow and good flavor, they grow large and thrifty like the very best of wild.

I am now planting the seed six inches apart and intend to leave them in the bed without molesting until matured. The beds under the lattice in the garden have grown large, thick, white and brittle, having many rootlets branching from the ends of the roots. The soil is of a black, sandy loam. They do not have the fine aromatic flavor of those roots growing in the woods.

The plants I have used in the most part were produced from the forest here in Minnesota and purchased from some diggers in Wisconsin. I have a few I procured from parties advertising seed and plants, but find that the wild roots and seeds are just as good for the purpose of setting if due care is exercised in sorting the roots.

There has been considerable said in the past season by those desiring to sell nursery stock condemning the commission houses and ignoring or minimizing the seriousness of the condition which confronts the Ginseng grower in a market for his root. Now, I believe the commission men are desirous of aiding the Ginseng growers in a market for his roots so long as the grower is careful in his efforts to produce an article in demand by the consumer.

In my opinion those who are desirous of entering an industry of this kind will realize the most profits in the long run if they devote attention to the study and cultivation of those medical plants used in the therapy of the regular practice of medicine, such as Hydrastis, Seneca, Sanguinari, Lady Slipper, Mandrake, etc. They are easily raised and have a ready market at any of our drug mills. I have experimented with a number of these and find they thrive under the care of cultivation and I believe in some instances the real medical properties are improved, as Atropine in Belladona and Hydrastine in Hydrastis.

I have several thousand Hydrastis plants under cultivation and intend to make tests this season for the quantity of Hydrastine in a given weight of Hydrastis and compare with the wild article. It is the amount of Hydrastine or alkaloid in a fluid extract which by test determines the standard of the official preparation and is the real valuable part of the root.

This drug has grown wonderfully in favor with the profession in recent years and this increased demand with decrease of supply has sent the price of the article soaring so that we are paying five times as much for the drug in stock today as we paid only three or four years ago.

I trust that I have enlarged upon and presented some facts which may be of interest and cause those readers who are interested in this industry to have a serious regard for the betterment of present conditions, to use more caution in supplying the market and not allow venders to seriously damage the industry by their pipe dream in an

attempt to find sales for so-called nursery stock.

L. C. INGRAM, M. D., Wabasha County, Minn.

New York Grower's Garden.

It was in the year of 1901, in the month of June, that I first heard of the wonderful Ginseng plant. Being a lover of nature and given to strolling in the forests at various times, I soon came to know the Ginseng plant in its wild state.

Having next obtained some knowledge regarding the cultivation of this plant from a grower several miles away, I set my first roots to the number of 100 in rich, well-drained garden soil, over which I erected a frame and covered it with brush to serve as shade.

In the spring of 1902 nearly all the roots made their appearance and from these I gathered a nice crop of seed later on in the season. That summer I set out 2,200 more wild roots in common garden soil using lath nailed to frames of scantling for shade. Lath was nailed so as to make two-thirds of shade to one-third of sun. This kind of shading I have since adopted for general use, because I find it the most economical and for enduring all kinds of weather it cannot be surpassed.

During the season of 1903 I lost several hundred roots by rot, caused by an excessive wet season and imperfect drainage. In the seasons of 1903 and 1904 I set about 2,000 wild roots in common garden soil, mixed with sand and woods dirt and at this writing (July 9th, 1905) some of these plants stand two feet high, with four and five prongs on branches thus showing the superiority of this soil over the others I have previously tried.

During my five years of practical experience in the cultivation of this plant I have learned the importance of well drained ground, with porous open sub-soil for the cultivation of Ginseng. My experience with clay hard-pan with improper drainage has been very unsatisfactory, resulting from the loss of roots by rot. Clay hard-pan sub-soil should be tile-drained.

Experience and observation have taught me that Ginseng seed is delicate stuff to handle and it is a hard matter to impress upon people the importance of taking care of it. I have always distinctly stated that it must not be allowed to get dry and must be kept in condition to promote germination from the time it is gathered until sown. Where a considerable quantity is to be cared for, the berries should be packed in fine, dry sifted sand soon after they are gathered, using three quarts of sand and two quarts of berries. The moisture of the berries will dampen the sand sufficiently. But if only a few are to be packed the sand should be damp.

Place one-half inch sand in box and press smooth. On this place a layer of berries; cover with sand, press, and repeat the operation until box is full, leaving one-half inch of sand on top; on this place wet cloth and cover with board. Place box in cellar or cool shady place. The bottom of the box should not be tight. A few gimlet holes with paper over them to keep the sand from sifting thru will be all right. Any time after two or three months, during which time the seeds have lost their pulp and nothing but the seed itself remains, seed may be sifted out, washed, tested and repacked in damp sand until ready to sow.

BEST TIME TO SOW SEED.

Since it takes the seed eighteen months to germinate, seed that has been kept over one season should be planted in August or September. I like to get my old crop of seed out of the way before the new crop is harvested, and also because my experience has been that early sowing

gives better results than late.

One should be careful in building his Ginseng garden that he does not get sides closed too tight and thus prevent a free circulation of air going thru the garden, for if such is the case during a rainy period the garden is liable to become infected with the leaf spot and fungus diseases.

The drop in price of cultivated root was caused chiefly thru high manuring, hasty and improper drying of the root. In order to bring back the cultivated root to its former standing among the Chinese, we must cease high manuring and take more pains and time in drying the root, and then we will have a steady market for American cultivated root for years to come.

V. HARDACRE, Geauga County, Ohio.

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In 1900 I went to the woods and secured about fifty plants of various sizes and set them in the shade of some peach and plum trees in a very fertile spot. They came-up in 1901, that is, part of them did, but the chickens had access to them and soon destroyed the most of them, that is, the tops.

In 1902 only a few bunches came tip, and through neglect (for I never gave them any care) the weeds choked them and they did no good. In 1903 the spirit of Ginseng growing was revived in me and I prepared suitable beds. shade and soil, and went to work in earnest. I secured several more plants and reset those that I had been trying to grow without care. In 1904 my plants came up nicely. I also secured several hundred more plants and set them in my garden.

The plants grew well and I harvested about 1,000 seed in the fall. Several Ginseng gardens were injured by a disease that seemed to scald the leaves and then the stalk became affected. In a short time the whole top of the plant died, but the root remained alive. My Ginseng was not affected in this way, or at least I did not notice it.

In 1905 1 had a nice lot of plants appear and they grew nicely for a while, and as I was showing a neighbor thru the garden he pointed out the appearance of the disease that had affected most of the gardens in this county the previous year, and was killing the tops off of all the

Ginseng in them this year. I began at once to fight for the lives of my plants by cutting off all affected parts and burning them.

I also took a watering pot and sprinkled the plants with Bordeaux Mixture. This seemed to help, and but few of the plants died outright.

I harvested several thousand seed. I placed the seed in a box of moist sand and placed them in the cellar and about one-third of them were germinated by the following spring, and there was not another garden in this vicinity, to my knowledge, that secured any seed. This fact caused me to think that spraying with Bordeaux Mixture would check the disease. It was certain that if the disease could not be prevented or quit of its own accord, Ginseng could not be grown in this county.

In 1906 my plants came up nicely and grew as in the previous season. I noticed the disease on some of the plants about the last of May so I began removing the affected parts also to sprinkle with Bordeaux Mixture with about the same results as the year before. In the fall I harvested about twelve or fifteen thousand seed.

I might say here that I sprinkled the plants, about every two or three weeks. I raised the only seed that was harvested in this vicinity, and most all the large “seng” was dried and sold out of their gardens.

Early in 1907 I secured a compressed air sprayer, for I had come to the conclusion that spraying would be lots better than sprinkling. On the appearance of the first plants in the spring I began spraying and sprayed every week or ten days until about the first of September. I saved the life of most of my plants.

For an experiment I left about five feet of one bed of two-year-old plants unsprayed. It grew nicely until about the 10th of June, then the disease struck it, and in about two or three weeks it was about all dead, while the remainder that was sprayed lived thru till frost, and many of them bore seed. I harvested about 20,000 seed in the fall.

I believe if I had not persisted in the spraying I would not have harvested one fully matured seed, for none of my neighbors secured any. In September, 1906, I dug one bed of large roots thinly set on a bed 4x16 feet which netted me $8.49.

In September, 1907, I dug a bed 4x20 feet which netted me $19.31.

This is my experience. Of course I have omitted method of preparing beds, shade, etc.

