

## VETERINARY MEDICINE

# Mexico Free of Aftosa

**Ban lifted on Mexican livestock entering the United States from Mexico. Research against foot-and-mouth disease concentrated at Plum Island, New York.**

► SECRETARY OF Agriculture Ezra Taft Benson has declared Mexico free of foot-and-mouth disease, aftosa in Spanish.

Livestock and livestock products from northern Mexico once again are allowed to cross into the United States. Success in the eradication of the disease in Mexico, however, does not lessen the fear of further outbreaks there or in the United States.

Some 2,135 miles northeast of the U. S.-Mexican border, on a small island three miles off the tip of Long Island, U. S. Department of Agriculture scientists are hard at work experimenting with the disease in the first and only foot-and-mouth disease research laboratory in this country.

The Plum Island Animal Disease Research Laboratory, as it is known, was originally an old army base, Fort Terry. Taken over by the Agriculture Department on July 1, 1954, the laboratory is at present solely concerned with methods and means for keeping foot-and-mouth disease from cropping up in the United States.

Before its establishment as a research laboratory, the United States had no other research center, and there was comparatively little research work being done on this virus disease. An outbreak of the disease has not occurred in this country in the last 25 years. An act of Congress expressly forbids the introduction of the disease onto the mainland even for research work.

The Plum Island researchers are not looking for a cure for the foot-and-mouth disease.

"Even if we found a cure," explained Dr. Bennett T. Sims, chief of the Department's animal disease and parasite research branch at Beltsville, Md., "we would always be behind the disease."

This is so, the scientist explained, because an infected animal has already been spreading the disease hours before the characteristic symptoms appear. To try to cure every infected animal would be a Herculean task and still would not insure eradication.

The laboratory group is working on vaccines, as well as on better methods of diagnosis. Here, too, vaccines to prevent the disease present a problem.

Foot-and-mouth viruses occur in many different types and subtypes. A vaccine that proves effective for one type may not be good for a different type.

Recently, in both Europe and South America, Dr. Sims stated, outbreaks of new subtypes sent scientists scurrying back to the laboratory to perfect a new vaccine that would be effective, since the old, known vaccines were worthless against the new outbreaks.

The main role of the Plum Island laboratory is to try to insure prevention of the disease's becoming established in this country.

"We hope the time will never come when we have to vaccinate," Dr. Sims said. "Naturally, I am an optimist, but I think

## AERONAUTICS

## Jet Flying Boat Unveiled

See Front Cover

► ALMOST EVERY ocean, sea, lake and river estuary in the world can serve as a base and runway for the world's first multi-jet attack seaplane, the Navy's XP6M-1 Martin SeaMaster, shown in the photograph on the cover of this week's SCIENCE NEWS LETTER.

Designed primarily for minelaying and photo reconnaissance, the new big swept-wing plane, with a "T"-shaped tail nearly three stories high, was described as a "truly water-based aircraft" capable of operating in high waves and marginal sea conditions.

Carrying a crew of five, the plane is powered by four Allison J-71 turbojet engines with take-off afterburners and is capable of speeds over 600 miles-per-hour. It can cruise normally at 40,000 feet and carry a pay-load of 30,000 pounds.

The plane can be reloaded and refueled while afloat. A spokesman for Martin Aircraft Company, which developed the plane, pointed out that this could be accomplished by submarines. One of its unique features is the water-tight rotary mine door, which permits weapons to be carried within the plane itself. The door can also carry interchangeably either a camera pod or mines.

Martin Aircraft credited the plane with initiating a new frontier for naval aviation in that "the use of high speed water-based aircraft, mobile support ships and tankers would provide complete flexibility for operations in or near enemy waters independent of fixed installations or foreign bases.

"On combat missions, the SeaMaster will be able to make an operational runway of five-sixths of the earth's surface; the open sea, a river's estuary, a lagoon, or the lee of an island."

For the first time, a company announcement stated, "jet-age speed and maneuverability becomes available to mine warfare strategy. In the XP6M-1 mine warfare experts now have at their disposal the most effective aerial weapon ever developed to

we can keep the disease out of this country."

Construction now under way to enlarge the facilities on Plum Island is expected to be completed by December, 1955. At present, there are from 80 to 100 head of cattle on the island. Getting to and from the mainland is accomplished by ferry boat from Greenport, on Long Island's northernmost tip.

The present Island staff is relatively small, Dr. Sims reported, but it is expected to be larger within the next year or so.

Research on the foot-and-mouth viruses is also being carried on in many other countries, and the U. S. Department of Agriculture works very closely with these other laboratories.

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**REAR VIEW**—The "T"-shaped tail section of the Navy's new XP6M-1 SeaMaster towers three stories above the fuselage. The jet-powered, 600-mile-an-hour seaplane was designed for minelaying and photo reconnaissance.

keep submarines from the open seas, or to throttle enemy shipping in harbors, rivers, canals, landlocked bays or hidden inlets."

The SeaMaster now permits the Navy to carry on guerrilla warfare, long associated with land forces, on the open sea or along coastlines almost where and when it chooses.

Primarily designed for military purposes, Martin engineers reported that the new seaplane has peacetime possibilities in that it will allow civilian airlines to transport passengers to almost any part of the world.

The aircraft company also announced that they are already producing a portable dock that will eliminate beaching the craft. However, they said, the SeaMaster can carry attachable landing gear for beaching purposes.

Science News Letter, January 15, 1955