though some scientists say that the possibility of theft should not be discounted, most express confidence that their labs are secure. "Barring a SWAT team or someone with bazookas, I think we actually have a pretty safe situation for the cultures," says Keim.

–JOSHUA GEWOLB

BIOTERRORISM

Congress Weighs Select Agent Update

U.S. researchers may soon be haggling with the government over which viruses, bacteria, and biological toxins should be tightly regulated. Congress this week was expected to begin debating a proposal to impose new security requirements on laboratories working with these pathogens and to update the government's list of about 40 regulated "select agents." But experts say that it is unclear whether the core list—which the United States hopes other countries will adopt—should expand or shrink.

Deadly addition. The Nipah virus would be a candidate for a new list of regulated bioagents.

The legislation, to be introduced by Senators Edward Kennedy (D–MA) and Bill Frist (R–TN), is the latest congressional response to the anthrax mail attacks that have killed four people in the United States. It follows a newly imposed ban on the possession of such agents by scientists from so-called terrorist nations. The latest proposal—some version of which is expected to become law within weeks—is intended to boost government spending on vaccines and strengthen the nation's defenses against bioterrorism. But it would also increase federal oversight by requiring greater lab security and registration of select agent collections and certain types of research equipment.

The debate over which agents to include would be triggered by language ordering the Department of Health and Human Services (HHS) to revise its select agent list every 2 years. Although periodic review is a good idea, say experts, the exercise is likely to be dogged by technical disagreements. "Coming up with the first list wasn't easy," recalls Janet Shoemaker of the American Society for Microbiology, which in 1996 helped the Centers for Disease Control and Prevention (CDC) in Atlanta evaluate hundreds of candidates to comply with a law that requires registration for labs that ship or receive potential bioweapons. "No two people ever agree on what should be on these lists," says David Franz, a former commander of the U.S. Army Medical Research Institute of Infectious Diseases in Fort Detrick, Maryland.

Researchers involved in the evaluation say there was consensus on listing highly lethal organisms that are relatively easy to turn into weapons, such as smallpox, anthrax, plague, tularemia, and a number of viral hemorrhagic fevers. But other agents sparked debate. A draft list generated nearly 70 letters, and CDC responded by dropping agents such as Western equine encephalitis virus and a bacterium called *Chlamydia psittaci* and adding equine morbillivirus and a fungus called *Coccidioides immitis*. The current list contains 13 viruses or virus groups, nine bacteria, three rickettsiae species, a fungus, and 12 types of toxins (*Science*, 2 November, p. 971).

One challenge for the CDC will be squaring its list with similar compilations by other bioweapons experts. Western equine encephalitis, for instance, is still listed as a potential threat by another CDC analysis. A loose consortium of 34 countries that works to limit the export of biothreats, called the Australia group, includes food- and waterborne diseases, such as salmonella and cholera, that are absent from the CDC list. The North Atlantic Treaty Organization, meanwhile, has its own list that includes dengue and influenza. These agents are not usually fatal, but they can bring an army to its knees. There are also extensive lists of potential agricultural threats, but Congress appears content to leave their regulation in the hands of the U.S. Department of Agriculture.

Another problem is that the world doesn't stand still. "We learn new information all the time," says Robert Shope, a virologist at the University of Texas Medical Branch in Galveston. In 1999, for instance, the newly identified Nipah virus killed more than 100 people in Malaysia and decimated its pork industry (*Science*, 16 April 1999, p. 407).

Future listmakers must balance the benefits of being comprehensive against the costs of burdening law enforcement and research efforts, say bioterror experts. One option is to split the list into two classes, with the riskier agents—such as anthrax—subject to more stringent regulation. Administration officials have also floated the idea of setting up a new enforcement office within HHS to police microbe research, because CDC, a public health agency, has traditionally resisted that role. "We are not a regulatory agency and don't profess any expertise or much experience in that," CDC head Jeffrey Koplan told reporters last week.

The scope of the list will determine the number of researchers and laboratories affected. About 250 U.S. university, government, and private labs are registered to handle the agents on the current list. But CDC officials expect that number to grow because of a processing backlog and because many labs have been tardy in filing their paperwork. Scientists in other countries could be subject to similar systems if their governments follow the U.S. lead, and the United Kingdom has already introduced legislation to criminalize possession of certain bioagents. The Bush Administration supports that approach as a substitute for the proposed Biological and Toxin Weapons Convention protocol, now stalled.

–MARTIN ENSERINK AND DAVID MALAKOFF

GENES AND DISEASE

Immune Gene Linked To vCJD Susceptibility

Researchers have found that a common variation of an immune system gene may offer some protection against variant Creutzfeldt-Jakob disease (vCJD)—the fatal neurodegenerative disease linked to eating cattle infected with "mad cow disease." The new finding—the second genetic factor discovered so far that influences susceptibility to the disease—may help to identify high-risk individuals and provide some clues to the modus operandi of this mysterious, incurable malady.

Most researchers believe that vCJD and similar diseases in humans and animals are caused in whole or in part by aberrant proteins called prions, which are misfolded versions of a normal cellular protein called PrP. Infection with vCJD appears to be caused by ingesting prions in contaminated meat.

Researchers have long known that an individual's genetic makeup influences susceptibility to the disease. One genetic factor exerts a particularly powerful influence: So far, every one of the more than 100 people diagnosed with vCJD in the United Kingdom has both copies of the *PrP* gene producing the

CREDIT: VINCENT THIAN/AP