A. C. HERRIN, Pulaski County, Ky.

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Many inquiries are continually being received concerning Ginseng. Some of the many questions propounded are as follows: Is Ginseng growing profitable? Is it a difficult crop to grow? How many years will it take to grow marketable roots? When is the best time to set plants and sow the seed? What kind of soil is best adapted to the crop? Does the crop need shade while growing? Do the tops of Ginseng plants die annually? Must the roots be dried before marketable? What time of year do you dig the roots? Does the cultivation of the plants require much labor? What are the roots used for and where does one find the best markets? About what are the dry roots worth per pound? How are the roots dried? How many roots does it take to make a pound? Have you sold any dry roots yet from your garden? How long does it take the seed of Ginseng to germinate?

Do you sow the seeds broadcast or plant in drills? How far apart should the plants be set? Do you mulch beds in winter? Is it best to reset seedlings the first year? How many plants does it require to set an acre? What is generally used for shading? Has the plant or root any enemies? When does the seed ripen? How wide do you make your beds? Do you fertilize your soil? Will the plants bear seed the first year? What price do plants and seed usually bring? What does the seed look like?

It will be almost impossible to answer all of the above questions, but will try to give a few points regarding Ginseng and Ginseng growing which may help some reader out. In the spring of 1899 I began experimenting with a few Ginseng plants, writes an Indiana party, and at present have thousands of plants coming along nicely from one to seven years old. Last fall I planted about eight pounds of new seed. The mature roots are very profitable at present prices. They are easily grown if one knows how. It takes about five years to grow marketable roots.

The seed is planted in August and September; the plants set in September and October. A rich, dark sandy loam is the most desirable soil for the crop, which requires shade during growth. The plants are

perennial, dying down in the fall and reappearing in the spring. The roots must be dried for market. They should be dug some time in October. Cultivation of the crop is comparatively simple and easy. The crop is practically exported from this country to China, where the roots are largely used for medicinal purposes. The best prices are paid in New York, Chicago, Cincinnati and San Francisco. Dry roots usually bring $4.00 to $8.00 per pound as to quality. The drying is accomplished the same way fruit is dried. The number of roots in a pound depends on their age and size.

The seed of Ginseng germinates in eighteen months. Sow the seed in drill rows and set the plants about eight inches apart each way. Mulch the beds with forest leaves in the fall. The seedlings should be reset the first year. It requires about 100,000 plants to cover an acre. The shade for the crop is usually furnished by the use of lath or brush on a stationary frame built over the garden.

Moles and mice are the only enemies of Ginseng and sometimes trouble the roots, but are usually quite easily kept out. The seed of Ginseng ripens in August. Seed beds are usually made four feet wide. The best fertilizer is leaf mould from the woods. The plants will not bear much seed the first year. The price of both seed and plants varies considerably. The seed looks like those of tomatoes, but is about ten times larger.

Ginseng is usually found growing wild in the woods where beech, sugar and poplar grow. The illustration shows a plant with seed. Early in the season, say June and early July, there is no stem showing seed. (See cover.)

The plant usually has three prongs with three large leaves and has small ones on each stem. Note the illustration closely. Sometimes there are four prongs, but the number of leaves on each prong is always five-three large and two small.

The leading Ginseng states are West Virginia, Kentucky and Tennessee. It is also found in considerable quantities in Virginia, Pennsylvania, Ohio, Indiana, Illinois, Michigan, New York, and even north into Southern Canada. It is also found in other Central and Southern states.

During the past few years the wild root has been dug very close, and in states where two or three years ago Ginseng was fairly plentiful is now considerably thinned out. In some sections “sengers” follow the business

of digging the wild root from June to October. They make good wages quite often. It is these “sengers” that have destroyed the wild crop and paved the way for the growers. The supply of wild root will no doubt become less each year, unless prices go down so that there will not be the profit in searching for it.

CHAPTER XI.

GENERAL INFORMATION.

Cultivated root being larger than wild takes more care in drying. Improper drying will materially impair the root and lessen its value.

It is those who study the soil and give attention to their fruit that make a success of it. The same applies to growing Ginseng and other medicinal plants.

When buying plants or seeds to start a garden it will be well to purchase from some one in about your latitude as those grown hundreds of miles north or south are not apt to do so well.

Ginseng culture is now carried on in nearly all states east of the Mississippi River as well as a few west. The leading Ginseng growing states, however, are New, York, Michigan, Ohio, Kentucky and Minnesota.

Thruout the "Ginseng producing section" the plants are dug by "sengers" from early spring until late fall. The roots are sold to the country merchants for cash or exchanged for merchandise. The professional digger usually keeps his "seng" until several pounds are collected, when it is either shipped to some dealer or taken to the county seat or some town where druggists and others make the buying of roots part of their business. Here the digger could always get cash for roots which was not always the case at the country store.

Quite often we hear some one say that the Chinese will one of these days quit using Ginseng and there will be no market for it. There is no danger, or at least no more than of our people giving up the use of tea and coffee. Ginseng has been in constant use in China for hundreds of years and they are not apt to forsake it now.

The majority of exporters of Ginseng to China are Chinamen who are located in New York and one or two cities on the Pacific coast. There is a prejudice in China against foreigners so that the Chinamen have an advantage in exporting. Few dealers in New York or elsewhere export—they sell to the Chinamen who export.

The making of Bordeaux Mixture is not difficult. Put 9 pounds bluestone in an old sack or basket and suspend it in a 50-gallon barrel of water. In another barrel of same size, slack 8 pounds of good stone lime and fill with water. This solution will keep. When ready to use, stir briskly and take a pail full from each barrel and pour them at the same time into a third barrel or tub. This is “Bordeaux Mixture.” If insects are to be destroyed at the same time, add about 4 ounces of paris green to each 50 gallons of Bordeaux. Keep the Bordeaux well stirred and put on with a good spray pump. Half the value in spraying is in doing it thoroughly.

It is our opinion that there will be a demand for Seneca and Ginseng for years. The main thing for growers to keep in mind is that it is the wild or natural flavor that is wanted. To attain this see that the roots are treated similar to those growing wild. To do this, prepare beds of soil from the woods where the plants grow, make shade about as the trees in the forests shade the plants, and in the fall see that the beds are covered with leaves. Study the nature of the plant as it grows wild in the forest and make your “cultivated”plants “ wild” by giving them the same conditions as if they were growing wild in the forest. As mentioned in a former number, an easy way to grow roots is in the native forest. The one drawback is from thieves.

The above appeared as an editorial in the Hunter-Trader-Trapper, August, 1905.

Forest Bed of Young "Seng." These Plants, However, Are too Thick.

Growing Ginseng and Golden Seal will eventually become quite an industry, but as we have said before, those that make the greatest success at the business, will follow as closely as possible the conditions under which the plants grow in the forests, in their wild state. Therein the secret lies. There is no class of people better fitted to make a success at the business than hunters and trappers, for they know something of its habits, especially those of the Eastern, Central and Southern States, where the plants grow wild. There is no better or cheaper way to engage in the business than to start your "garden" in a forest where the plant has grown. Forests where beech, sugar and poplar grow are usually good for Ginseng. The natural forest shade is better than the artificial.

This is a business that hunters and trappers can carry on to advantage for the work on the "gardens" is principally done during the "off" hunting and trapping season.

The writer has repeatedly cautioned those entering the business of Ginseng culture to be careful. The growing of Ginseng has not proven the "gold mine" that some advertisers tried to make the public believe, but at the same time those who went at the business in a business-like manner have accomplished good results—have been well paid for their time. In this connection notice that those that have dug wild root for years are the most successful. Why? Because they are the ones whose

“gardens” are generally in the forests or at least their plants are growing under conditions similar to their wild state. Therein the secret lies.

The majority of farmers, gardeners, etc., know that splendid sweet potatoes are grown in the lands of the New Jersey meadows. The potatoes are known thruout many states as “Jersey Sweets” and have a ready sale. Suppose the same potato was grown in some swampy middle state, would the same splendid “Jersey Sweet” be the result? Most assuredly not. If the same kind of sandy soil which the sweet potato thrives in in New Jersey is found the results will be nearer like the Jersey.

Again we say to the would-be grower of medicinal roots or plants to observe closely the conditions under which the roots thrive in their wild state and cultivate likewise, that is, grow in the same kind of soil, same density of shade, same kind and amount of mulch (leaves, etc.) as you observe the wild plant.

