CHEMISTRY

Insecticides Tempt Insects

Chinese shrub used for centuries to protect crops from pests yields chemicals from its roots that poison the insects that chew the plants. It is now being successfully cultivated.

➤ THE "THUNDER God Vine," a Chinese shrub used for centuries to protect crops from pests, may yield new insecticides which insects literally cannot resist, Morton Beroza, Department of Agriculture chemist, reported to the American Chemical Society at its Atlantic City meeting.

Transplanted from the Orient, the stocky, twining shrub is now being cultivated successfully in the department's garden at Glenn Dale, Md., and in several other sections of the country.

In tests so far conducted on American insects, the powdered roots of the Thunder God Vine have proved effective against the larvae of the codling moth, the European corn borer and the diamond-back moth. Imported cabbage worms also are killed by the root powder.

"These insects get their food by chewing fruits or vegetables," Mr. Beroza explained. "The insecticide has little or no effect on insects that live on the juices they suck from inside plants. It is therefore a stomach poison and not a contact insecticide. In spite of its toxicity to chewing insects, the insecticide does not appear to be toxic to warm-blooded animals."

The root powder's low toxicity to warm-blooded animals may be an important factor in future research on the resistance which insects build up against insecticides. In general, however, insect killers made from natural sources have not induced such resistance, Mr. Beroza asserted.

Natural compounds, such as those found in the "Thunder God Vine," may prove valuable in formulating so-called "permanent" insecticides that do not require progressively higher concentrations to retain their effectiveness.

Chemists have succeeded in isolating a quartet of closely-related chemicals that provide the insecticidal power of the vine. Found in the bark of the roots, the chemicals, known as wilforine, wilforgine, wilfordine and wilfortrine, have the same basic chemical structure. The names are derived from *Tripterygium wilfordii* Hook, the technical name for the Thunder God Vine.

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AERONAUTICS

Safer Airport Promised

➤AIRPORTS OF the future will have parallel runways instead of intersecting ones under President Truman's recent order to government officials to start at once to carry out the recommendations of his Airport Commission.

Other improvements covered by the order include the wider use of radar traffic control and instrument landing facilities, federal licenses for ports used for interstate transportation, and the separation of military and civilian traffic wherever possible.

The intersecting runways now common on all major airports are provided so that planes may land headed into the prevailing wind at the time. They are no longer essential, because modern heavy transports can land with relative safety in moderately-high cross winds. Light planes, equipped with caster cross-wind landing gear, need no longer land against the wind.

The government offices to which the President's order is directed include the Department of Defense, the Post Office Department, the Civil Aeronautics Board and the Civil Aeronautics Adminstration, in control of all federal civil airports. These include the major airports of the country.

Parallel runways require less land than those with intersecting runways, and high buildings and other structures on their sides are not a serious hazard. However, to provide a greater degree of safety, approach areas at each end must contain no high structures.

The President's Airport Commission recommends that the approach areas be without structures of any sort or with low lying buildings only. It suggests that buildings be banned in a 2.5-mile fan-shaped area extending out from the runway ends.

Radar traffic control is now in use at some of the major airports but should be extended to them all as rapidly as possible. Military training near congested areas provides a hazard and should be eliminated. A further recommendation would put older pilots in command of large transports but younger men at the controls.

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SURGERY

Surgeons May Separate Chicago Siamese Twins

➤ ROGER AND RODNEY Brodie, Siamese twins born in Rock Island, Ill., a year ago, will probably undergo a separating operation sometime this fall.

Plans for this were announced by the University of Illinois Research and Educational Hospitals, Chicago, at the same time that the first official report on the physical details of the twins at birth was given by the attending physician, Dr. Samuel P. Durr, Rock Island, in the *Journal of the American Medical Association* (Sept. 13).

Roger and Rodney were and are essentially normal babies except for being joined together at the tops of their heads, with their feet pointing in opposite directions. Together they weighed 11 pounds, 12 ounces at birth and now weigh 36 pounds. At birth, one was 18 inches long, the other 12 and three-quarter inches. Now one is 29 and a quarter inches, and the other 29 inches.

Only two operations to separate such twins have ever been done before, and both resulted in death. However, the University of Illinois specialists who have studied the Brodie twins for 10 months believe surgical separation in their case is feasible.

The twins have separate functioning nervous systems, two brains with no artery connections and two separate brain covering membranes, at least in part. Their mental devolopment is normal for their age and they are trying to crawl by alternately pushing each other. The slight heart murmurs each had at birth have not affected the functions of their hearts.

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GENETICS

More Boys Than Girls From Atomic Bombings

➤ THE POSSIBILITY that atomic bombing might upset the sex ratio of the surviving population, resulting in more boys than girls being born, appears in studies by Dr. H. Kalmus of University College, London, and Drs. J. D. Metrakos and M. Silverberg of McGill University, Montreal.

In their studies, reported to the journal *Science* (Sept. 12), they found that irradiation by X-rays of the sex glands of papa mice resulted in births of more males.

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