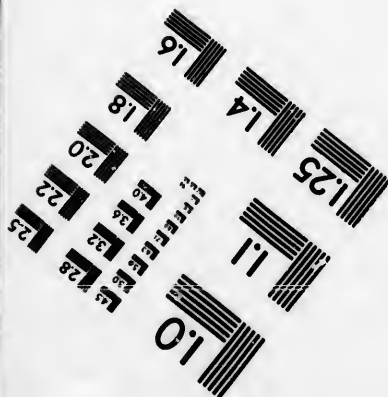
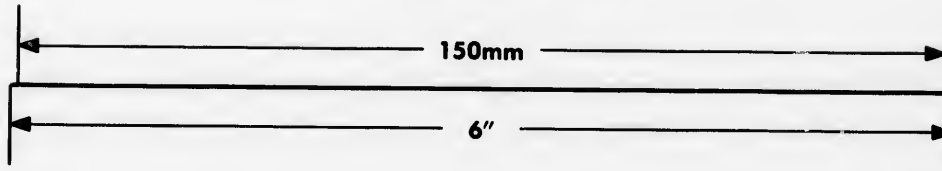
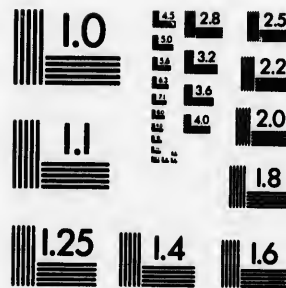
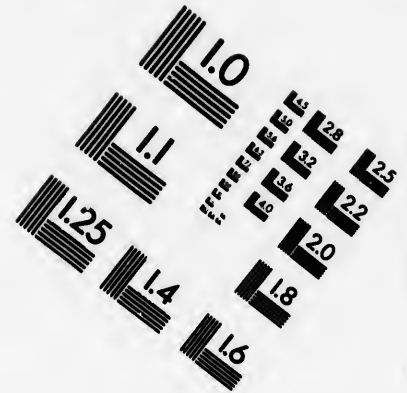
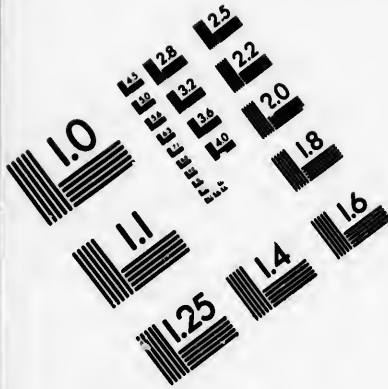
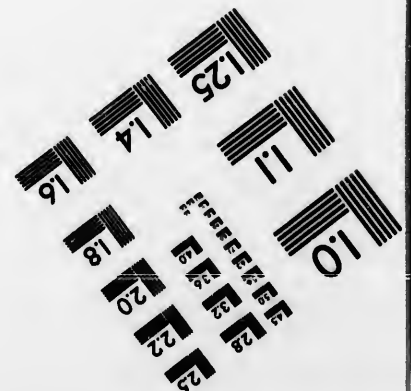


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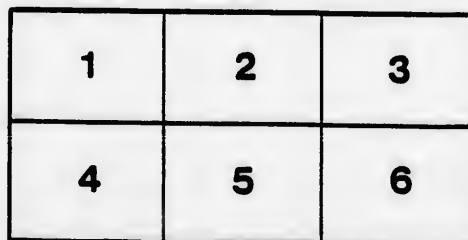
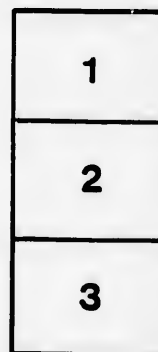
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ONTARIO AGRICULTURAL COLLEGE
EXPERIMENT STATION

BULLETIN LXV

GINSENG

BY J. H. PANTON, M.A., PROFESSOR OF NATURAL HISTORY AND GEOLOGY.

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BULLETIN LXV

GINSENG (ARALIA QUINQUEFOLIA).

An Act of Parliament, having been passed at the last meeting of the Ontario Legislature, for the protection of the plant ginseng, the Minister of Agriculture has thought it advisable to have the following bulletin published, containing a description of the plant, so that the people of Ontario may be better acquainted with a plant of so much economic value and to a certain extent comparatively common throughout our province, though unknown to many.