The growing of medicinal plants may never be a successful industry for the large land owner, for they are not apt to pay so much attention to the plants as the person who owns a small place and is engaged in fruit growing or poultry raising. The business is not one where acres should be grown, in fact we doubt if any one will ever be successful in growing large areas. The person who has acres of forest land should be able to make a good income by simply starting his “gardens in the woods.” The shade is there, as well as proper mulch, etc. In fact it is the forest where most of the valuable medicinal plants grow of their own accord. The conditions of the soil are there to produce the correct flavor. Some of the growers who are trying to produce large roots quickly are having trouble in selling their production. The dealers telling them that their roots have not the wild natural flavor but have indications of growing too quickly and are probably cultivated.

While plants can be successfully cultivated by growing under conditions similar to the forest. yet if there are forest lands near, you had better make your “gardens” there. This will save shading. In the north, say Canada, New England and states bordering on Canada, shading need not be so thick as farther south. In those states, if on high land, even a south slope may be used.

In other states a northern or eastern slope is preferred, altho if the

shading is sufficiently heavy “gardens” thrive. Read what the various growers say before you start in the business, for therein you will find much of value. They have made mistakes and point these out to others.

From 1892 to 1897 the writer was on the road for a Zanesville, Ohio, firm as buyer of raw furs, hides, pelts and tallow. The territory covered was Southern Ohio, Western Pennsylvania, West Virginia and Northern Kentucky. During that time Ginseng was much more plentiful than now. Once at Portsmouth a dealer from whom I occasionally bought hides, had 21 sugar barrels full of dried seng-well on to 3,000 pounds. It was no uncommon thing to see lots of 100 to 500 pounds. I did not make a business of buying seng and other roots, as it was not handled to any great extent by the house I traveled for, altho I did buy a few lots ranging from 5 to 100 pounds. The five years that I traveled the territory named I should say that I called upon dealers who handled 100,000 pounds or 20,000 annually. This represented probably one-fifth of the collection. These dealers of course had men out.

Just what the collection of Ginseng in that territory is now I am unable to say as I have not traveled the territory since 1900, but from what the dealers and others say am inclined to think the collection is only about 10% what it was in the early '90's.

This shows to what a remarkable extent the wild root has decreased. The same decrease may not hold good in all sections, yet it has been heavy and unless some method is devised the wild root will soon be a thing of the past.

Diggers should spare the young plants. These have small roots and do not add much in value to their collection. If the young plants were passed by for a few years the production of the forest—the wild plant-could be prolonged indefinitely.

A root buyer for a Charleston, W. Va., firm, who has traveled a great deal thru the wild Ginseng sections of West Virginia, Kentucky, Tennessee, Indiana and Ohio says: The root is secured in greatest quantities from the states in the order named. Golden seal is probably secured in greatest quantities from the states as follows: West Virginia, Kentucky, Ohio, Missouri, Pennsylvania. A great deal is also secured from Western States and the North.

The "sengers" start out about the middle of May, altho the root is not at

the best until August. At that time the bur is red and the greatest strength is in the root.

Many make it a business to dig seng during the summer. Some years ago I saw one party of campers where the women (the entire family was along) had simply cut holes thru calico for dresses, slipping same over the head and tied around the waist-not a needle or stitch of thread had been used in making these garments.

Some of these “sengers” travel with horses and. covered rig. These dig most of the marketable roots. Others travel by foot carrying a bag to put Ginseng in over one shoulder and over the other a bag in which they have a piece of bacon and a few pounds of flour. Thus equipped they stay out several days. The reason these men only dig Ginseng is that the other roots are not so valuable and too heavy to carry. Sometimes these men dig Golden Seal when near the market or about ready to return for more supplies.

Some years ago good wages were made at digging wild roots but for the past few years digging has been so persistent that when a digger makes from $1.00 to $2.00 per day he thinks it is good.

Some say that the Ginseng growing business will soon be overdone and the market over-supplied and prices will go to $1.00 per pound or less for dried root. If all who engage in the business were able to successfully grow the plant such might be the case. Note the many that have failed. Several complain that their beds in the forests are infested with many ups and downs from such causes as damp blight, root rot, animals and insect pests. A few growers report that mice did considerable damage in the older beds by eating the neck and buds from the roots.

There seems to be a mistaken idea in regard to “gardens in the forest.” Many prepare their beds in the forests, plant and cultivate much the same as the grower under artificial shade. While this is an improvement over the artificial shade, fertilized and thickly planted bed, it is not the way that will bring best and lasting results.

Why? Because plants crowded together will contract diseases much sooner than when scattered. One reason of many failures is that the plants were too thick. Those that can “grow” in the forests are going to be the ones that make the greatest success. Farmers, horticulturists, gardeners, trappers, hunters, guides, fishermen who have access to

forest land should carefully investigate the possibilities of medicinal root culture.

Those who have read of the fortune to be made at growing Ginseng and other medicinal roots in their backyard on a small plot (say a rod or two) had best not swallow the bait. Such statements were probably written by ignorant growers who knew no better or possibly they had seed and plants for sale. Ginseng growing, at best, should be done by persons who know something of plants, their habits, etc., as well as being familiar with soil and the preparation of same for growing crops.

GENERAL REMARKS.

It must be conceded that but slow growth of Ginseng can be hoped for in the woods and as size and weight must be had to make the industry profitable. It is presumed that most Ginseng growers will still make their garden under artificial shade. This being conceded, we must strive for conditions under which the plant will thrive. The root of the Ginseng in the woods is in cool soil and is usually down quite deep. To meet this condition we plant our roots deep. In some recent experiments we have had good success putting them down so the bud will not be within three inches of the surface. This gives us also a chance with our little rakes and diggers to loosen up the soil and get the top two inches fine and mellow before the plant comes up. This avoids breaking off the stem as often happens when a plant is trying to get up through hard soil. I am coming to consider a mulch as a harborer of insects and disease germs and prefer to work the top soil all summer making a dust mulch. This areates the soil and makes the plant healthy and stout of stalk.

Northern Ginseng, planted in the southern states, is apt to come up so early in the spring as to get caught in frosts and so also is southern Ginseng apt to be so late in ripening its seed in extreme northern states as to have it killed by frost before ripe. There is an advantage to the northern grower in getting stock from say five hundred miles south of him as the disposition of such plants is to make a longer season's growth resulting in a larger root. I rather favor getting stock occasionally from a few hundred miles, either north or south, finding it usually to give added vigor to the garden but I do not advise extremes.

Do not be deceived by anyone telling you that an American Ginseng root resembling the human form is worth more than any other good shaped root, for it is not. This applies only to the wild mountain Ginseng

of Manchuria and Korea. Our Ginseng is not in that class. Ginseng seed, as soon as gathered, should be mixed with twice the bulk of berries you have, of sifted woods loam. Or you can put in a barrel or other good sound vessel a layer of sifted woods loam, then a layer of the red berries, say a half inch thick, then add an inch of loam, then another half inch of berries and so on until you have all your berries layered. Leave in this shape a month. By that time the pulp will have all disappeared and by sifting, the loam will go through the sieve and the seed stay in it. You can then re-pack in the same loam but they will need looking after occasionally to see that the loam does not dry out. Do not keep wet, but just a little moist, like garden soil in condition for planting.

I use for this purpose earthen crocks holding twenty gallons, but good hardwood barrels may be used. These should be emptied about once a month and the seed aired a little and a little water added if needed, and re-packed. These packages should be kept in a cool cellar. The seeds will begin to crack open some in the following September and are then ready to plant. Or seeds may be packed in like manner in boxes with wire screen tops and bottoms and buried in the garden where they will care for themselves until time to plant.

In planting, seed may be sown in drills or broadcast and covered with a little soil and mulch; if sown broadcast, seed should not be nearer than two inches of each other. I have raised fine seedlings or yearlings by making a bed of well rotted manure about six inches deep and planting seed in that but such plants should be re-planted into soil at the end of the first season as the manure is apt to cause rust of two years' growth is allowed in it.

Age of Ginseng is reckoned by years' or seasons' growth, In other words, a plant that comes from seed in the spring say May first, grows until frost, perhaps the middle of September. This plant is a yearling, although it actually is only a few months old but still has all the growth it will have at the end of the full year. In like manner a plant that has had two seasons' growth, is a two-year-old, etc.

Pyrox, a proprietary preparation, is in my judgment far ahead of Bordeaux. I am also informed that one or two other fungicides are on the market that are excellent or said to be but have not as yet been tried on Ginseng long enough to be recommended.

