BOTANY-CHEMISTRY

Poison Ivy Is Perennial Pest

A new chemical, 2,4,5-T, is the latest weed-killer found effective against poison ivy. It is related to 2,4-D but is considered an improvement over it.

By DR. FRANK THONE

➤ POISON IVY is a perennial pest, in a dual sense. In the literal, botanical meaning of the word, poison ivy is a perennial plant: its glossy-green but evil-laden leaves come forth thickly year after year on woody branches of a myriad-rooted vine that climbs up tree-trunks and over rocks or trails along just under the ground surface as a long, snaky rootstock. It overruns and smothers out wildflowers and shrubs, finally monopolizing the ground in woodlands where the overhead canopy is not fully closed.

Perennial, too, are its painful effects on its victims, for no one who is sensitive to poison ivy ever acquires a natural immunity. Moreover, susceptibility to ivy poisoning appears to be a definite hereditary trait, passed on from parent to offspring through generation after generation. It might be likened to the doctrine of Original Sin in reverse—a kind of undying Original Innocence, exposing its unfortunate possessors to itching, blisters and general misery every summer of their lives.

Some Are Immune

There are some lucky individuals on whose resistant hides poison ivy has little or no effect. However, they are outnumbered more than two to one by those who suffer after every contact. Such resistance or immunity cannot be guaranteed permanent, either; a heavy exposure to the weed may break it down, and once lost it is never regained.

Small wonder, then, that poison ivy is dreaded and hated everywhere, and that some people hesitate to enjoy outdoor fun for fear of having literally to pay for it through their skins. For such supersensitives, however, the past few years have brought good news.

Poison ivy used to be considered just about impossible to kill. Older chemicals, that would make a quick end of most weeds, would merely wither the leaves on poison ivy, and the dead foliage would soon be replaced with more, just as bad as the first. During the war years, however, two weed-killers were developed that proved quite effective against the three-leaved pest. Ammate and 2,4-D were the convenience-names under which these were finally offered to the public.

This year a new compound is being marketed which is claimed to be a definite improvement over 2,4-D as a killer of woody growths. It is chemically related to 2,4-D, and is tagged 2,4,5-T for short. Spelled out in full, it is 2,4,5-trichlorophenoxyacetic acid. But even chemists and weed eradicators don't stop to recite all that: 2,4,5-T is enough. It is commonly sold in ready-mixed preparations, with directions for dilution and use printed on the label. Each manufacturer of course uses his own trade-name, but the actual formula will also be given.

Ammate, incidentally, is by no means out of the running. Some long-experienced veterans of the weed war still declare it's the best poison-ivy poison there is. It costs more than either 2,4-D or 2,4,5-T, but they say it's worth the difference, especially where quick results are wanted, as around yards where children play, or in the immediate vicinity of summer camps and cottages.

There is, of course, no way of getting rid of all poison ivy. It is just too abundant and widely distributed. All you can do is spray it to death where exposure of human skin to its venomous leaves is most frequent.

Best treatment for poison ivy is the absent treatment. Learn to recognize it—and shun it. You don't have to be a botanist to know poison ivy when you see it; that compound leaf with the three leaflets is its trademark. If you see such leaves on twiggy, many-rooted vines that climb up things, or on shrubby growths from knee- to shoulder-high rising out of the ground, stay away from them. "Leaflets three, let it be!" is an old but good rhymed rule to remember.

Poison ivy is one of the most widely distributed plants in North America. It ranges from Canada south to Florida, westward until it meets the deserts of the Southwest, northwestward to Puget Sound. There its range overlaps that of the Pacific Coast species, commonly known as poison oak. Actually, the two look so much alike that it takes a Ph. D. in botany to tell them apart—and some trained botanists aren't too sure that there is any real distinction.

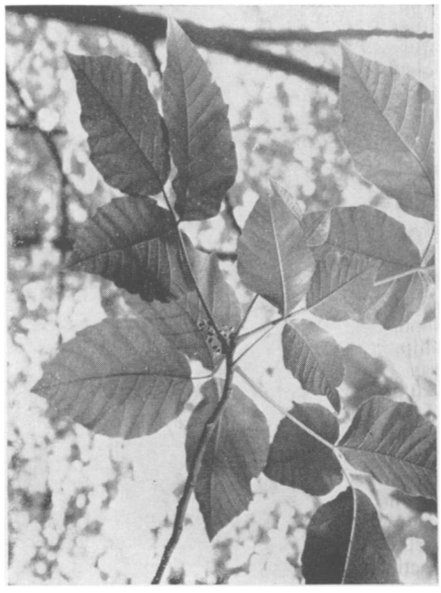
There is a third member of this Borgian cousinship, poison sumac. This looks very much like the beautiful tall sumac that touches brushy hillsides with flame in autumn. However, it grows only on the wet borders of acid-water bogs, where most people would not think of going picnicking, so there is less need to worry about running into it.

Botanically, this triad of pests is a closely related clan. Poison ivy is not a real ivy, and poison oak emphatically not an oak, but poison sumac is a true sumac—and so are the other two. Like every large family group, the sumacs have some disreputable members, and these three are the black sheep of the sumac tribe. Although poison ivy, poison oak and poison sumac are all strictly American in their range, there are other poisonous sumacs in foreign lands, especially in the tropics. Most notorious of these overseas "baddies," however, is another temperate-zone species, a tall shrub or small tree that grows in Japan and China, and is the source of the beautiful lacquer much admired on Oriental furniture and art objects.