The following are the clauses of the bill, from which it will be seen that the plant cannot be picked before September 1st, so as to enable it to ripen its fruit :

1. Except for the purpose of clearing or bringing land into cultivation, no person shall, between the first day of January and the first day of September in any year, cut, root up, gather or destroy the plant known by the name of ginseng whenever such plant may be found growing in a wild or uncultivated state.

2. Any person who contravenes the provision of this Act shall, for every such offence, upon summary conviction before any justice of the peace, be subject to a penalty of not less than \$5 or more than \$20, together with costs for prosecution, and one half of such penalty shall be paid to the prosecutor, unless otherwise ordered by the said justice convicting.

BOTANICAL DESCRIPTION. Ginseng (*Aralia quinquefolia* formerly *Panax quinquefolium*) belongs to the order Araliaceae, a family of plants closely allied to the order in which we find such plants as the carrot, parsnip, and celery. Root large and spindle-shaped, often forked, four to nine inches long, aromatic ; stem one foot high, herbaceous, bearing a whorl of three palmately, 5-7 foliage leaves ; the leaflets long stalked, mostly five in number, large and thin, obovate-oblong, pointed and serrate ; a simple umbel of flowers upon a single, slender, flower stalk ; flowers from June to August with small yellowish flowers, followed by fruit as bright red berries.

POPULAR DESCRIPTION. Main stem about one foot long, branches into three stalks at the summit, each three and one-half inches long ; on the end of each of these are arranged five leaflets borne on slender stalks an inch in length. The leaflets are thin, smooth below and of delicate structure ; two in each cluster are about two inches long and the others almost four, oval in general

form, but tapering to a point and doubly toothed along the edge. Rising from the main stem and in the centre of the three compound leaves is a stalk three inches long bearing inconspicuous greenish white flowers, appearing not unlike a small head of white clover.

This single flower stalk is an important point, for I have found some calling a plant of this family ginseng (*Aralia quinquefolia*) which had four flower stalks and belonged to an entirely different species, though of the same genus.

The root of a specimen in the College herbarium is quite fleshy, rather short (three inches) and from it arises the single stem already described. By means of the above descriptions, technical and popular, together with the accompanying cut the reader will readily identify the plant ginseng from other plants in the vicinity.



GINSENG (*Aralia quinquefolia*).

HISTORY OF GINSENG. The genus *Panax* was first applied to it, and not *Aralia*; this was, no doubt, on account of its being considered by the Chinese as a panacea for all diseases. The name of the plant, among both the Chinese and the North American Indians, means, in their language, the figure of a man, and was given to it from a fancied resemblance of the human figure. In fact, much of its virtue seems to depend upon its form. With us there is little faith in its medicinal power, but the Chinese have unbounded belief in it and hence are eager to secure it. The emperor of the Chinese at first monopolized the right of collecting the roots, and whole

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districts were carefully guarded against any one gathering it, except the 10,000 he employed for the purpose. Each of these collectors in the year 1709 was bound to furnish two ounces free, and then was at liberty to sell the rest to the emperor for its weight in silver. If the root had the form of a human being it could be sold for its weight in gold. Even to-day great prices are paid for large and curiously shaped specimens, especially if they resemble the human figure. It was first discovered in Canada, near Montreal in 1716, by Father Lafitau, a Jesuit missionary among the Iroquois, and in 1718 a description of it was furnished. The French soon engaged in collecting and exporting it to China, and so great did the trade become that it gave quite an impulse to the commerce of Montreal for a number of years. At one time great numbers of Indians were engaged in gathering it about Montreal and Quebec and large quantities of it were sent to China. In 1832 the shipments of ginseng from the United States amounted to 407,067 pounds, valued at \$99,303. In one county in Wisconsin the trade is reported to have reached, in 1858 \$40,000 and in 1859 \$80,000. Immense quantities have been exported from Minnesota. At present the chief sources of the plant in the States are Ohio, West Virginia and Minnesota. About the close of the eighteenth century it was discovered also in Massachusetts, its exportation commenced and large returns obtained. During the last year 75,000 pounds were sent from America. In the forests of Tartary, where it was once plentiful, it is now almost extinct and hence has arisen the demand for it from America. It is not regarded of any value in this country as a medicine. Some are fond of chewing it as the taste is rather agreeable, being sweet, bitter, somewhat aromatic and pungent. The fact that Chinese doctors claim, that the roots of different shape possess widely different medicinal properties indicates, that its healing virtues are more of an imaginary character than real. But faith in its virtues continues, and as yet a great demand for it exists. The Chinese physicians introduce it into almost all their prescriptions for the nobility, to heal the sick and increase the vigor of the healthy.