In order to get the greatest weight of root a crop of Ginseng should be

harvested at the time of the natural death of the tops. If a lighter, more corky root is wanted dig earlier or very early in the spring.

Acid Phosphate is used on Ginseng for the purpose of making the soil acid rather than alkaline. At one time ashes and lime were advised for Ginseng but it has been proven that these favor rust, fiber rot, and should never be used. Acid Phosphate may be used as high as five or six tons to the acre and if the soil is strongly alkaline, it may be used several seasons before it becomes acid. Your druggist can test your soil and tell you whether it is acid or alkaline.

Diseased beds are sometimes sterilized by steam and sometimes by formalin. In this connection, we give the method of treatment as used at Cornell University. This is reprinted from Special Crops, August number, 1913:

Recently very many requests have been received by us in regard to the treatment of soil which has grown diseased root, as well as dipping diseased roots in various solutions at the time of resetting. It seems advisable at this time to publish a short note in regard to these treatments.

TREATMENT OF SOILS.

Soils which have produced one or more crops of Ginseng have, during their use, as a rule, accumulated a number of different organisms. These organisms are usually parasitic on the Ginseng root. Before such soil is again used for Ginseng it should be treated so as to get rid of as many of these organisms as possible. Two possible methods of treatment are open to the grower to accomplish this end:

(a) Steam sterilization; (b) Formaldehyde treatment.

Very good results have been obtained with this method by various workers, in sterilizing beds for tobacco seedlings, and we see no reason why it is not applicable for Ginseng beds. The heating of the soil should be done very early in the spring, just before sowing. This will have an appreciable effect in starting the seedlings off quickly. In addition to the killing of the fungi, this method has several advantages over formalin treatments. The weed seeds in the soil are very largely killed. The labor saved as a result of this is sufficient to pay for the cost of the treatment. The physical texture of the soil is altered by the heat, the soil is made

more suitable for root development, and, moreover, considerable plant food is made directly available to the seedlings. The following paragraph is taken from Bulletin 250 of the Bureau of Plant Industry:

"The inverted pan method devised by Mr. A. D. Shamel of the Bureau of Plant Industry appears to be the most practical for Ginseng beds. The apparatus for Ginseng beds of the usual width consists of a galvanized iron pan, four by ten feet and six inches deep, which is inverted over the soil to be sterilized, the steam being admitted through a steam hose connected in the end or side of the pan. The sharp edges of the pan, which are forced down into the soil, prevent the escape of the steam. The pan is fitted with handles for moving and should not weigh more than four hundred pounds. The soil is prepared as for planting. All fertilizer are applied and worked in as desired. A few potatoes are buried at a depth of about a foot to gauge the degrees of heat attained. These should be cooked when sterilization is completed. The steam should be kept at as high a pressure as possible, eighty to one hundred pounds, and the treatment should be continued for one to two hours, depending upon the pressure maintained."

Formaldehyde treatment has been used over and over again by the writer and various growers with very good results, and we recommend this treatment without hesitation. The sterilization should be undertaken in the autumn, though it may sometimes be done in the spring. All the roots should be removed from the beds and the soil should be worked up loosely. The formalin (which is formaldehyde gas dissolved in water) is diluted with water and applied by one man, using either a hose or large watering pot, and another man spading the soil over as the solution is applied. The soil should be as dry as possible. Sterilization in a wet season presents many difficulties. If the soil is quite wet the proportion of water should he reduced accordingly. The grower must study his individual soil and use his judgment as to the dilution suitable. As a rule, the grower should first test just how much water each square foot of soil will hold and then make such dilution of the formalin so that one gallon of the formalin will cover fifty square feet of soil. The soil should not be worked after treatment until the excess of water is well drained off. As soon as the soil will work without puddling, it should be again thrown up loosely to permit the evaporation of the formaldehyde. Ten days or two weeks after treatment, several re-spadings of the soil having been made, the beds should be in shape for replanting.

(Formaldehyde can be obtained in carboy lots (10 gallons) at about $0.70 a gallon.)

TREATMENT OF ROOTS

It would be a waste of labor if the soil were sterilized and reset to roots, either themselves diseased or to which particles of diseased soil adhere. In order to have the best results, not only must the soil be sterilized, but where the beds are to be planted with roots instead of seed, the roots should first be dipped in a solution of either Bordeaux 3-3-50 for ten minutes or left for the same time in Pyrox one pound to six gallons. Plant the roots while still wet.

Where the grower is convinced that he is troubled with the “rust,” acid phosphate at the rate of 1,000 to 1,500 pounds per acre should be applied immediately after sterilization of the beds.

CHAPTER XII.

MEDICINAL QUALITIES.

In reply to E. T. Flanegan and others who wish to know how to use Ginseng as a medicine, I will suggest this way for a general home made use, says a writer in Special Crops: Take very dry root, break it up with a hammer and grind it thru a coffee mill three or four times till reduced to a fine powder. Then take three ounces of powder and one ounce of milk sugar. To the milk sugar add sixty drops of oil of wintergreen and mix all the powders by rubbing them to gether and bottle. Dose one teaspoonful, put into a small teacupful of boiling water. Let it stay a little short of boiling point ten minutes. Then cool and drink it all, hot as can be borne, before each meal. It may be filtered and the tea served with cream and sugar with the meal. Made as directed this is a high grade and a most pleasant aromatic tea and has a good effect on the stomach, brain and nervous system. To those who have chronic constipation, I would advise one fourth grain of aloin, taken every night, or just enough to control the constipation, while taking the Ginseng tea. If the evening dose of Ginseng be much larger it is a good safe hypnotic, producing good natural sleep,

The writer prefers the above treatment to all the whiskey and patent medicine made. To those who are damaged or made nervous by drinking coffee or tea, quit the coffee or tea and take Ginseng tea as above directed. It is most pleasant tasted and a good medicine for your stomach. I do not know just how the Chinese prepare it into medicine, but I suppose much of it is used in a tea form as well as a tincture. As it is so valuable a medicine their mode of administration has been kept a secret for thousands of years. There must be some medical value about it of great power or the Chinese could not pay the price for it. It has been thought heretofore that the Chinese were a superstitious people and used Ginseng thru ignorance, but as we get more light on the medical value of the plant the plainer it gets that it is us fellows—the Americans—that have been and are yet in the “shade” and in a dark shade, too. We think the time not far off when it will be recognized as a medical plant and a good one, too, and its great medical value be made known to the world.

For several years past I have been experimenting with Ginseng as a medical agent and of late I have prescribed, or rather added it, to the

treatment of some cases of rheumatism. I remember one instance in particular of a middle-aged man who had gone the rounds of the neighborhood doctors and failed of relief, when he employed me. After treating him for several weeks and failing to entirely relieve him, more especially the distress in bowels and back, I concluded to add Ginseng to his treatment. After using the medicine he returned, saying the last bottle had served him so well that he wanted it filled with the same medicine as before. I attribute the curative properties of Ginseng in rheumatism to stimulating to healthy action of the gastric juices; causing a healthy flow of the digestive fluids of the stomach, thereby neutralizing the extra secretion of acid that is carried to the nervous membranes of the body and joints, causing the inflammatory condition incident to rheumatism.

Ginseng combined with the juices of a good ripe pineapple is par excellent as a treatment for indigestion. It stimulates the healthy secretion of pepsin, thereby insuring good digestion without incurring the habit of taking pepsin or after-dinner pills to relieve the fullness and distress so common to the American people. The above compound prepared with good wine in the proper way will relieve many aches and pains of a rebellious stomach; and if I should advise or prescribe a treatment for the old “sang digger” who is troubled with dyspepsia or foul stomach, I would tell him to take some of your own medicine and don't be selling all to the Chinamen.

I want to repeat here what I have often said to “sengers” of my acquaintance, especially those “get-rich -quick” fellows who have been dumping their half-grown and poorly cured Ginseng on the market, thereby killing the good-will of the celestial for a market and destroying the sale of those who cultivate clean and matured roots; they had much better give their roots time to mature in their gardens and if the market price is not what it ought to be to compensate for the labor, they had better hold over another season before selling. I have all the product of last season in Ginseng and Golden Seal in my possession, for the reason that the price did not suit me. Drug manufacturers ask $7.00 per pound for Fluid Extract Golden Seal wholesale. When they can make from one-half pound dried root one pound Fluid Extract Golden Seal costing them 75 cents, that's a pretty good profit for maceration and labeling.

