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Title: A Plum of an Island.
Subject(s): LABORATORIES – New York (State) – Plum Island; ANIMALS as carriers of disease; ANIMALS – Diseases; PLUM Island (N.Y.)
Source: Scientific American, Jun2000, Vol. 282 Issue 6, p22, 2p, 2c
Author(s): Zorpette, Glenn
Abstract: Reports on an animal laboratory on Plum Island, New York. Myths about the island including Nazi scientists, aliens and three-headed chickens; Wishes to upgrade the biosafety index of the laboratory from level three to level four in order to study potentially fatal diseases which may be transmitted to humans; Safety measures of the laboratory; Involvement of Sandy Miller Hays.
AN: 3094426
ISSN: 0036-8733
Full Text Word Count: 1034
Database: Health Source - Consumer Edition

Section: News & Analysis

BIOHAZARDS: EMERGING DISEASES**A PLUM OF AN ISLAND****Sensationalism dogs an animal laboratory upgrade**

Dateline: PLUM ISLAND, N.Y.

"We still get asked about the Nazi scientists," says Sandy Miller Hays, the slightest trace of weariness creeping into her voice. We're sitting on the ferry that will bring us back from Plum Island, where the U.S. Department of Agriculture (USDA) operates one of the world's top laboratories for the study of infectious animal diseases.

Foot-and-mouth disease and African swine fever would not seem to be the stuff of wild urban legend anymore. Nevertheless, the rich mythology that has sprung up around the 840-acre island makes it a must-see stop on the conspiracy theorist's world tour. Hays, information director for the department's Agricultural Research Service, which oversees the laboratory, patiently describes several of the choice tales she's been asked about over the years. The gist of the "Nazi scientists" story is that after the war the army (which did actually use Plum Island as a base to hunt U-boats) brought German scientists to the island to develop biological-warfare agents. Lyme disease, first identified in nearby Connecticut, was caused by one of their escaped microbes, according to the tale. Other stories feature three-headed mutant chickens, space aliens in storage and a secret submarine laboratory.

The threads that went into the fanciful fictional tapestry that shrouds Plum Island are fairly obvious. The USDA did not let any reporters onto the island between 1978 and 1992. Then, novelist Nelson DeMille

stoked the fire with his 1997 thriller *Plum Island*, about a detective investigating the murder of two biologists amid suggestions that they stole a secret vaccine-in-progress. It also didn't help that the island is just 1.5 miles off the North Fork of Long Island, the standard-bearer for suburban luridness.

Unfortunately for the USDA (and Hays in particular), the lab's reputation has complicated its most recent quest: selling nearby residents on its proposal to upgrade the lab from its current rating of biosafety level 3 to level 4, the most secure. The USDA wants the upgrade so that it can study potentially fatal diseases that can jump from animals to people. No animal-disease lab in the U.S. has a level-4 rating, but there are such labs in Geelong, Australia, and Lyons, France, as well as a small one in Winnipeg, Canada. The U.S. does maintain several level-4 labs for human diseases—including one in downtown Atlanta at the Centers for Disease Control and Prevention.

Before beginning a tour of the laboratories and animal-holding pens, the assembled members of the press (there are four of us) strip off our clothes. Conveniently, none of us has any hidden body piercings, which might collect microbes, so we are free to put on coverall garments and enter biocontainment. (Jewelry in a pierced part would have to be left behind.) Essentially all the facilities are located in a single large building known, with comic arbitrariness, as Building 101.

The point of the tour is to impress on us how serious the laboratory is about safety and security. An official describes the powerful filtering and ventilation system that directs airflow so as to contain any stray microbes within certain rooms. We are shown the airtight and watertight steel boxes within which infectious materials are delivered. A technician with gloves and safety glasses demonstrates that the boxes are opened under a hood. Samples are stored in sealed vials in cardboard boxes in freezers. All contaminated trash is treated in an autoclave before being incinerated. Even the sewage is decontaminated before being released. Such prosaic stuff is a long way from mutant chickens.

At last we descend into the mazelike bowels of the building for a tour of the animal-holding pens. We see pigs, a cow, guinea pigs and some rabbits. Six young pigs in a fluorescent-lit painted-cinder-block room are destined for a safety test, explains Lee Ann Thomas, the lab's acting director. To ensure that an animal-derived product being tested is free of any exotic viruses, the pigs will be inoculated with the product—possibly cell cultures or hormones. Later the pigs' blood will be checked for antibodies. Products singled out for testing come from animals known to be at risk for certain infectious diseases, or they come from countries where those diseases are endemic.

Before we can leave the biocontainment area, we must remove our borrowed coveralls and shower thoroughly. Our eyeglasses—and the waterproof video camera with which the two TV journalists have been gathering footage—are dunked in an acetic acid solution for a few minutes before being released.

"We don't know what diseases are coming, but we know they're coming," Hays says in making the case for the level-4 upgrade. As examples, she cites Nipah and Hendra, recently discovered viruses borne by swine and horses, respectively. Both viruses are known to have jumped fatally to people, primarily farm and slaughterhouse workers. A Nipah outbreak killed about 100 people in Malaysia in 1999, and Hendra caused two deaths in Australia in 1994. Neither virus made it to the U.S., but if one had, Hays asserts, no lab in the U.S. would have been equipped to study it. (The infamous West Nile virus, which is deadly to birds, was briefly studied at Plum Island last year. Because West Nile is seldom fatal to people with robust immune systems, it can be studied in a level-3 laboratory.)

More intriguing (though still not in the three-headed chicken category) is the question of whether the lab will do work on vaccines to counteract germ warfare or bioterrorism agents—specifically, ones developed to kill both livestock and people. "There were a number of reports of agents being weaponized" in Russia, Thomas notes. But she denies that the proposed upgrade is tied to a specific agenda to develop germ-warfare countermeasures at Plum Island, as some reports have suggested. "Whether it's an intentional introduction [of a virus] or an accidental introduction," she says, "the need to protect the animals is going to be the same."

PHOTO (COLOR): ANIMAL-DISEASE TESTING, such as inoculating a steer with an experimental vaccine, takes place on Plum Island, just off Long Island's Orient Point

PHOTO (COLOR): Plum Island

By Glenn Zorpette

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Source: Scientific American, Jun2000, Vol. 282 Issue 6, p22, 2p

Item: 3094426

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