A traveller in China remarks, he never entered a drug shop but ginseng was being sold. Volumes have been written by Chinese doctors upon its medicinal powers, asserting that it gives ready relief in extreme fatigue, renders respiration easy, strengthens the stomach, promotes the appetite, relieves all nervous affections and gives a vigorous tone of body, even in extreme old age.

The following figures taken from the *Canadian Pharmaceutical Journal*, April, 1891, will give some idea of the trade in ginseng in Canada :

The quantity sent out of Canada last year is stated to represent

\$100,000, and one retail druggist exported \$1,600 worth. From along the Kingston & Pembroke Railroad fully \$20,000 worth was shipped. The price realised was from \$3 to \$3.50 per pound for dry roots. The question is now being considered whether it would not pay to cultivate it. Such is done in some parts of the United States, and in order that readers of this bulletin may understand how to do it, the writer inserts a description of the process taken from the December issue of the *American Agriculturist*:

CULTIVATION. "It appears to thrive best in loamy soils, such as are usually found in sugar maple and oak forests at the North. Shade seems also to be essential, for when the plants are exposed to the direct rays of the sun they soon die out, and for this reason open field or garden cultivation of the plants has rarely or never been attended with success. The proper way to start a plantation is to select a piece of land at the edge of some forest where the plants are found growing wild. Then clear out all the underbrush and small trees, leaving just enough of the larger ones to afford the shade required. This should be done in spring or during the summer, then break up the surface of the soil with a harrow, steel rakes, hoes, or other implements to the depth of two or three inches, removing all weeds, grasses and their roots. The bed thus prepared will be ready for the reception of seeds and small unsaleable roots as collected in the autumn, the season of ripening depending somewhat upon latitude.

"Ginseng berries are of a crimson color when ripe, each containing two seeds, produced in small clusters at the top of a central peduncle elevated above the principal leaves. When gathering the seed the roots may also be dug up, and all small and unsaleable ones preserved and replanted in the prepared bed. The seed should be rubbed from the pulp very carefully with the hand, and then sown, or better pressed into the ground with the finger about half an inch deep, and one every six inches along the row. The rows should be from one to two feet apart for convenience of removing weeds, should any appear. Both seeds and plants should be in the ground before hard frosts occur in autumn, for when these come the leaves of the large trees will fall on the bed and give the natural protection required.

"The following season no cultivation will be needed—if the bed is thinly covered with leaves—except to cut out sprouts and remove any large coarse weeds which may spring up from seeds or roots left in the ground. If winds blow away the leaves needed as a mulch, a few old dead branches of trees may be scattered about to hold the mulch in place. At the end of the third season the roots will have reached a marketable size and may then be dug, and the same bed worked over and restocked with seeds or small plants.

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Some who have tried it say that raising ginseng can be made profitable where a man has suitable land in a forest or grove near at hand. The cost of preparing a bed cannot be very much and the seed can be obtained from the wild plants in our forests."

DISTRIBUTION. Ginseng has a wide distribution, and is found usually in upland woods and not in swamps, or low lying districts. It appears to thrive well in localities where limestone abounds. It frequently occurs in beds from which several pounds of roots may sometimes be gathered. As cattle are fond of the leaves it soon becomes scarce in woods to which they have ready access. It is comparatively common in Ontario where conditions are found favorable to its growth. Macoun, in his report on Canadian plants, gives it as found at the following places: Near Montreal, Beloeil Mountain, Prescott, Kingston Mills, Picton, Belleville, Seymour, Brighton, Sydney, Owen Sound, Amherstburg, London, Hamilton, Woodstock and Ottawa. It has lately been found near Toronto and occurs in many places as yet unreported.