Ginseng has been used to some extent as a domestic medicine in the United States for many years. As far as I can learn, the home use is along the line of tonic and stimulant to the digestive and the nervous

system. Many people have great faith in the power of the Ginseng root to increase the general strength and appetite as well as to relieve eructations from the stomach. As long ago as Bigelow's time, some wonderful effects are recorded of the use of half a root in the increase of the general strength and the removal of fatigue. Only the other day a young farmer told me that Ginseng tea was a good thing to break up an acute cold and I think you will find it used for rheumatism and skin diseases. It undoubtedly has some effect on the circulation, perhaps thru its action on the nervous system and to this action is probably due its ascribed anti-spasmodic properties.

The use of Ginseng has largely increased within the last few years and several favorable reports have been published in the medical journals. One physician, whose name and medium of publication I cannot now recall, speaks highly of its anti-spasmodic action in relieving certain forms of hiccough. If this is true, it places it at once among the important and powerful anti-spasmodics and suggests its use in other spasmodic and reflex nervous diseases as whooping cough, asthma, etc.

I have practiced medicine for eight years. I sold my practice one year ago and since have devoted my entire attention to the cultivation of Ginseng and experimenting with Ginseng in diseases and am satisfied that it is all that the Chinese claim for it; and, if the people of the United States were educated as to its use, our supply would be consumed in our own country and it would be a hard blow to the medical profession.

It would make too long an article for me to enumerate the cases that I have cured; but, I think it will suffice to say that I have cured every case where I have used it with one exception and that was a case of consumption in its last stages; but the lady and her husband both told me that it was the only medicine that she took during her illness that did her any good. The good it did her was by loosening her cough; she could give one cough and expectorate from the lungs without any exertion. I believe it is the best medicine for consumption in its first stages and will probably cure.

I wish the readers of Special Crops to try it in their own families—no difference what the disease is. Make a tea of it. A good way is to grate it in a nutmeg grater. Grate what would make about 15 grains, or about one-fourth to one-half teaspoonful and add half a pint or less of boiling water. The dose to be taken at meal times and between meals. In a cold on the lungs it will cure in two or three days, if care is taken and the

patient is not exposed.

My theory is that disease comes from indigestion directly or indirectly. Ginseng is the medicine that will regulate the digestion and cure the disease no difference by what name it is called; if the disease can be cured, Ginseng will cure it where no other drug will.

I will cite one case; a neighbor lady had been treated by two different physicians for a year for a chronic cough. I gave her some Ginseng and told her to make a tea of it and take it at meal times and between meals; in two weeks I saw her and she told me that she was cured and that she never took any medicine that did her so much good, saying that it acted as a mild cathartic and made her feel good. She keeps Ginseng in her house now all the time and takes a dose or two when she does not feel well.

I am satisfied that wonderful cures can be made with Ginseng and am making them myself, curing patients that doctors have given up; and if handled properly our supply will not equal the demand at home in course of five or six years, thus increasing the price.

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At the last annual meeting of the Michigan Ginseng Association, Dr. H. S. McMaster of Cass Co. presented a paper on the uses of this plant, which appeared in the Michigan Farmer. He spoke in part as follows:

“Ginseng is a mild, non-poisonous plant, well adapted to domestic as well as professional uses. In this respect it may be classed with such herbs as boneset, oxbalm, rhubarb and dandelion. The medicinal qualities are known to be a mild tonic, stimulant, nervine and stomachic. It is especially a remedy for ills incident to old age.

“Two well-known preparations made-or said to befrom Ginseng root are on the market. One of these, called “Seng,” has been for many years on druggists' shelves. It is sometimes used for stomach troubles and with good results. I think it is now listed by the leading drug houses.

“Another called ‘Ginseng Tone’ is a more recent preparation, and is highly spoken of as a remedy. But for home or domestic use we would suggest the following methods of preparing this drug:

“1st. The simplest preparation and one formerly used to some extent by the pioneers of our forest lands, is to dig, wash and eat the green root, or to pluck and chew the green leaves. Ginseng, like boneset, aconite and lobelia, has medicinal qualities in the leaf.

“To get the best effect, like any other medicine it should be taken regularly from three to six times a day and in medicinal quantities. In using the green root we would suggest as a dose a piece not larger than one to two inches of a lead pencil, and of green leaves one to three leaflets. These, however, would be pleasanter and better taken in infusion with a little milk and sweetened and used as a warm drink as other teas are.

“2nd. The next simplest form of use is the dried root carried in the pocket, and a portion as large as a kernel of corn, well chewed, may be taken every two or three hours. Good results come from this mode of using, and it is well known that the Chinese use much of the root in this way.

“3d. Make a tincture of the dried root, or leaves. The dried root should be grated fine, then the root, fiber or leaves, separately or together, may be put into a fruit jar and barely covered with equal parts of alcohol and water. If the Ginseng swells, add a little more alcohol and water to keep it covered. Screw top on to keep from evaporating. Macerate in this way 10 to 14 days, strain off and press all fluid out, and you have a tincture of Ginseng. The dose would be 10 to 15 drops for adults,

“Put an ounce of this tincture in a six-ounce vial, fill the vial with a simple elixir obtained at any drug store, and you have an elixir of Ginseng, a pleasant medicine to take. The dose is one teaspoonful three or four times a day.

“The tincture may be combined with the extracted juice of a ripe pineapple for digestion, or combined with other remedies for rheumatism or other maladies.

“4th. Lastly I will mention Ginseng tea, made from the dry leaves or blossom umbels. After the berries are gathered, select the brightest, cleanest leaves from mature plants. Dry them slowly about the kitchen stove in thick bunches, turning and mixing them until quite dry, then put away in paper sacks.

“Tea from these leaves is steeped as you would ordinary teas, and may be used with cream and sugar. It is excellent for nervous indigestion.

“These home preparations are efficacious in neuralgia, rheumatism, gout, irritation of bronchi or lungs from cold, gastro-enteric indigestion, weak heart, cerebro-spinal and other nervous affections, and is especially adapted to the treatment of young children as well as the aged. Ginseng is a hypnotic, producing sleep, an anodyne, stimulant, nerve tonic and slightly laxative.”

CHAPTER XIII.

GINSENG IN CHINA.

With the exception of tea, says the Paint, Oil and Drug Review, Ginseng is the most celebrated plant in all the Orient. It may well be called the "cure-all" as the Chinese have a wonderful faith in its curative and strengthening properties, and it has been appropriately called the "cinchona of China." It is considered to be a sovereign cure for fevers and weaknesses of all kinds, and is, indeed, the chief and most costly medicine of the Chinese Empire.

Ginseng is found wild in the mountain forests of eastern Asia from Nepa to Manchuria. It once grew in Fukien, Kaighan and Shansi, but was supplanted by the Manchuria wild root. The root is carefully hunted for by the Manchus, who boast that the weeds of their country are the choice drugs of the Chinese, a boast which has much foundation in fact. Of the thirty-seven ports in China where the imperial maritime customs are established to import Ginseng, imports during 1905 were as follows: Shanghai, 103,802 pounds; Wuhu, 2,374; Kiuhiang, 2,800; Hankow, American clarified, 34,800; Wenchau 9,100; Chungking, American clarified, 6,200; Chefoo, 80,408; Canton, 75,800, and Foochow, 15,007.

The total importation at these ports for the last four years were: 1902, 407,021 pounds; 1903, 404,000 pounds; 1904, 313,598 pounds, and 1905, 331,381 pounds. These figures, however, by no means cover all the Ginseng entering China, as much of it comes thru the native custom houses, which keep no tabulated data of exports and imports, and great quantities of it are smuggled into the country, especially over the Korean boundary line. Niuchwang is the one Chinese port which exports native Ginseng. Its exports for the last four years were, respectively, 228,000, 215,000, 57,000 and 160,900 pounds.

To give an accurate price for Ginseng would be impossible, so greatly does it differ from the variety of the root offered to consumers. Some wild roots have been known to realize their weight in gold; while the cultivated variety can be purchased from 5 cents a pound up. Generally speaking, the present average prices are, for the best Ginseng, $12.00 a pound; for fair quality, $6.50, and for the ordinary, 50 cents to $1.00. Japan sends to China the cheapest Ginseng, a great deal of which is used to adulterate the highest quality from Korea.

In values and quality of the root the four principal producing countries rank as follows: Manchuria, Korea, America and Japan. Prices often vary in accordance with the method used in clarifying the root. Some Chinese provinces prefer it white, others reddish and still others require it of a yellowish tinge. The Korean root is reddish in color, due, some say, to the ferruginous soil on which it grows, and, according to others, to a peculiar process of clarifying. Most of the Korean product goes to southern China by way of Hongkong.

