WASHINGTON – A computer program developed by University of Minnesota scientists that eventually could allow the government or private sector to trace the supply chain of virtually everything imported into the United States — from iPhones to air bags to the ingredients in breakfast cereal — is emerging as a tool of great interest to the U.S. Department of Homeland Security.

Testing is already underway for CRISTAL, the software that could help guard the nation’s food supply by enhancing food production companies’ ability to trace the origins of all their ingredients, including those imported from other countries.

CRISTAL would also be able to map the location of virtually anything in the country and allow the government, or private companies, to move goods to a needed location. If a hurricane swept the south, CRISTAL could map existing locations of critical supplies, where they came from and plan to move those supplies to needed areas.

Homeland Security is particularly interested because of increased attention to ensuring that the U.S. imported food supply is not purposefully tainted or harmed.

“You can’t put up a gate around the food sector,” said Matt Coats, a program manager in Homeland Security’s Office of University Programs. “This would help a company understand the … risks associated with a supply chain.”

The 11-year collaboration between scientists at the National Center for Food Protection and Defense in St. Paul and bureaucrats in Washington has taken on fresh urgency in recent weeks. While CRISTAL is close to a viable reality, it may get caught up in political machinations on Capitol Hill, where Republicans are threatening to chop certain Homeland Security programs because they are angry with President Barack Obama’s actions on immigration reform.

The sprawling, 200,000-employee federal agency also charged with border and airport security is funded only through Feb. 27. On Wednesday the GOP-controlled U.S. House of Representatives voted to fund the agency, but slashed the amounts for certain programs dealing with immigration reform and Obama’s executive action. Minnesota Republican Reps. Erik Paulsen, John Kline and Tom Emmer, along with Democratic Rep. Collin Peterson, supported the measure. The White House issued a veto threat earlier this week.

“The House has complicated an effort to fund the Department of Homeland Security ... with amendments that aren’t relevant,” Cecilia Muñoz, assistant to the president, said Wednesday.

GOP Rep. John Kline said the Republican bill takes a scalpel specifically to programs funding the immigration executive order, and should not affect anything else. Immigration, Kline said, “is the issue that most of us are ginned up in changing.”

But once cuts begin, funds can be shifted in innumerable ways, jeopardizing programs that weren’t initially targeted.

Democratic Rep. Betty McCollum, who serves on the House Appropriations Committee and represents the Center’s St. Paul campus, says Republicans are “playing games” with protecting the nation’s homeland and “picking a fight with the president.”

“The Republican insistence on playing politics with the DHS appropriations bill puts the valuable work being done at this center — and others like it all across the country — at risk,” McCollum said.

The food protection center isn’t the only U program that has a relationship with Homeland Security. University of Minnesota President Eric Kaler is on a Homeland Security advisory council with a handful of other college presidents, where federal
officials and academics swap expertise and information about the kinds of jobs they will need to fill in the future. The school has a blossoming cyber security program and the school’s College of Science and Engineering also gets DHS money. Over the past three years, the U has received almost $15 million from Homeland Security.

Amy Kircher, director of the U’s National Center for Food Protection and Defense, understands the politics that accompany an affiliation with Homeland Security. Her program, which is the brains and labor behind CRISTAL, receives roughly $4 million a year from the DHS.

“The funding issue is challenging in that DHS has so many missions, and delays in funding harm programs unrelated to the area of concern,” she said.

The U.S. Department of Agriculture and the Food and Drug Administration already monitor basic food safety, but Kircher’s expertise is devoted to protecting against a more nefarious aspect: protecting the food chain from intentional adulteration or fraud. It could be economically motivated, like someone adding filler to meat and not labeling it, or it could be politically motivated, like a 1984 bioterror attack in Oregon, where activists sprinkled salmonella on a salad bar and sickened almost 800 people in hopes of swinging an election.

The Food Safety and Modernization Act passed a few years ago adds more responsibilities to federal agencies for food protection — including identifying where the food supply chain is most vulnerable for attack — and U officials have added some food defense courses to train students specifically for jobs in this new field.

The U is among nine universities around the country helping the federal agency protect the homeland.

“There can be a valley of death at universities — they have ideas but how do they turn it into something that can be used in the real world?” said John Verrico, who works at Homeland Security’s Science and Technology Directorate. “They often have great solutions … These universities can be like start-up companies.”

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