

The armies of Alexander the Great and the conquering Caesars carried stores of licorice root with them for food and medicine. Early Greek physicians prescribed licorice for asthma and maladies of the chest. Licorice with honey was thought good for wounds.

In the Dark Ages, the "secrets" of licorice were kept alive in the monasteries of southern Europe, to become popular again during the Renaissance.

The usefulness of the "sweet root" has been known to mankind throughout the ages. But none of King Tut's priests, none of the learned Greeks, nor any of the medieval alchemists could ever have dreamed of the astounding ranges of uses modern man has found for this versatile root, licorice.

SCIENCE SERVICE has prepared a kit containing specimens of licorice root, licorice powder and paste, and crystals of glycyrrhizin. There are also samples of Foamite-Firefoam powder, insulation board and box-board to illustrate licorice by-products. A booklet accompanying the kit describes experiments that can be performed to test the qualities of licorice.

These kits are available for the science-minded at 75 cents each from SCIENCE SERVICE, 1719 N St., N.W., Washington 6, D. C. When making a request, ask for the Licorice kit.

Science News Letter, August 8, 1953

ELECTRONICS

Wrist Radios—Maybe

► COMMERCIAL PRODUCTION of Dick Tracy wrist radios some day may be made possible by the tiny electrical wonder, the transistor. However, vest-pocket television sets seem improbable.

Transistors are corn-kernel chunks of a rare metal, germanium. They can do some of the jobs of big tubes such as are in your home radio. In addition to their compactness, transistors are rugged and long-lived under ideal conditions.

Two engineers working for a large electrical equipment manufacturer fabricated an experimental wrist-sized radio using transistors. The radio was one and a half inches long, two inches wide and three-fourths of an inch thick. Its antenna is worn inside the coat.

Another company produced an experimental, transistorized portable television set that could be carried to the beach. But considering the complexities of television picture tubes, it seems unlikely that anyone will create a vest-pocket video set in the future.

Although plagued by the "bugs" that usually go along with new things, transistor research rapidly is revealing effective "bug-exterminating" methods.

However, imperfect as it is, today's transistor can perform certain non-critical jobs, although transistors are not yet sufficiently

AERONAUTICS

Anti-Noise Program

► AN INTENSIVE "stop-that-racket" program has shifted into high gear within the aviation industry as aeronautical experts match wits with the airport headache, noise.

More powerful piston and jet engines with lustier accompanying sounds have prompted the anti-noise program.

The battle against sound is not limited to airports, however. Design and test engineers are working on the problem at the grassroots level. They hope to build more "hush" into future planes.

But noisy present-day planes can be made less irritating if operators use airports away from the city. In big cities, other measures sometimes are required.

In New York, for instance, the lessening of airport racket has been guided recently by a special group called the National Air Transport Coordinating Committee. This group, sponsored by 12 noise-conscious aviation organizations, has made several recommendations now being tried out there. They are:

1. Runways that lead out over water or industrial areas should be used as much as possible in preference to runways that force planes to fly over densely populated areas.
2. Instead of circling the airport while

gathering flying speed, pilots should climb to 1,200 feet as fast as they safely can. At this altitude, airplane noise is not so objectionable on the ground.

3. When necessary to "gun" airplane engines during maintenance ground checks, a site should be selected that is screened by airport buildings. Buildings help muffle engine noise.

The Aircraft Industries Association reports "credible progress" has been made as a result of the NATCC's recommendations.

The "stop-that-fuss" program even reaches into the nation's scientific laboratories. Currently the National Advisory Committee for Aeronautics is working on some aspects of the problem. Aircraft builders are doing the same.

The NACA, a research organization, recently published a technical bulletin covering its studies of transport plane propeller noise. Summarizing the findings, NACA scientist Harvey H. Hubbard wrote:

"For future propeller aircraft, the adherence to current design trends will probably not be feasible if noise reductions are to be obtained, or even if present levels are to be maintained."

The NACA study showed propeller noise was cut down as the speed of the propeller tip was reduced. Ideally, new planes should have more propeller blades spinning at slower speeds.

Ideally, also, the planes should have better engine exhaust mufflers. But as always, aeronautical engineers must compromise the "ideal" aspects of plane design to efficiency and weight limitations.

A panacea that will eliminate all noise around airports probably can never be pulled from a hat. But with scientists attacking the problem from every angle, it is likely that the whine, throb and roar of airplanes will be diminished in the future.

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Science News Letter, August 8, 1953