

proves to be even deadlier in its effects on mosquito larvae, state Dr. C. C. Deonier and H. A. Jones of the U. S. Department of Agriculture. (*Science*, Jan. 4.) They tried the material in several different media of dispersal as both dusts and sprays over the water, and found that its effects were more persistent after a given lapse of time. TDE is a convenience-designation, taken from the initials of the compound's generic

name, tetrachloro-diphenylethane.

The experimenters state in conclusion: "These laboratory tests are only preliminary, but TDE shows sufficient toxicity to warrant further study. Although early advice indicated that the compound might be difficult to manufacture, from more recent information it appears that TDE may be manufactured on a large scale."

Science News Letter, January 19, 1946

ELECTRONICS

Coaxial Cable Ready

Will transmit television pictures and sound between Washington and New York. Is one link in 6,000-mile national network planned.

► COAXIAL CABLE, now ready for the transmission of television pictures and sound between Washington and New York, is but one link in a national network of over 6,000 miles planned by the Bell System, and will be used both for television and telephone. Regularly scheduled intercity television service on this Washington-New York link will begin soon and will use the cable six nights each week. Coaxial cable transmission seems to be preferred in long-distance television at the present stage of development.

Television can be transmitted through the air by radio waves, but there are practical difficulties that must be met in long-distance transmission. Television images can be sent very short distances over special telephone wires, but not far because electrical losses are too great. The coaxial cable for long-distance television is a low-loss method of transmitting the broad band of frequencies which make up television signals. The probability is that all three methods will be used in interconnected systems.

One difficulty faced in the transmission of television images by radio waves, according to Walter Evans of the Westinghouse Electric Corporation is, that television waves travel in straight lines, and, for all practical purposes, stop at the horizon. This means, he says, that television broadcasts from the highest practicable tower erected on the ground cannot be received much more than 50 miles away.

By use of radio relay stations the television waves can of course be transmitted much farther. These relay towers are spaced about 30 miles apart. Such a tele-

vision relay system is now under construction for experimental purposes by the Bell System between New York and Boston, and another between Chicago and Milwaukee. The Bell System plans a television network that will consist of interconnected coaxial cable and radio channels.

Because of the difficulty of transmitting television images long distances from towers erected on the earth, the Westinghouse Electric Corporation recently announced plans to test out airborne relay stations in airplanes flying in lazy circles 30,000 feet above sea level. Waves sent out from transmitters in a plane at this height, it was explained, would blanket the earth's surface like a giant ice-cream cone, covering an area 422 miles across.

A coaxial cable, itself lead-covered, contains usually from six to eight conductors. Each is a copper tube about the size of a lead pencil, with a heavy copper wire extending throughout its length and held in its center, out of contact with the tube, by plastic disks. Each tube, with associated equipment, can accommodate a television channel, or 480 telephone channels.

Science News Letter, January 19, 1946

CHEMISTRY

Waste Sulfite Liquor Put to Useful Service

► ONE OF INDUSTRY'S worst waste-and-pollution problems, disposal of sulfite liquor from paper and wood-pulp mills, is attacked from a new angle by Richard G. Tyler of Seattle, who has been granted patent 2,392,435 on the

process he has worked out. Instead of trying to reduce the volume of the lime sulfite solution directly by evaporation, and thereby running into scale-formation trouble, he puts the spent liquor through a carbonaceous base-exchanger which has previously been treated with a solution of common salt—sea water will do.

The solution comes out as a complex mixture of sodium salts, containing lignin and other residues of the wood. After evaporation this can be burned under the boilers, supplying power. The clinker or "smelt" that is left is rich in commercially valuable sodium salts.

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