Wild Ginseng, from whatever country, always commands a better price than the cultivated article, chiefly because of Chinese superstition, which prefers root resembling man or some grotesque creature to that of the regular normal roots which cultivation naturally tends to produce. Chinese druggists, when questioned as to the real difference between the Manchuria wild and the American cultivated Ginseng root, admit that the difference in quality is mostly imaginary, altho there is a real difference in the appearance of the roots.

Root Resembling Human Body.

But the Manchuria Ginseng comes from the Emperor's mother country and from the same soil whence sprang the “god of heaven” and therefore the Chinese regard it as infinitely more efficacious as a curative agent than any other Ginseng could possibly be. Many assert that the future demand for Ginseng will be a decreasing one, from the fact that its imaginary properties of curing every disease on earth will

be dissipated in proportion to the advance of medical science. There can be no doubt, however, that Ginseng does possess certain curative properties and it can be safely asserted that it will require many generations, perhaps centuries, to shake the Chinaman's faith in his mysterious time-honored cure-all.

American Ginseng, of which large quantities are annually exported to China, is classed, as a rule, with hsiyang, that is, west ocean, foreign or western country Ginseng. The imports of this article at Niuchwang for 1905 amounted in value to $4,612 gold. The exports of Manchurian Ginseng thru Niuchwang to Chinese ports for 1905 aggregated in value $180,199 gold and for 1904, $205,431 gold. Wild Manchuria Ginseng is rare, even in Manchuria, and its estimated valuation ranges at present from $450 to $600 gold a pound.

The total imports of Ginseng into China for 1904 aggregated 277 tons, valued at $932,173.44 and for 1905 to 1,905 tons, valued at $1,460,206.59. The increased valuation of the imports of last year emphasizes the increased price of Ginseng in the Chinese market.

Hsiyang, or American Ginseng, is marketed in China largely thru Hongkong and Shanghai foreign commission houses. Importations of the American product are increasing in bulk with each succeeding year, and the business gives every indication of becoming a very large one in a short time.

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In most of the booklets and articles we have seen on Ginseng, the writers quote exorbitant figures as to what the root sells for in China. A good many of them quote from reports received from U. S. Consuls, who, when they give prices, reckon on Mexican dollars which are only about half the value of ours and some of them go so far as to quote retail prices for very small quantities of extra quality root.

Some of the growers and dealers in this country, therefore, imagine that they are not paid what they should be for their stock and that there is an enormous profit for the men who ship to China. Such is an entirely wrong idea and can be best proven by the fact that during the past couple of years three of the leading export houses have gone out of business, owing to their being no money in it. We do not know of any business conducted on as small a percentage profit as Ginseng.

Frequently prices paid in this country are in excess of the market in China.

This not only means a direct loss to the exporter on his goods but also the cost of making clean (removing fibres, siftings and stems) shrinkage, insurance and freight. Business is also conducted on different lines from years ago. Then the buyers in China bought readily, prices were lower and more people could afford to use it.

Today, prices are tripled and while the supply is smaller, the demand is very much less and Chinese buyers make the exporters carry it until they really need it, in a good many cases buying root and not taking it for three or four months, and consequently keeping the exporters without their money. The expense of carrying Ginseng is also heavy owing to the high rate of interest, which is 8% and over.

The folly of depending upon U. S. Consul reports is shown in the great difference in the figures which they send. Many of these men have but very little knowledge of business, most of them knowing more about politics. It is not likely that this class of men will spend very much time in investigating a subject of this character.

The market here for wild root since June 1st has been the dullest we have ever known and the same condition prevails in China. We are glad to state that cultivated root is selling at much better prices than last year. It is hard to account for the disfavor with which it was regarded a year ago in China, and the prejudice against it has been overcome more rapidly than we expected. At this time last year it was almost unsaleable and we were buying as low as $3.00 to $4.00 per pound. Many houses declined to buy at all.

Now that the prejudice against it has sort of worn off, we look for a good market and consider the outlook very favorable and would advise people not to give up their gardens in too great a hurry. We make a specialty of cultivated root and will be pleased to give information as to handling, drying, etc., to any reader who desires it. We have been buying Ginseng for over thirty years.

BELT, BUTLER Co. New York.

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Consul-General Amos P. Wilder of Hongkong, in response to numerous American inquiries as to the trade in Ginseng, with especial reference to the cultivated root, prices and importations, reports as follows:

The Ginseng business is largely in the hands of the Chinese, the firms at Hongkong and Canton having American connections. (The five leading Hongkong Chinese firms in the Ginseng importing business are named by Mr. Wilder, as also the leading "European" importing concern, and all the addresses are obtainable from the Bureau of Manufacturers).

I am authorized to say that American growers may correspond with the European concern direct relative to large direct shipments. They receive goods only on consignment and have some forty years' standing in this industry. This firm, as do the Chinese, buys in bulk and distributes thru jobbers to the medicine shops, which abound in all Chinese communities. The Cantonese have prestige in cleaning and preparing the root for market.

Last year the best quality of Ginseng brought from $2,000 to $2,300 Mexican per picul (equal to 133 $^1/_2$ pounds), but selected roots have brought $2,400 to $2,550. It is estimated here that growers should net about $7.25 gold per pound. The buying price of Ginseng is uncertain. There being no standard, no price can be fixed. The American-Chinese shippers have the practice of withholding the Ginseng to accord with the demand in China. Owing to failures among Chinese merchants since the war and the confusion in San Francisco, trade in this industry has been slack and prices have fallen off. If the root is perfect and unbroken it is preferred. Much stress should be laid on shipping clean, perfect and attractive roots. Size, weight and appearance are factors in securing best prices, the larger and heavier the root the better.

When the shipment arrives the importer invites jobbers to inspect the same. The roots are imported in air-tight casks in weight of about 100 pounds. It is certain that there are many different qualities of Ginseng and the price is difficult to fix (except on inspection in China).

As to wild and cultivated roots, two or three years ago when cultivated Ginseng was new, buyers made no distinction and the price ruled the same; but having learned of the new industry, experts here assure me the roots can readily be distinguished. They say that the wild root is

darker in color and rougher. The wild is preferred. Experts now allege a prejudice against the cultivated root, affirming that the wild root has a sweeter taste. The cultivated roots being larger and heavier, they first earned large prices, but are now at a disadvantage, altho marketable.

Wild Ginseng Roots.

The cultivated is as yet but a small percentage of the entire importations, but is increasing. Seventy-five per cent of all importations are in the hands of the Chinese. Small growers in America will do best to sell to the collecting buyers in New York, Cincinnati and other cities. Hongkong annual importations are now about 100,000 pounds.

Too many misleading and conflicting articles have been published on the subject of Ginseng culture in Korea, a true statement of the facts may be of interest. We all know the Korean Ginseng always commands a high price in China and I believe there must be a very good reason for it. Either the Korean method of cultivation, curing or marketing was superior to the American method or centuries of experience in its cultivation had taught him a lesson and a secret we had yet to learn. After considerable correspondence with parties in Korea which gave me very little information and to set my mind at rest on these questions, I went to Korea in 1903 for the sole purpose of obtaining all the information possible on Ginseng culture according to Korean methods and also if possible to secure enough nursery stock to plant a Ginseng garden in America with the best Korean stock.

Strange to say, even after I reached the city of Seoul, the capital of

Korea, I could not obtain any more reliable information on Ginseng than I already knew before I left America. They told me where the great Ginseng district was located, that 40,000 cattys were packed each year for export, etc., but as to the soil, planting, cultivation, irrigation, shading, curing, packing, etc., they knew nothing that was reliable.

All the American people use sugar in one form or another, but how many could tell a person seeking for reliable information concerning the planting of the cane or sugar beet, of the character of the soil necessary, of its cultivation and irrigation, the process of refining, packing and marketing, etc. Comparatively few, indeed, and so it is with the Koreans on the cultivation of Ginseng. They all use it, but, like the Chinese, not one in several thousand ever saw a Ginseng plant growing. After considerable delay I secured a competent interpreter, a cook, and food supplies, and started from Seoul for the great Ginseng district, traveling part of the way by rail, then by sampan, and finally reached my destination on Korean ponies. Arriving at the Ginseng center, I lived among the Ginseng growers from the time the seed crop ripened until nearly all the five-year-old roots, or older ones, were dug up and delivered to the government at their drying grounds, which is about four acres in extent. This compound is enclosed on three sides by buildings from 100 to 150 feet in length and a uniform width of twelve feet and the rest of the compound with a high stone wall with a gate, which is closely guarded by soldiers armed with guns. Near the center of this compound is a well where the roots are washed as soon as they are received. There is no entrance from the outside to any of these buildings. Every one must pass the guards at the gate, for the buildings, together with the wall, make a complete enclosure.

