



NERVE GAS RESCUE—Civil defense workers demonstrate first aid measures for a victim who shows severe symptoms of nerve gas poisoning. Use of gas mask, back pressure, arm-lift method of artificial resuscitation, and atropine injection are among the protective devices and first-aid techniques. This is an excerpt from "Nerve Gas Casualties and Their Treatment," a 25-minute color film produced by E. R. Squibb and Sons in cooperation with the Federal Civil Defense Administration.

CIVIL DEFENSE

Nerve Gas Acts in Seconds

► IF A NERVE GAS ATTACK ever hit this country, two to three minutes are all the time you will have to save your life from something you cannot see, feel, or smell.

Talk of hydrogen bombs has almost obscured the public's concern with this fantastic killer, but military and civil defense experts know all too well that we are virtually defenseless against it.

A new 30-minute color film has been produced by E. R. Squibb and Sons in cooperation with the Federal Civil Defense Administration to help military and civilian authorities understand the dangers and the imperative need for instant action.

The film opens showing the action of a nerve gas on an animal; a wall clock then ticks off the seconds as the narrator describes the final action. A review follows of the early signs and symptoms of the poisoning, a demonstration of protective devices and an explanation of first-aid and artificial respiration techniques. But the protective measures spelled out in the film will not yet help the civilian population.

Three powerful nerve gases were developed by German scientists during World War II, and since then both the U. S. and

Soviet Russia have continued the research on these mass killers.

The gases are odorless, tasteless, and within several minutes can throw a healthy person into convulsions that quickly end in death. They can attack either through the skin or through the respiratory tract and only tiny quantities of the vapor are necessary to kill.

To date there is only one drug that is at all effective against them. This is atropine, and if enough of it is injected into the body immediately after exposure, the deadly effects may be overcome. Sometimes artificial respiration may also help.

The film, titled "Nerve Gas Casualties and Their Treatment," warns that the first thing to do is to get a mask on at the first suspicion of an attack. Then, a sample of the air is quickly checked with a "Chemical Agent Detector Kit" which will show within a moment whether gas is present and what kind it is.

Skin covering is also essential, although the greatest danger comes from inhaling the colorless vapor.

The "protective mask" recommended is not yet available to civilians.

Science News Letter, March 16, 1957

ENGINEERING

Amplitron Improves Radar's Performance

► A TUBE called the "amplitron," which greatly improves the performance of all kinds of radars, has been developed by Raytheon Manufacturing Company scientists in Waltham, Mass.

It amplifies, or boosts, the energy output of a radar signal from eight to 14 times. When added to the air traffic control radars now being built for the Civil Aeronautics Administration, the effective range of these sets will be increased from 200 miles to about 350.

The amplitron is the only known microwave tube combining high power, wide frequency range and other features that help improve radar's ability to distinguish moving from fixed targets, its makers state. Its comparatively small size and light weight should aid development of special purpose radars for airplanes and missiles.

The Army Signal Corps Engineering Laboratories, Fort Monmouth, N. J., sponsored the amplitron's development.

Science News Letter, March 16, 1957

ENTOMOLOGY

"Best" Insect Repellent Ready for Spring Sale

► THE BEST INSECT REPELLENT ever developed is a claim of scientists in Washington. It will be available this spring to help ward off mosquitoes, chiggers, ticks, fleas, and biting flies.

The all-purpose weapon was reported by the U. S. Department of Agriculture, whose research scientists at Beltsville, Md., developed the repellent.

An organic chemical called diethyl toluamide, the anti-insect weapon provides long lasting protection, is a pleasant lotion and can be safely applied to skin or clothing.

One application will last several hours and even resists rubbing and wearing.

The repellent, which is the answer to the dreams of sportsmen, picnickers, bathers, outdoor workers and backyard gardeners, was first synthesized by USDA scientists in 1952. Since then it has undergone extensive tests and is now ready for the market.

This is what the USDA scientists claim for their dream repellent:

1. It is better against all mosquito species than any other single chemical or combination of chemicals.

2. It is superior to other repellents against the yellow fever, salt marsh, irrigation water and snow water mosquitoes and as good as the best for subarctic and malaria mosquitoes.

3. It is the best of all other repellents tested against the stable fly and as effective as others against the deer fly and sand fly.

4. It is outstanding against the rat flea. The best available against ticks and completely effective against chigger mites until treated clothing is washed or rinsed.

Science News Letter, March 16, 1957