mercial horticulturists have proven insect enemies to fruit can largely be killed with poison sprays if applied at right time, which is just before and after open bloom. But a few, (not knowing better) insist on poison spraying open bloom, which kills the bees, as well as much of open bloom. In some states the fruit men spray open bloom with cold water in order to kill part of bloom, which is a way of thinning the fruit, so what matures will be larger. They know better than poison spray open bloom and kill the honey bees.

No person shall spray fruit trees while in full bloom with any poisonous spray which is injurious to bees in their egg, larval or adult stages.

If Wisconsin horticulture is to improve its products, it is as much the owners’ duty to look after bees nearby, as it is to build up the soil or spray at right time.

The apple orchards of Wisconsin that won highest prize for quality at two World’s Fairs (Chicago, Ill., Buffalo, N. Y.) had several hives of bees in the orchard.

The fruit bloom opens so early in the season, that there is not near enough other insects to fertilize the bloom, and it often happens to be bad weather, during open bloom time so the bees have limited time to visit so many flowers, unless hives are near the orchard.

Keep bees to insure more and better fruit.

DRUG PLANTS

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“* * * plants, herbs, and shrubs * * * of which this was choice, because of prime use in medicine; and that more choice, for yielding a rare flavor to pottage; and a third choicest of all, because possessed of no merit but its extreme scarcity.”

The relative merits of the representatives of the vegetable kingdom growing in the monastic garden, as explained to Quentin Durward by the brother philosopher of Liege, when expressed in commercial values, are much the same today as in the past. The rare orchid is paid for at a price many times its weight in 7—H.
gold and is placed under glass and in the care of an expert gardener. The kitchen vegetable, though the product of ordinary garden skill, must be wholesome, fresh and even attractive to the eye. Many a medicinal plant is seldom cultivated. It commonly grows wild on cheap mountain lands unfit for farming. Its collection, and its curing to a drug, are frequently left to ignorant people, with little or no sense of responsibility, who carry their parcel of roots and herbs to the market when in need of powder or spirits, the necessary elements of their shiftless lives.

The study of the fur trade constitutes a chapter of some importance in the history of the Old Northwest Territory. It is a chapter full of human interest and romance. To the summer tourist, who, away from the dock and the shops, has indulged in a stroll through the solitudes of Mackinac Islands; and who, instead of leading a life of luxury in the Grand Hotel, has sought the quiet of the old Astor Hotel, it does not require an overdose of imagination to see, with the mind’s eye, the piles of furs in the counting-room of the former station agent, likewise the striking form of the coureur de bois and his Indian companions squatted about. Even the games of chance, played openly during the evenings in the equally open stalls along the lake front, and the sound of the distant orchestra may bring back visions of gambling, of primitive song and dance by the camp fires on the shores under the starry heavens and under the very guns of the fort.

The hunting of wild animals and the trade in their furs is a thing of the past in these parts. Few people—and this, I fear, holds true even of the historian of the fur trade in the Northwest—are aware that the hunting of animals has had its counterpart in the hunting of plants. Though not as important to political history, it also has had its charms and its romance (The Harvester).

While the hunting of wild medicinal plants has followed the hunting of those wild animals which were valuable because of their fur, both forms of hunting have had common aspects. Hence it is but natural that, to a certain extent at least, the very same type of people who had pursued the life of animal hunter, later, when the fur-bearing animals had been exterminated, turned to plant hunting, even though it was much less exciting.
Whether the hunting of either animal or plant proved very profitable to the hunter himself appears rather doubtful. The shiftless hunter was in the habit of selling out to the fur trader at the trading post, sometimes even in advance of the hunt. So with the hunter of medicinal plants. As a rule he never established connections with the manufacturer or even jobber, but sold out his small lots to the druggist and to the general merchant at the crossing of the roads.

In Wisconsin the succession of the fur trader by the dealer in roots and herbs is exemplified very strikingly in the Kickapoo Valley, a valley that derives its name from a tributary to the Wisconsin river, which joins the latter near its outlet into the Mississippi. The very names Prairie du Chien and Kickapoo have a flavor that smacks of the French *Coureur de bois* and his Indian allies.