The Ginseng gardens are scattered over considerable territory, most of which is surrounded by a high stone wall about twenty or twenty-five miles in circumference, similar to the great wall of China, and which many years ago was the site of one of the ancient capitals of Korea.

Part of the growers make a specialty of raising one-year-old plants, to supply those who have sufficient means to wait four years more for the roots to mature. Generally speaking, the grower that produces the commercial root raises but little if any one-year roots.

All Ginseng gardens are registered as required by law, stating how many kan (a kan of Ginseng is the width of the bed, about 30 inches and 51 feet long) are under cultivation, so the High Government

Official, specially appointed for the Ginseng district, always knows how many roots should be available at harvest time and every grower must sell his entire crop that is five years old or over to the government and his responsibility does not cease until he has delivered his crop at the government drying grounds.

His roots are then carefully selected and all that do not come up to a required size are rejected and delivered back to the grower and these he can either dry for his own use or he can transplant them and perhaps next year they will come up to the required standard. The Koreans pay great attention to the selection of their Ginseng seed. No plant is allowed to bear seed that is less than four years old and very little seed is used from four-year plants. Nearly all the seed comes from five-year-old plants and a little from six-year-old. Only the best and strongest appearing plants are allowed to bear seed, and even these very sparingly, as part of the seed head is picked off while in the blossom and from which they make a highly prized tea. The seed stem of all other plants are pinched off, forcing all the strength, as well as medicinal properties, into the root.

Many of the best growers never allow their plants to bear seed, and only the required amount of seed is raised each year to supply the demand. After the seed is gathered, it is graded by passing it thru a screen of a certain size. This grader is made like an old-fashioned flour sieve, only the bottom is made of a heavy oil paper with round holes cut in it, and all seed that will pass thru these holes are destroyed, so only the largest and best seed are kept for planting. The soil which they use for their Ginseng garden is a very poor disintegrate granite, to which has been added leaf mould mostly from the chestnut oak, in the proportion of three-eighths leaf mould to five-eighths granite. The leaves are gathered in the spring and summer, dried in the sun, pulverized and sprinkled with water to help decomposition. This is the only fertilizer used. The beds are raised about eight inches above the level of the ground and are carefully edged with slabs of slate. What is called a holing board is used to mark the places for the seed. It is made of a board as long as the beds are wide (about thirty inches) and has three rows of pegs $1/2$-inch long and 11 inches apart each way.

A seed is planted in each hole and covered by pressing the soil down with the hands. About $1/4$-inch of prepared soil is added to the bed and smoothed over. No other mulch is used. The roots are transplanted each

year, setting them a little farther apart each time, until at the third transplanting, or at four years old, they are 6x6 inches apart, and at each transplanting the amount of leaf mould used in the prepared soil is reduced. (Note the difference between this and the American method of heavy fertilizing). Only germinated seed is planted and the time for planting is regulated by the Korean Calendar and not by the weather and if at that time it is at all cold, the beds are immediately covered with one or two thickness of rice straw thatch and as soon as the weather is suitable this thatch is removed and the shade erected. Each bed is shaded separately by setting a row of small posts in the ground 4 feet high and $5^1/_2$ feet or 1 kan apart, on the north side of each bed and on the south side a similar row, only about 1 foot high. Bamboo poles are securely lashed to these posts and they in turn support the cross pieces on which rests the roof covering, made of reeds woven together with a very small straw rope. At the time of the summer solstice, the rainy season comes on, so a thick covering of thatch is spread over the reed covering, which sheds the rain into the walks, while the back and front are enclosed with rush blinds, that on the north side being raised or lowered according to the temperature. If it is a very hot day the blinds are lowered from about 10 A.M. to 4 P.M., leaving the beds in almost darkness.

The beds are all protected from the rain and are irrigated by sprinkling them when needed. At the close of the growing season, after the roots have gone dormant, all that are not dug up are covered with a layer of soil 7 or 8 inches thick. All the shade is pulled down except the posts and spread over the soil and the garden is left thus for the winter, and the grower selects another site to which he can move his plants in the spring, and each year new soil is prepared. From the time the roots are two years old there is another added care. They are now worth stealing—consequently the garden has to be watched day and night. A watch tower about 16 feet high is erected and the hands take turn about, occupying it as a sentry. Another man constantly patrols the garden during the night.

The Koreans are the largest consumers of Ginseng in the world, in proportion to their population, and they have carefully cultivated it for centuries with the one particular object in view, “its medicinal properties.” For quality always, rather than quantity. They sacrifice everything else for a powerful medicinal root, and they surely grow it. I have seen some remarkable results from its use during my stay in

Korea. Say what we may about it, but it plays a very important part in the life of both the Korean and the Chinese people. Do you wonder now that the Korean Ginseng always commands a high price? If the American growers had followed closer along the lines of the Korean growers and aimed for a high grade of medicinal root, the market for American Ginseng would not be where it is today. That is, the cultivated Ginseng. The American growers have it in their own hands to either make a success or failure of Ginseng culture, but one thing is certain, heavy seed bearing, excessive fertilizing and rapid drying will never produce a high standard of Ginseng. The principal market of the world is ours if we only reach out for it with that high standard and maintain it and especially so it we will unite together and market our product thru one central agency controlled by the producers. Mr. Chinaman may sometimes be mistaken as to whether Ginseng is wild or cultivated. He may also be mistaken as to whether it comes from Korea or China (I have seen him make this mistake), but let him once sample a liberal dose of it, and he won't make any mistake as to whether it is good, medium or bad.

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THE GINSENG TRADE.

The following article by Mr. Burnett appeared in the Minneapolis journal last February and shows what dealers think of the Ginseng industry:

I wish you would give room for what I have to say in regard to an article in your journal last fall by our ex-Consul, John Goodnow. Some things he says are correct: That the demand is based entirely on superstition; that the root has life-giving qualities; and that those having the nearest resemblance to human beings are most valuable. That is quite true. I have seen the Chinese exporters' eyes dance when they saw such roots in a lot.

Now for the errors in what he said. He says the trade is in the hands of a syndicate and they only handle Korean Ginseng. Possibly this syndicate tells the Chinese retail merchants that to keep them from boycotting our American Ginseng. If so, why is it that the wild root this fall has been at ready sale at $6.75 to $7.10 per pound? We, who buy it, do not hold it and if we did not find a ready sale for it we would soon cease to buy it.

There has been marketed in Minneapolis probably $50,000 worth this year and in the United States a million dollars' worth. So you see his error: for, either directly or indirectly, it gets to China at good prices.

CHINESE SUPERSTITIONS.

Now in regard to the cultivated root, to show your readers how the value is based on superstition, we will cite one instance in our experience. We sent our clerk to a laundry where there were a half dozen “Celestials” to sell some nice cultivated root. Some roots were manlike in shape. They tasted it, were delighted with it and bought it readily and told him to bring them all he could get, as what they did not need for their own use they would ship to their exporter in San Francisco.

Our man told them he would be around in one week. We sent him again in just a week. He said on his return they “looked daggers” at him and said, “We no wantee your cultivated root.” This convinced us they had shipped it to the agents of the syndicate at 'Frisco and received their returns. Now, does this not show that the demand is all based on superstition? It was very good until they were informed that it was cultivated.

Now your readers may say, how can they distinguish between the cultivated and the wild? I will tell you; the cultivated is usually much firmer and twice as heavy as the wild and generally much cleaner. Then most of the cultivated has been raised from small, wild roots dug from the forests and in transplanting they have not taken pains to place the tap root straight in the earth. This causes it to be clumpy—that is, not straight like most wild roots. This, with its solidity and cleanliness makes it easy to tell from the wild roots.

THE CULTIVATED PLANT.

Now we have had a number of lots of cultivated that we got full prices for. They were roots grown from seeds, symmetrical in shape, not too large, not too clean and dug before they became very solid. My idea is, if not allowed to grow more than as large as one's fingers, when dry and dug immediately after the seeds are ripe, or even before, if seeds are not needed, and not washed too clean, we can find sale for such. At present the ordinary cultivated does not bring quite half the price of the wild.

