



# Science News-Letter

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BOTANY

## Poison Ivy Conquered by Chemicals

By **FRANK THONE**

Poison ivy, the bane of the vacationist's existence, is with us again. Every motor trip, every picnic, every hike through the woods is apt to be followed by a blistered, red, intolerably itching casualty, or at least will have the best edge taken off its pleasure by the nervous anticipation that such ill consequences may follow a few hours after brushing against some seemingly innocent vine or bush. Remedies by the hundreds are recommended by doctors, by druggists, by old-fashioned housewives. Some of them work, some of them just serve to keep the patient in as cheerful a frame of mind as possible until the afflicted place gets well by itself. The handling of ivy poisoning, and of its kindred ailments oak and sumac poisoning, is still in a more or less chaotic condition.

Scientific order, however, is being brought out of it by the efforts of botanists, chemists and physicians, and now there are a few standard remedies, and what is even better, standard preventives, that anybody can have his corner druggist mix up in a few minutes. There is nothing "patent" or proprietary about them; they are all old familiar chemicals, and they don't cost much.

### **Potassium Permanganate A Remedy**

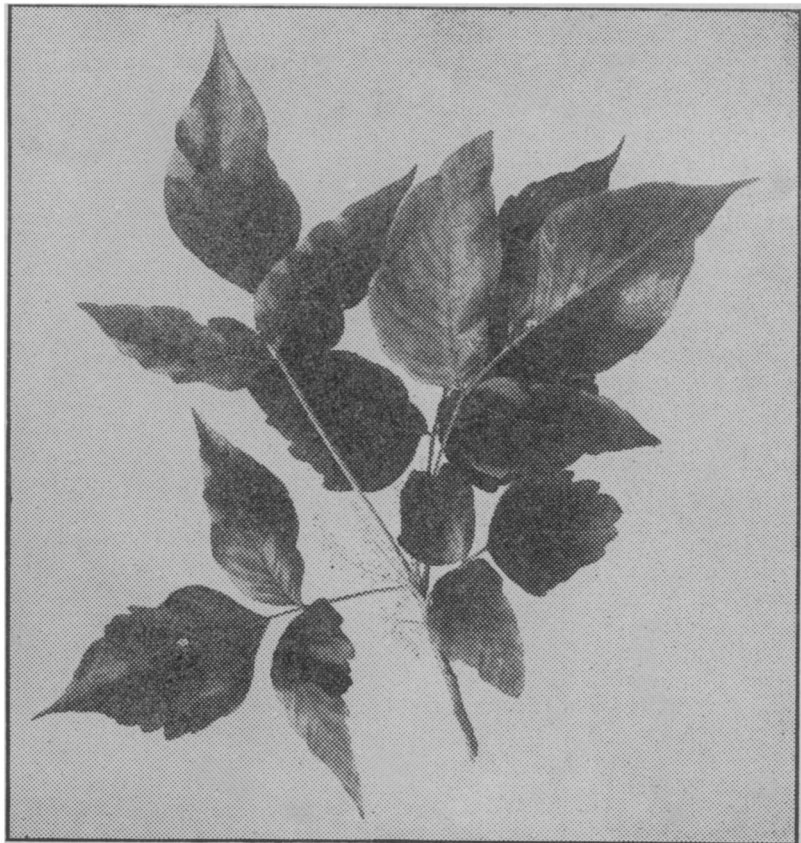
The best remedy is axiomatically one that destroys the cause of the ailment, and it is for this reason that Dr. James F. Couch, of the U. S. Department of Agriculture, expert on poisonous plants, recommends the use of a solution of permanganate of potash to stop the itching, blistering irritation that follows contact with poison ivy, poison oak or poison sumac. Five per cent. of the compound in water is all the prescription your druggist will need. Bathe the afflicted skin freely with this solution,

swabbing it on with a bit of cotton or soft cloth, and the poison will be oxidized and destroyed. This treatment leaves a brown stain on the skin, which can easily be removed in any one of a number of ways. A one per cent. solution of oxalic acid, Dr. Couch says, is the quickest means. But oxalic acid is a poison, so that if you are afraid of children getting hold of it, you may use instead a one per cent. solution of sodium bisulphite, or even just plain soap and water, though the latter is a bit slow in taking off the stain. If the skin has been very much broken by scratching

or otherwise and is raw, the oxalic acid will cause a temporary stinging and soap and water is preferable for removing stains from such sensitive surfaces. If the skin is very tender the solution of potassium permanganate may be diluted with water before using.

