

Some persons are apparently quite immune to poison ivy, and can handle it with no more harm than if it were lettuce. But such immunity is not a certain thing. It can be lost without warning, and once lost seemingly never returns.

Poison ivy is found in all moderately moist open woodlands in the East, and its Pacific Coast twin, poison oak, grows in similar habitats. Even more virulent than these two, though affecting fewer people, is poison sumac, a close botani-

cal relative. This grows only in acid-water bogs or on their margins, so the average person who likes to keep his feet dry is not likely to get into it.

Poison sumac looks like ordinary sumac, except that its bark is a rather pale gray, and its fruits are in loose, drooping bunches of white berries instead of erect, stiff clusters of red-brown fuzzy "seeds." The remedies for poison ivy are good also against poison sumac.

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large amounts of sugar and starches reduced the fat of the liver so quickly that within one week it was normal.

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ENGINEERING

Los Angeles Transmission Line Has Fast Breakers

See Front Cover

ALONG the 287,500-volt, 270-mile transmission line from Boulder Dam to Los Angeles will be placed eight circuit breakers, each incorporating three single-pole units. Seven of the single poles are shown in the illustration on the front cover of this week's SCIENCE NEWS LETTER. Notice how small the man appears beside them.

The breakers will operate at a higher voltage than any others commercially installed; they are rated to interrupt the circuit in slightly more than one-third the time of the fastest breakers heretofore available for high voltages; and they will require less than five per cent. as much oil as would usual breakers for such voltage—1,000 instead of 23,000 gallons.

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MEDICINE

Reducing Fatty Livers May Make Operations Safer

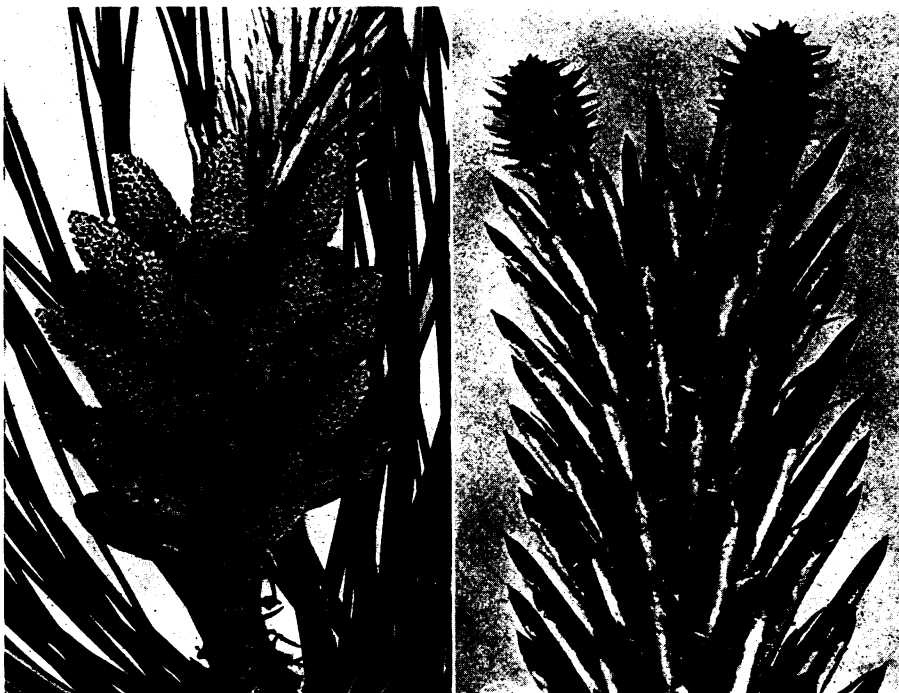
A DIET containing large amounts of starches and sugars may become an important part of the treatment of liver disease, particularly when the patients must undergo surgical operations. Experiments suggesting this were reported by Drs. J. L. Bollman and F. C. Mann of the Mayo Clinic at the meeting of the American Physiological Society.

A fatty liver, they found, cannot properly do its important job of protecting the body from poisons but the fat in the liver can be rapidly decreased by adding generous amounts of starches and sugar to the diet. The composition of the liver can be varied within wide limits by diet, they reported. Eating excessive amounts of fat increases the fat in the liver from a normal value of about four per cent. to twenty or thirty per cent. within three weeks. In extreme cases almost half the liver may be fat. At the same time there is a decrease in the amount of water and glycogen, which is the form in which the liver stores sugar.

Ordinarily these changes in the composition of the liver do not affect its functioning, but when dogs with fatty livers are subjected to unusual stress it becomes apparent that they are definitely handicapped. Men are probably similarly affected. Ether anesthesia and surgical operations which a normal animal stands very well are poorly tolerated by animals with fatty livers and recovery is prolonged. Liver poisons such as carbon tetrachloride, chloroform and tetrachlorethane are rapidly fatal to animals with fatty livers, although the same amounts of these substances have little noticeable effect on normal animals. The greatest damage to the liver is done when the organ's glyco-

gen content is lowest, generally at a time furthest removed from the last meal.

Dogs with fatty livers became much more intoxicated by a given amount of alcohol than dogs with normal livers. Within three weeks the amount of alcohol had to be reduced for the dogs with fatty livers because the normal harmless dose by that time was fatal. But feeding



THE WIND IS THEIR MESSENGER

Pines are among the many tree genera that have no need of insects to act as auxiliaries in the important business of pollen transfer. The wind is their messenger; it carries the myriad yellow grains, each with a pair of hollow sustaining floats, away from the male or staminate cones (left), and a few of them suffice to fertilize the flowers in the female or pistillate cones (right). Lowland pines attended to this important step in the continuation of their respective species weeks ago; on the mountains and high plateaus the pollen still yellows the air. The photographs shown here are of the floral structures of the Ponderosa pine of the West, and were taken by Dr. William M. Harlow of the New York State College of Forestry.