

PLANT PHYSIOLOGY

Plants Can Hinder Or Help Each Other

DIVERSE social groups that just don't get along with each other often base their mutual dislike on things scarcely tangible yet very potent, like alien modes of speech or unaccustomed cooking odors. Dinty Moore's redolent kettle of corned beef and cabbage is more than a comic-section joke; it is the boundary marker between hostile cultural states.

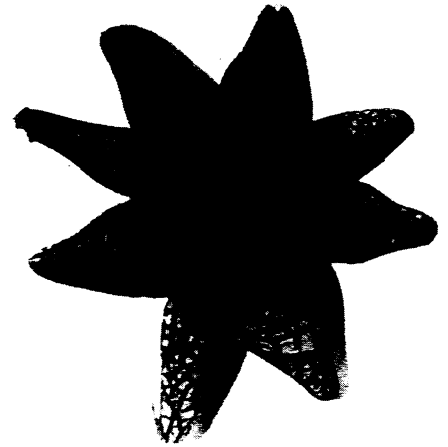
Plants no less than human beings often develop feuds or friendships from much the same sort of subtle chemical causes. Dr. Gerhard Madaus, a German physician, has made a special study of some phases of this "chemical plant sociology," which started with his experimental plantings of drug plants but has been extended to take in the likes and dislikes of several varieties of crop plants as well.

Dr. Madaus calls attention first to the often-observed fact that the plant growth in certain types of evergreen forest is sparse, and poor in number of species. Most plants cannot tolerate the acid

compounds from the trees' needles. He also cites experiments by American as well as German plant physiologists, wherein the mere presence of odorous plant substances, such as the scent of apples, oil of bergamot, or turpentine, accelerate seedling growth in light but hinder it in darkness.

Of greater economic significance, possibly, are his experiments with paired species grown together and separately. Thus, he found that corn and wheat planted in the same pot produced a more rapid growth of wheat. Bean seeds in water that had bathed the roots of oats sprouted more quickly than did similar seeds in water from corn roots. Grapevines with cypress spurge (a common vineyard weed) growing close to their roots failed to set fruit. In some instances it is known that root secretions are responsible for these mutual effects, and it seems quite likely that similar substances act in like manner in other cases.

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BOTANY

Earth's Little Stars Respond to Weather

STARS in the heavens are serenely indifferent to clouds and rain, but the little stars that are of the earth, earthy, respond readily to such influences. Earth-stars, the quaint little fungi that can be found in open places in autumn and even on snow-free soil in winter, have the fibers in the split segments of their leathery coats so arranged that they curl open when moist, and close again when they dry.

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SOCIOLOGY

Petty Gambling Costs U. S. \$3,500,000,000 a Year

THE WORD gambling may bring to your mind pictures of race tracks and roulette wheels, but a recent survey indicates that half of America's estimated \$7,000,000,000 yearly gambling bill is accounted for by the petty gambling of Mr. and Mrs. John Doe, and Junior.

The slot machine, the numbers game, the punchboard in the corner store and bank night at the neighborhood movie take in quantities of cash during a year. Lodges organize raffles. Office groups have pools on the baseball game. Churches have "Bingo" parties and firemen's carnivals their "Corn Games" and wheels of chance. Hospitals have their sweepstakes.

The pinball machine, that often escapes anti-gambling laws by a liberal classification as "games of skill" when the pay-off is in merchandise, takes in from \$7.50 to \$10 a week for each ma-

chine, it is estimated.

In addition to all this public gambling, there are always the more private forms over bridge, dice and in bets on every subject under the sun.

In good times, John Doe gambles because he has plenty of spending money. In bad times, he gambles because he is more than ever anxious to get something for nothing, it is pointed out by investigators of the Northwestern National Life Insurance Company in commenting on their survey.

Officials cite the human urge to gamble as explanation of the ineffectiveness of drives to abolish gambling.

Nevertheless, the eighth grade arithmetic class of Riverside, Ill., is credited with abolishing the slot machines and punchboards in that town.

A slot machine made its appearance in the classroom there as a practical dem-

onstrator of the "heads-I-win-tails-you-lose" scheme of operation of such devices. Presumably not "loaded," the machine nevertheless returned only 59 cents on the dollar. The children asked whether such machines were not forbidden by law. When assured that they were, they presented their findings and the location of three slot machines and 22 punchboards to the village board.

The board decided to enforce the ordinance.

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