### **Ferric Chloride A Preventive**

The permanganate treatment is recommended only as a remedy for poisoning that has already taken place. Persons who know that they are likely to be poisoned may prevent the plants from harming them with a  
*(Just turn the page)*



*POISON IVY, or poison oak, can be identified by the leaves, which are always three-parted*



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## Poison Ivy

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wash devised by Dr. James B. McNair, of the Field Museum, Chicago. This consists of a five per cent. solution of ferric chloride in a fifty-fifty mixture of water and glycerin. This is to be washed on all exposed parts of the skin and allowed to dry there, before going where the dangerous weeds grow. The iron in the chemical combines with the poisonous principle of the ivy and changes it into a harmless, non-poisonous compound. This "iron cure" has been thoroughly tested by professors and students of the botany department at the University of Chicago. Their field trips take them through much poison ivy and poison sumac country, especially in the famous Lake Michigan dunes. Before they began to use Dr. McNair's treatment ivy and sumac poisonings were taken as a part of the natural hazards of a scientific course, but now they are rare occurrences.

Dr. McNair disclaims credit for the first discovery that a solution of an iron salt will help in the treatment of ivy poisoning. Indeed, it would be hard to think of something to put on an ivy-blistered skin that has not already been tried, for the more or less authentic remedies he lists in his monograph run literally into the hundreds. Common copperas, which is sulphate of iron, is used in some parts of the South, and iron salts were among the things suggested by physicians many years ago. But Dr. McNair was the first man who extracted the poisonous principle of the plants in a concentrated form, analyzed it chemically, and found that when mixed with an iron solution it became insoluble and was no longer poisonous. His claim to recognition therefore rests on the fact that he first firmly established the "iron treatment" of ivy poisoning on a solidly scientific basis,

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## News-Letter Features

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*POISON IVY often forms dense masses of shining foliage, which are really quite attractive to look at—from a distance*

### Poison Ivy

*(Continued from page 2)*

especially as regards its value as a preventive.

Dr. McNair has also worked out a modification of the paraffin treatment for burns which is now used in hospitals for the cure of extreme cases of poisoning, where wide areas of the skin are killed and have to be grown anew. But this is something that can be handled effectively only by medical men, and so has no place in the family medicine chest or the field first-aid kit.

### Lucky Ones Are Immune

Poison ivy is more of a terror than it has cause to be, for all scientists who have studied the subject agree that many persons, perhaps even a majority, are more or less immune to it. No one, says Dr. Couch, is absolutely ivy-proof; he can raise blisters with the squeezed-out sap of the plant on the skin of any one hardy (or foolish) enough to volunteer for such an experiment. But many of these same persons can walk around in it all day, or pull it up the handfuls, with no ill effect whatever. But this should not encourage these lucky ones to be too reckless. Immunity to poison ivy does not always stand at the same level, but apparently suffers occasional let-downs, and if one happens to get poisoned during one of these

low spells he never recovers his lost immunity, but remains susceptible for the rest of his life.

Dr. Couch states also that ivy poisoning is really a double effect. The blistering and itching are caused, he says, by the substance which Dr. McNair isolated and named "lobinol," and the swelling and reddening of the afflicted parts, together with the general "all-gone" sick sensation that so seriously affects many poison-ivy patients, are what is known as an "allergic" reaction, more or less analogous to most kinds of hay fever, and are probably due to some other poisonous substance not yet identified. Persons who are susceptible to the blistering effects of the ivy are often quite immune to this allergic reaction. For this part of the poisoning effects the various chemical treatments recommended for the blisters and itching are of no use; all the patient can do is go to bed and keep quiet until he feels better.

