

## MEDICINE

# Quinine Not Necessary

**Atabrine is just as good, and perhaps better, for the control of malaria. There is no need now for large-scale production of quinine.**

➤ ATABRINE is as good as quinine in control of malaria and better in some respects, there is no reason to replace it with quinine in the armed forces, and no need now for large-scale production of quinine or totaquine.

This is the substance of a resolution by the Board for the Coordination of Malarial Studies, just released through the National Research Council. Chairman of the board is Dr. R. F. Loeb, of Columbia University College of Physicians and Surgeons. Army, Navy, Public Health Service, Office of Scientific Research and Development and National Research Council representatives also serve on this board (*Journal, American Medical Association*, Aug. 5).

"No advantage, and possible disadvantage, would accrue to the armed forces were quinine or totaquine to replace quinacrine for the routine suppression and treatment of malaria," the resolution states.

Quinacrine hydrochloride is the official U. S. Pharmacopoeia title for atabrine, or atebtrin as the board spells it in order to avoid using a trade name.

Totaquine is the U. S. Pharmacopoeia name for a mixture of the alkaloids of cinchona, the tree from which quinine is also obtained.

"The large-scale production of quinine or totaquine is not now considered a matter of importance for the management of malaria among Army and Navy personnel," the board also resolved.

A supply of totaquine in excess of present stockpiles may be needed, the board points out, for treatment of malaria among civilians in the reoccupied countries. It might not be possible to spread information on the proper use of quinacrine, or atabrine, immediately in such regions and therefore it would be more practical to supply totaquine.

"After the war the overall need for all established antimalarial drugs will continue to be great," the board adds. This seems to indicate that large-scale production of totaquine and the new laboratory-developed synthetic quinine might be favored in the future.

The board resolution, believed to be

the first official statement on malaria in the armed forces issued for some time past, is based on "controlled quantitative studies in civilian, Army and Navy establishments." According to these studies, quinacrine (atabrine) has "proved" to have all the antimalarial properties of quinine for suppressing malaria during and after exposure to infected mosquitoes.

Adverse effects, reported earlier, can be avoided by proper use of the drug. Suppression of malaria can be achieved over long periods without danger to the individual by proper use of atabrine, whereas adequate doses of quinine equivalent to those of atabrine now used by the armed forces would often produce symptoms of cinchonism, such as ringing in the ears, headache and so on.

Atabrine properly used, experience in the past two years has shown, is as ef-

fective as and safer than quinine for stopping an acute attack of malaria.

Atabrine, according to what the board terms "convincing evidence," cures the malignant form of malaria, known as falciparum, which quinine apparently does not do. Atabrine also suppresses symptoms of this type of malaria.

*Science News Letter, August 12, 1944*

## CHEMISTRY

## Rubber-lined Tank Holds Water Used in Explosives

➤ A NEW STEEL storage tank with a 43,000-gallon capacity and a one-inch wall will be used to hold highly purified water used in the manufacture of high explosives, TNT, smokeless powder, nitroglycerine and rocket powder as well as chemicals. It is completely lined with from five to seven tons of rubber, to eliminate any chance of corrosion which would contaminate the water.

The lining of the tank was accomplished by using long strips of rubber nearly a quarter of an inch thick. The rubber strips are bonded to the inside of the tank with rubber cement, then the seams are stitched by a machine to insure a perfect bonding. (*Turn page*)



**43,000 GALLON TANK**—Probably the largest rubber-lined tank, it is used for storing water necessary for the making of high explosives. The rubber lining (work of the United States Rubber Company) keeps the water from coming into contact with any metal.

The Army, Navy and Marines, as well as certain industrial companies, are using rubber linings in concrete storage tanks for holding high-octane gasoline. Rubber as a liner in these tanks prevents the destruction of the concrete caused by the sludge inhibitor found in all high-octane gases.

The use of rubber for tank linings was developed by the United States Rubber Company.

*Science News Letter, August 12, 1944*

#### AERONAUTICS

### Airport That Grows Is Need for Post-War World

► AN AIRPORT that grows up with its town, from a simple grass-plot landing field to a super airport for handling big cargo and transport planes, is described by the Michigan Board of Aeronautics in a new publication.

The planning program for the airport is divided into six stages. The first stage consists of the purchase of a 120-acre plot, which is graded, drained, and seeded to give 1,800 to 2,000 feet of landing area in all directions. Hangars are built as they are needed. This type of airport will meet the needs of the average small community.

Starting with this master plan, additional construction is undertaken as the need for increased facilities becomes apparent.

In Stage Two, pavement is laid on two landing strips, and a taxiway and apron are added.

Two additional landing strips are added in Stage Three, bringing the total to four runways.

An additional 40 acres of land are required for Stage Four, designed to take care of limited airline operations. Also included are a basic administration building, pavement on the runway, and the addition of two diagonal runways.

Enlarging the airport to 200 acres, it is possible to extend the north-south and east-west runways to 3,500 feet, for regular airline operation. Also included in Stage Five are more hangars and facilities for handling passengers and cargo.

The final development of the airport, Stage Six, consists of widening all the runways, paving taxiways, and the addition of more hangars and the final units of the administration.

*Science News Letter, August 12, 1944*

Licorice growing was introduced into England from Syria about 400 years ago.

#### MILITARY SCIENCE

## Barbs Instead of Bombs

Now being showered on enemy airfields and roads, these pieces of sharpened steel are disabling Axis aircraft and vehicles by gashing their tires.

► SHARP metal barbs are now being showered on enemy airfields and roads by Army Air Forces planes, disabling Axis aircraft and vehicles by gashing the precious surface of their tires.

Three types of metal barbs have been developed at the AAF Tactical Center, Orlando, Fla. The "Christmas tree" type is constructed from two pieces of sheet steel with serrated edges that make it look like a fish-hook. After stamping, each piece is bent and the two are welded together. The whole unit is about 3.5 inches long and resembles the branches of a yuletide tree.

Then there is the single barb, a pointed hollow tube about 3.5 inches long, mounted on a curved base containing a lead deposit. The weighted base makes it bob right back up like children's toy clown dolls. Since it is ef-

fective only on paved surfaces, it is used primarily on highways, and paved landing strips.

The "Big Boy" really has a murderous effect on tires. It is a four-pronged barb, 4 inches long. It consists of two hollow steel pointed tubes, bent in the middle and welded together at the bend to form the four prongs. Thus, it will always rest on three prongs, leaving one pointed up at a 90-degree angle to the ground.

If you have ever experienced picking up a nail in an automobile tire, you can appreciate the effect thousands of these barbs dropped on an airfield or highway have on the Axis armies.

Here is how they are used. A group of bombers, loaded with hexagonal boxes made from plywood containing the metal barbs, instead of bombs, fly over enemy airfields and roads at low



**DEATH FOR AXIS TIRES**—When this deadly four inch, four-prong barb comes into contact with an enemy airplane tire, the result is a crack-up.  
*Official Army Air Forces photograph.*