There are some who buy that for American use, several firms putting up Ginseng cures. Some people, like the Chinese, believe it has merits, but as the demand is limited the price is low. That the Chinese think that the root grown by nature has life-giving qualities and that cultivated has no virtues, is certain. The only way to do is to grow in natural woods soil (manure of any kind must be avoided, as it causes a rank growth) dig and wash it so they can't tell the difference. One thing is certain, it's a hardy plant, altho slow to get started, and good money can be made at $2.00 to $3.00 a pound. Instead of being hard to grow, as many persons think, it is very hard to kill.

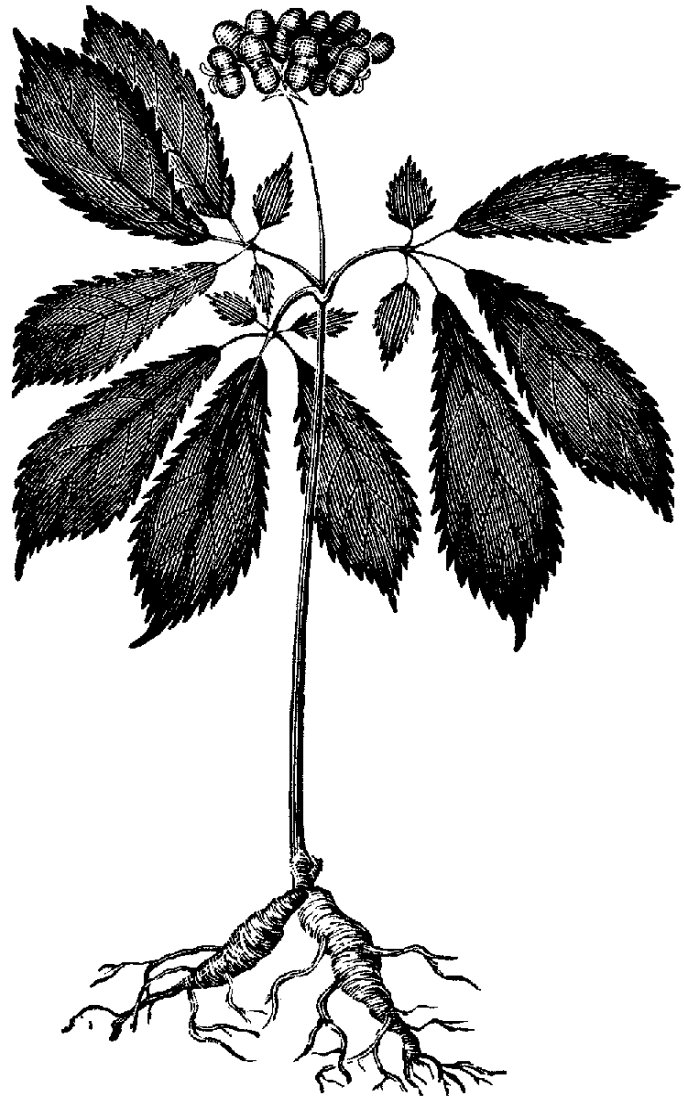
A belief among the Chinese people is that Ginseng roots, especially if of peculiar shape, will cure practically all diseases of mind and body. The Chinese are not given to sentiment; their emotional nature is not highly developed; they are said to be a people who neither “kiss nor cuss,” and their physical sensibilities are so dull that a Chinaman can lie down on his back across his wheelbarrow with feet and head hanging to the ground, his mouth wide open and full of flies and sleep blissfully for hours under the hottest July sun. There is nothing about them, therefore, to suggest that they possess the lively imagination to make them have faith in a remedy with purely imaginary virtues. Nevertheless, among these people, a plant not found by any medical scientist to possess any curative powers is used almost universally, to cure every kind of ailment and has been so used for generations.

Intelligent Chinese resent the imputation of superstition to their people. But the fact remains that the Ginseng roots are valued according to the peculiarity of their shapes. The word Ginseng is composed of two Chinese words which mean man and plant, and the more nearly shaped like a man the roots are, the more they are valued. A root which is bifurcated and otherwise shaped like a man, may be sold as high as $10.00 an ounce; a recent secretary of the Chinese Legation explains this on the ground of being valued as a curio; but the curio is finally made into a decoction and swallowed, and the swallower evidently hopes that the fantastic shape of the root will make the medicine more potent.

CHAPTER XIV.

GINSENG—GOVERNMENT DESCRIPTION, ETC.

The following is from a bulletin issued by the U. S. Department of Agriculture-Bureau of Plant Industry-and edited by Alice Henkel:



Panax (Aralia) quinquefolium.

PANAX QUINQUEFOLIUM

OTHER COMMON NAMES—American Ginseng, sang, redberry, five-fingers.

HABITAT AND RANGE—Ginseng is a native of this country, its

favorite haunts being the rich, moist soil in hardwood forests from Maine to Minnesota southward to the mountains of northern Georgia and Arkansas. For some years Ginseng has been cultivated in small areas from central New York to Missouri.

DESCRIPTION OF PLANT—Ginseng is an erect perennial plant growing from 8 to 15 inches in height and bearing three leaves at the summit, each leaf consisting of five thin, stalked ovate leaflets, long pointed at the apex, rounded or narrow at the base, the margins toothed; the three upper leaflets are largest and the two lower ones smaller. From 6 to 20 greenish yellow flowers are produced in a cluster during July and August, followed later in the season by bright crimson berries. It belongs to the Ginseng family (Araliaceae.)

DESCRIPTION OF ROOT—Ginseng has a thick, spindle-shaped root, 2 to 3 inches long or more, and about one-half to 1 inch in thickness, often branched, the outside prominently marked with circles or wrinkles. The spindle-shaped root is simple at first, but after the second year it usually becomes forked or branched, and it is the branched root, especially if it resembles the human form, that finds particular favor in the eyes of the Chinese, who are the principal consumers of this root.

Ginseng root has a thick, pale yellow white or brownish yellow bark, prominently marked with transverse wrinkles, the whole root fleshy and somewhat flexible. If properly dried, it is solid and firm. Ginseng has a slight aromatic odor, and the taste is sweetish and mucilaginous.

COLLECTION AND USES—The proper time for digging Ginseng root is in autumn, and it should be carefully washed, sorted and dried. If collected at any other season of the year, it will shrink more and not have the fine, plump appearance of the fall dug root.

The National Dispensatory contains an interesting item concerning the collection of the root by the Indians. They gather the root only after the fruit has ripened, and it is said that they bend down the stem of ripened fruit before digging the root, covering the fruit with earth, and thus providing for future propagation. The Indians claim that a large percentage of the seeds treated in this way will germinate.

Altho once official in the United States Pharmacopoeia, from 1840 to 1880, it is but little used medicinally in this country except by the Chinese residents, most of the Ginseng produced in this country being

exported to China. The Chinese regard Ginseng root as a panacea. It is on account of its commercial prominence that it is included in this paper.

CULTIVATION—There is probably no plant that has become better known, at least by name, during the past ten years or more than Ginseng. It has been heralded from north to south and east to west as a money-making crop. The prospective Ginseng grower must not fail to bear in mind, however, that financial returns are by no means immediate. Special conditions and unusual care are required in Ginseng cultivation, diseases must be contended with, and a long period of waiting is in store for him before he can realize on his crop.

Either roots or seeds may be planted, and the best success with Ginseng is obtained by following as closely as possible the conditions of its native habitat. Ginseng needs a deep, rich soil, and being a plant accustomed to the shade of forest trees, will require shade, which can be supplied by the erection of lath sheds over the beds. A heavy mulch of leaves or similar well rotted vegetable material should be applied to the beds in autumn.

If roots are planted, they are set in rows about 8 inches apart and 8 inches apart in the row. In this way a marketable product will be obtained sooner than if grown from seed. The seed is sown in spring or autumn in drills 6 inches apart and about 2 inches apart in the row. The plants remain in the seed bed for two years and are then transplanted, being set about 8 by 8 inches apart. It requires from five to seven years to obtain a marketable crop from the seed. Seed intended for sowing should not be allowed to dry out, as this is supposed to destroy its vitality.

PRICE—The price of wild Ginseng roots ranges from $5.00 a pound upward. The cultivated root generally brings a lower price than the wild root, and southern Ginseng roots are worth less than those from northern localities.

EXPORTS—The exports of Ginseng for the year ended June 30, 1906, amounted to 160,949 pounds, valued at $1,175,844.