### Easy To Recognize

But after all has been said about remedies and preventives and the fortunate immunity of many persons, the best prescription for poison ivy and its relatives is to know them when you see them, and let them severely alone. Poison ivy and its West Coast relative, poison oak, are very much alike in general appearance. They grow either as vines, climbing fences and trees, or as erect,

slender-stemmed shrubs from underground rootstocks, and are distinguished by their glossy green, three-parted leaves, which are not like those of any other common vine or shrub. Their flowers, which are in bloom during late spring and early summer, are plummy little clusters of tiny greenish bloom. During this flowering season the plant is said to be especially venomous. The flowers are succeeded by pale white little berries, which persist throughout the winter, and are often eaten by birds, with relish and with no apparent ill effects. This of course helps to spread the plant.

The vine form sometimes attains huge proportions. In the "high hammock" woods of the South poison ivy vines a foot through are sometimes found, and six-inch vines are common. In the North, a three-inch vine would rate as a big one. The poison ivy vine can be distinguished easily from the beautiful and harmless woodbine or Virginia creeper partly because it throws out innumerable roots that cling to the tree trunk, while the woodbine clings by means of tendrils and partly by its three-parted leaf as contrasted with the woodbine's five-parted one. There are two old sayings that embody these botanical points: "Leaflets three; let it be," and "Five fingers may handle five leaves." In some parts of the East poison ivy is called poison oak, but the latter title belongs by rights to the similar plant of the wooded foothills of the western mountains.

### First Settlers Knew It

Poison ivy is a hundred per cent. American plant. It is unknown in Europe in a wild state, so when the first colonists encountered it—and got rather the worse of the encounter—it caused some comment. It plagued the settlers at Jamestown, and Captain John Smith knew it both there and in the British island possessions farther south. He noted in his journal, accurately enough, too:

"The poisonous weed, being in shape but little different from our English yvie; but being touched causeth reddness, itching, and lastly blysters, the which howsoever, after a while they passe awaye of themselves without further harme; yet because for the time they are somewhat painefull, and in aspect dangerous, it hath gotten itselfe an ill name, although questionless of no very ill nature."

*(Just turn the page)*

## Poison Ivy

(Continued from page 9)

Less frequently encountered than poison ivy, but of a more "ill nature," as Captain John Smith put it, is the poison sumac. This looks much like the common sumac that is such a fine ornament on the roadsides, but is clearly distinguishable by several marks: it always grows in or near acid-water bogs, whereas the common sumac is an upland plant; its fruits are smooth, round white berries that hang in drooping loose bunches, while the ornamental sumac's fruits are small and rough, deep brown or black in color, and stand erect in a close pyramidal cluster; finally, the bark of poison sumac is pallid gray, while that of the ordinary sumac is more brownish, or in the case of the staghorn sumac, very hairy and sooty-black. The poison sumac is reported to be much worse in its effects than the poison ivy, but to be dangerous to far fewer people.

Poison sumac is an accurate name, for the plant is really a species of sumac. Poison ivy and poison oak are both misnomers, for the one is not an ivy and the other not an oak, but both are sumacs also, though they have only three parts to a leaf. They are not the only poisonous sumacs in the world, for the Asiatic plants that yield shellac are also sumacs, and their sap is poisonous, sometimes seriously so. When

the mah-jongg craze swept the country a couple of years ago it carried an epidemic of skin rashes in its wake, and it is probable that the lacquer on the bamboo pieces was to blame. A tale is also told of a zealous customs inspector who opened a heavy tin can brought in by a Chinese. The Oriental importer stated that the sticky black stuff in it was shellac, but the inspector suspected opium. He took it to the laboratory and analyzed it—and for the next month was laid up with one of the worst cases on record of ivy poisoning!

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The Romans heated houses by forcing hot air under the floors and through flues in the walls.

The hourglass spider of the South and West is one of the few spiders in this country dangerous to man.

There are probably as many rats as people in this country, and each rat averages \$2 damage a year.

A good grade of paper can be made out of worn out paper money, the Bureau of Standards has found.

Whether the Alsatian police dog is descended from a wolf crossed with a domestic dog or not is being warmly debated by Chinese dog owners.

## MEMORANDUM

This blank space serves a dual purpose. It allows you to clip out the article on the reverse of this page without destroying any other article. It can also be used for notes and the recording of your own observations.



*POISON SUMAC* looks much like ordinary sumac, but is distinguished by its drooping bunches of pale berries