Toxic Principle

The toxic principle in all these poisonous members of the sumac tribe is an oily, non-volatile substance first identified by a Japanese scientist near the beginning of the present century. He gave it the name "urushiol," from the Japanese word for the lacquer-producing tree, which is "urushi no ki."

The fact that this poisonous substance is non-volatile, that is, not readily turned to a vapor, surprises some persons who have the idea that poison ivy or poison oak can harm their sensitive skins even if they don't actually touch the plant. This seeming action-at-a-distance is easily explain-



POISON IVY—This is a close-up shot of the leaves from the under side. Note the cluster of tiny, inconspicuous flowers near top of stem. Some botanists state that the poison is most virulent when the plant is in bloom.

POISONING THE POISONER—Here one of the new chemical killers of poison ivy is being applied with a pressure-spray outfit.

able, when it is understood that touching objects that have in turn touched poison ivy can transfer the poison in sufficient quantity to start the mischief on more-than-ordinarily sensitive skins.

If you pet a dog or cat that has been running through poison ivy, or work with garden tools that have brushed against it, even toss up a tennis ball that some hardy immune person has retrieved out of a patch of the weed, you may start a case of ivy poisoning. Although the smoke from burning poison ivy or poison oak that has been grubbed up and dried cannot cause poisoning, it is apt to contain small bits of unburned leaf or bark material capable of causing blisters.

Proposed remedies for ivy poisoning have been listed literally by the hundreds. They range all the way from juices from various crushed herbs, supposed to be "old Indian remedies," to concentrated solutions of photographer's hypo. No one single treatment appears to be good for everybody, but there is one that has been used for more than a generation with good success by large numbers of persons known to be sensitive. This is the so-called "iron treatment."

It consists of a five percent solution of ferrous sulfate, or copperas, in a half-and-half mixture of water and alcohol, plus a little glycerin, if desired. In contact with the poison, the iron combines with it to form an insoluble, non-irritating compound.

While this can be sponged onto ivy-poisoned skin after the damage has started, it is still better to use it as a preventive. You just wash it freely over all exposed skin surfaces and let it dry "as is," before you go into places where poison ivy or poison oak is likely to be encountered. Then the poison is immediately contacted by the iron salt when you brush against the plant, and it never gets started. There are a few hyper-sensitive skins that cannot be thus protected, but for a majority of ivy-susceptible persons this solution is a suit of invisible iron armor.

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MEDICINE

May Check Pregnancy Ill

➤ EXPECTANT mothers of the future may be saved from a dangerous, often fatal disease, thanks to a "happy accident" discovery by Dr. Alexander Symeonidis, special research fellow of the National Cancer Institute.

The disease is eclampsia. It accounts for between one-sixth and one-fifth of all maternal deaths in the United States. High blood pressure, impaired kidney function, abnormal accumulation of fluids in body cavities and convulsions are symptoms of this disease which attacks late in pregnancy and often causes death of the unborn baby as well as the mother.

Injections of a female hormone, progesterone, which is essential to pregnancy, caused symptoms and tissue changes in rats late in pregnancy that are strikingly similar to those found in human eclampsia, Dr. Symeonidis discovered.

At the time he made this discovery he was investigating the role of the hormone in breast cancer. Whether tumors will also develop in the rats, as expected, is still being investigated.

The accidental discovery of the relation between the hormone and eclampsia, however, is considered a step toward discovery of the cause of this disease which has defied doctors and killed mothers for thousands of years. Once the cause is definitely established, there is hope for more reliable means than now available for curing or preventing the condition.

Dr. Symeonidis believes that the eclampsia in the rats was the result of an unbalanced condition between the ovaries, pituitary gland and placenta induced by high doses of progesterone at a critical stage of late pregnancy. As an alternative, he points out that poisonous substances produced in the damaged placenta might be responsible. Evidence for this theory is the fact that some of the rats recovered after discharging dead embryos and damaged placentas.

The accidental nature of Dr. Symeonidis' discovery, made in the course of cancer research, is somewhat ironic. In a series of experiments in 1936 in Germany he tried unsuccessfully to produce eclampsia in animals.

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MEDICINE

Super-Intensive Treatment Effective for Epileptics

➤ GOOD results with a super-intensive treatment of epilepsy were reported by Dr. Tracy Putnam of Los Angeles at the meeting of the American Neurological Association in Atlantic City.

The super-intensive treatment was designed for patients not helped by the usual and less rigorous methods of treatment. Modern drugs, special diets, exercise and other measures fail to control the seizures, commonly called fits, in from 10 to 30 out of every 100 epileptics, Dr. Putnam stated.

In the new treatment, patients were put to sleep with one of the modern sleeping medicines and kept asleep for three to six days. This was supplemented by daily doses of phenytoin or other of the modern anti-epileptic drugs. Glutamic acid, a chemical once reported effective in stimulating intelligence, a special diet and inhalations of carbon dioxide were also given in what Dr. Putnam termed "hyperintensive treatment."

All five patients treated showed some improvement. Two continued to have attacks but had them less often. And they showed improvement in personality. The other three patients have remained free of attacks for periods up to a year.

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