At what time during the nineteenth century the collection of medicinal plants on a commercial scale in the Kickapoo Valley had its beginning has not been ascertained. Probably it began in a small way, as the fur trade ceased to supply even the meager wants of the shiftless squatter of southwestern Wisconsin. In the course of time, it must have acquired considerable proportions, though exact figures will never become available. Some idea of its extent, however, may be gleaned from the following figures. From 1893 to 1909 a single druggist in this district bought from root diggers and herb collectors in Richland and Crawford counties and exported the following amounts:

875,000 lbs. Red Elm Bark.
2,500 lbs. Blood Root.
2,250 lbs. Mandrake Root.
1,500 lbs. Elecampane.
1,250 lbs. Indian Turnip.
500 lbs. Prickly Ash Bark.
250 lbs. Goldenseal.
3,000 lbs. Ginseng.
1,500 lbs. Miscellaneous Drugs.

However, civilization even in the Kickapoo Valley is progressing. More intelligent farming, especially dairying, and more recently horticulture, have replaced the shiftless ways of the hunter-farmer by more scientific management. Moreover, the natural resources in medicinal plants had gradually been exhausted as the valuable fur-bearing animals had been annihilated before. So long as the woods in central and northern Wisconsin sup-
plied in a wild state the roots and herbs which had disappeared in the southern tier of counties, there was little incentive to cultivate what nature supplies so lavishly. But even wild ginseng and hydrastis have become relatively scarce and hence the cultivation of these, as well as of numerous other medicinal plants has become an economic necessity and, therefore, a scientific problem.

For a long time small patches of peppermint, spearmint, sage, chamomile, etc., have been raised for home use, and small amounts have been placed upon the market. The only instance, however, of a medicinal herb grown on a large scale for a long period of years is that of the cultivation of wormwood and its distillation on the Drew farm in the fertile valleys of the Columbia county. This agricultural industry has been pursued by three generations on the same spot for over fifty years. Two other farms near the old Drew homestead have, in more recent years, taken up the cultivation of wormwood in connection with the raising of cattle.

The history of this industry is very interesting indeed, and not wholly devoid of romance and has had its problems for the sociologist as well as for the plant chemist. With this industry there was coupled, to some extent, the distillation of horsemint and several other aromatic herbs, though on a much smaller scale.

For fifteen years or more, the cultivation of ginseng has been a matter of some importance. As a purely financial proposition it has certainly paid handsomely in some instances. In Central Wisconsin there existed a ginseng garden in which $3,000 had been invested. After this first investment, the proceeds of the garden paid for both labor and improvements. The average profits during the nine years of its existence were 250 per cent per annum. Why was such a profitable undertaking abandoned you will ask. For the simple reason that the partnership was converted into a stock company.

Whatever may be the therapeutic merits of ginseng, this much is true, that the money value represented by the ginseng gardens of Wisconsin is not to be scoffed at. For the sake of mutual protection, including insurance against theft, the ginseng growers of Wisconsin have organized an association. A covered ginseng garden, spread out over several acres, with its hundreds of thousands of plants, all the way from yearlings to six-year-olds, is a
sight worth seeing. Indeed, it is so much worth seeing that in 1909 the Japanese government sent over two experts—one a scientific botanist, who had received his education in the universities of Germany, the other an expert in ginseng horticulture—to this country to study our methods of cultivation. The commercial significance of ginseng in Asia is such that the Japanese government has assumed control over all the ginseng cultivation in Korea and has secured to itself the monopoly of its sale. In this connection it may be mentioned *en passant* that ginseng was one of two articles which, in the early days of Kentucky, could stand the wagon freight from Lexington over the Alleghenies to the Eastern sea ports for shipment to China.

But aside from wormwood and ginseng, no systematic effort to cultivate medicinal plants had been made in Wisconsin until a few years ago. The first attempt of this sort in Wisconsin appears to have been made by the speaker during the spring and summer of 1908. A year later this experiment was taken over by the government, which through the Office of Drug-Plant and Poisonous-Plant Investigations of the Bureau of Plant Industry of the Department of Agriculture for some years maintained its northern station on the campus of the University of Wisconsin as a cooperative experiment. In 1913 the Legislature established a Pharmaceutical Experiment Station, the first of its kind. It is this station, the research end of the Department of Pharmacy of the State University, which maintains its Pharmaceutical Garden as one of its several phases of activity to assist the pharmacists in their efforts to supply the best medicaments attainable. Its cooperation, however, extends to the Medical profession, indeed to all, who desire to assist in supplying aid and comfort to our sick.