

federal health service activities now under his direction. He did not get tularemia at the Hamilton laboratory and Public Health Service officials have no idea where he did pick up the infection. He had not been working on this disease. He is now "getting along all right" and officials are not worried about his condition.

Discovery of the cotton rat as a suit-

able laboratory animal for studies of infantile paralysis; discovery of the brain disease of mice and men, choriomeningitis; studies on parrot fever (psittacosis), and botulinus toxin, St. Louis and other varieties of encephalitis, dengue fever and studies leading to improved methods of vaccinating against smallpox, are among the disease-fighting achievements for which Dr. Armstrong is known.

*Science News Letter, June 27, 1942*

## ENGINEERING

## Reduction of Smoke and Smell From Diesel Engines Studied

### Can Be Reduced To Insignificant Proportions By Use of Fuels of Higher Cetane Number and Volatility

**O**BNOXIOUS smoke and odor in the exhaust gases of Diesel engines, now increasingly used in truck and bus service, can be reduced to insignificant proportions by use of fuels of higher cetane number and higher volatility, and selection of a fuel adapted to the engine used. (The cetane number is to a Diesel fuel what the octane number is to gasoline).

This conclusion was reached, after testing 13 commercial fuels and 60 specially made up fuels in several different engines, by R. S. Wetmiller, engineer of the Texas Company, and Lieut. L. E. Endsley, Jr., formerly an engineer with the Texas Company. Their findings were reported at the meeting of the Oil and Gas Power Division of the American Society of Mechanical Engineers.

Of course the engine must be in first class condition, the engineers specified. Improper adjustments, worn or dirty fuel injectors, or any other lack of proper maintenance can completely overshadow any benefits derived from use of a premium fuel.

However, while increase in cetane number and in volatility of the fuel will diminish smoke and smell in the exhaust, they also decrease the power and economy of the engine, the engineers found. The solution must therefore be a compromise among the ends desired.

Prevention of excessive smoke and smell is especially important in view of the fact that they are worse when the engine is idling or accelerating after idling, operations that occur most frequently in our crowded city streets.

Finally, the engineers expressed hope

that future engine design might obviate the necessity for "tailor made fuels" and precise maintenance.

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## NUTRITION

### Dehydrated Sweet Potato Added to Army's Diet

**S**OLDIERS from the South aren't going to be deprived of their favorite sweet 'taters even on the far side of thousands of miles of salt water. A new order for a million pounds of dehydrated sweet potatoes has been awarded to the Gilbert C. Wilson Laboratories which have just completed an initial order of 250,000 pounds for the Army. Since dehydrated vegetables take on somewhere in the neighborhood of eight or ten times their weight in water, when they are soaked up and cooked, this million-and-a-quarter pounds ought to fluff up to a fair-sized dishful for Southern boys overseas.

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## PUBLIC HEALTH

### Vaccination Justified for Horse Sleeping Sickness

**V**ACCINATION of humans against horse sleeping sickness (equine encephalomyelitis) "is justified in the face of an epidemic," Dr. R. Walter Schlesinger, Dr. Isabel M. Morgan and Dr. Peter K. Olitsky, of the Rockefeller Institute for Medical Research, declare. (*Journal, American Medical Association, June 20.*)

Apparently good results have been obtained, they point out, in vaccinating horses against this disease, which last summer and fall caused more than 3,000 human cases. Similar good results might be obtained in vaccinating humans, they believe, as a result of their experiments with rabbits and mice.

The virus of this disease attacks the brain but, since it is probably spread by mosquitoes, it gets into the blood first and spends a little time there before being carried to the brain. If during this period sufficient antibodies to fight the encephalitis virus can be mobilized in the blood, damage to the brain can be prevented, the mouse and rabbit studies suggest.

Grown-up animals can make their own antibodies in time to prevent virus damage to their brains, but young ones cannot, the experiments showed. This corresponds with the observation that in humans all outbreaks of equine encephalitis except one were characterized by a relatively high occurrence of frank cases among children.

Vaccination would speed up mobilization in the blood of antibodies to fight the encephalitis virus and might therefore be expected to ward off an attack or reduce its severity.

*Science News Letter, June 27, 1942*

## CHEMISTRY

### "Laundries" Will Wash War Gases From Food

**G**AS ATTACKS will not destroy England's food supply. Should the Axis choose to conduct gas warfare, food "laundries" throughout the British Isles stand ready to decontaminate any food-stuffs exposed to gas. In concrete-floored, metal-equipped rooms trained civilians are ready to combat effects of any of the fourteen known types of war gases, from deadly phosgene or lewisite to relatively harmless tear gas.

In reception chambers of the laundry, staff members will trim off the outside of meats and fats. Then these and other foods will move into airing rooms. Canned foods, affected only by liquid gas, will be immersed in water treated with a bleaching agent. Each can will be indelibly coded, to identify its contents after the paper label has been washed off.

When decontaminated, food will move to a sampling room, where tests will prove its complete fitness for human consumption.

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