



NEW POTATO VARIETY RESISTS LATE BLIGHT

Gene banks and global collaboration deliver disease- and climate-resistant solutions for farmers

Text and images provided by Crop Trust

The same disease that caused the Irish Potato Famine nearly two centuries ago still devastates potato crops worldwide, inflicting up to \$10 billion in annual losses.

Now, climate change is driving the disease higher into the Andes and threatening the livelihoods of smallholder farmers who grow one of the world's most important staple foods.

However, ahead of the COP30 United Nations Climate Change Conference, in Brazil, held November 10-21, 2025, a new disease-resistant potato variety was ready to highlight the innovation farmers need to thrive in a changing climate.

Developed by scientists from the International Potato Center (CIP) with the participation of Indigenous communities, the new potato variety,

called CIP-Asiryoq, resists the disease that struck Ireland, late blight.

It requires fewer fungicide sprays, cooks 25% faster than Peru's popular Yungay variety, and shows strong potential for both table and processing markets.

"Late blight costs billions of dollars every year in lost production," says Dr. Stefan Schmitz, executive director of the Crop Trust. "The new resistant variety gives potato farmers an option that can reduce losses, cut costs and strengthen food security in Peru and around the world. It's

Above: Maryluz Contreras, of Colpar in Huancayo Province, Peru, shares her knowledge about potatoes with the project team. In the fields near her home, project staff have planted two kinds of potatoes, and with the support of community members like Maryluz, they are selecting the most promising disease- and climate-resistant varieties. *Photo courtesy of Michael Major/Crop Trust*



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good news for everyone who likes potatoes."

POTATO DIVERSITY

Pronounced "asir-eek," the new CIP-Asiryq variety was developed using *Solanum cajamarquense*, a wild relative of the potato conserved in the CIP gene bank in Lima, Peru. This gene bank safeguards the world's largest collection of potato diversity.

The breakthrough was set in motion during the Crop Wild Relatives project and made possible through the Biodiversity for Opportunities, Livelihoods and Development (BOLD) project, both led by the Crop Trust and funded by the Government of Norway.

"Late blight has been a huge burden to potato farmers everywhere, so the development of a new resistant variety is a major step forward for food systems in the Andes and beyond," says Dr. Thiago Mendes, CIP scientist and lead of the BOLD potato pre-breeding project.



"CIP-Asiryq is also remarkable for its versatility," Dr. Mendes remarks. "Farmers in Huánuco note its potential for both fresh consumption and processing, giving producers more flexibility to meet market demand."

Late blight is the same plant disease that triggered the 19th century Irish

Above: Kristel Hotuya, a Master of Science student at the Universidad Nacional Agraria La Molina, in Peru, inspects potential new potato varieties. *Photo courtesy of Michael Major/Crop Trust*

Potato Famine, a crisis that starved Ireland and scarred it forever. As of 2025, late blight still costs farmers

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an estimated \$3-10 billion per year globally. The disease can slash crop yields by 50 to 100% in Peru, even at elevations once thought safe from its ravages.

Farmers can spray fungicides, but according to CIP, agrochemicals can represent 10 to 25% of the total value of a farmer's potato harvest.

Fungicide use significantly reduces family incomes and poses risks to humans and the environment.

HUMID VALLEYS

In humid valleys of the central Andes, farmers spray fungicides up to six times each month to protect their crops.

Besides offering late blight resistance and thus reducing the need for spraying, CIP-Asiryq has strong market potential due to its processing qualities, which meet industry standards for potato chips.

This is good for smallholder farmers, for businesses that process and sell potato products, and for consumers who love the many ways potatoes are prepared.

"This potato variety was developed for fresh consumption, not

An advertisement for Falcondor SC insecticide. It features a QR code, the text "NEW INSECTICIDE GET FALCONDOR™ SC PRODUCT INFO", the Atticus logo, and the slogan "PROTECT YOUR BATTLEFIELD". It also includes product details: "Falcondor™ SC, formulated with spinosad, delivers broad-spectrum control of pests including thrips and leafminers. Falcondor SC offers fast-acting performance and is an ideal partner in resistance management programs. ATTICUSLLC.COM" and "BATTLE-TESTED CHEMISTRIES". The background shows a close-up of potato plants.

Left: Farmers from Colpar, in central Peru, share their preferences for potatoes with International Potato Center and Grupo Yanapai researchers. Ultimately, the farmers will decide which potato varieties they plant in their fields, so researchers are eager to get them involved early in the selection process. *Photo courtesy of Michael Major/Crop Trust*

Right: Dr. Thiago Mendes, potato breeder for the International Potato Center (CIP), is pictured at Sirikwa Farm in Molo, Nakuru County, Kenya. The Crop Trust's BOLD (Biodiversity for Opportunities, Livelihoods and Development) Project is working with CIP to select potatoes exhibiting late blight resistance. *Photo courtesy of Michael Major/Crop Trust*

specifically for processing, but some producers do grow it for the processing industry," says Raul Ccanto, coordinator of the agrobiodiversity area of the Yanapai Group, which was involved from the beginning in the new variety's development.

"Small-scale farmers will be happy to earn more by selling to this market," Ccanto adds, "and so will the processing companies."

Collaboration between CIP, the Yanapai Group and local farmers was essential in the development of the new variety, showing how breeders, communities and gene banks can work together to deliver solutions.

GLOBAL IMPACT

CIP-Asiryq also provides hope for farmers in other parts of the world who may be struggling to contain the disease.

"The new potato was developed in

"The new resistant variety gives potato farmers an option that can reduce losses, cut costs and strengthen food security in Peru and around the world. It's good news for everyone who likes potatoes."

— **Dr. Stefan Schmitz,**
executive director of the Crop Trust

Peru by identifying wild potatoes with resistance to the disease and incorporating this resistance into cultivated varieties," Dr. Mendes explains.

"Those parents are conserved in the CIP gene bank," he continues, "which can share them with potato breeding programs in any country for use in developing blight-resistant varieties

under the rules of the International Treaty for Plant Genetic Resources for Food and Agriculture."

Dr. Mendes, now based in Kenya, is using CIP-Asiryq to develop late blight-resistant potatoes adapted to the East African highland through the BOLD project.

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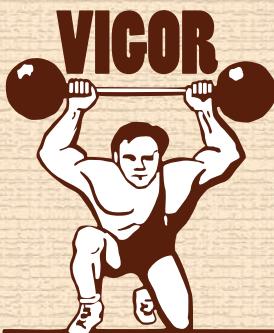


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This adds to the portfolio of successful new variety launches under BOLD, including new varieties of alfalfa in Kazakhstan, durum wheat in Morocco, and rice in Vietnam.

"This new wild relative-derived potato variety offers a powerful testament to the real-world impact of global collaboration," says Dr. Benjamin Kilian, BOLD project coordinator at the Crop Trust.

"Crop diversity is a precious resource," he concludes, "that can deliver meaningful climate solutions to farmers, and food systems, all around the world."

For more information, please contact Luis Salazar, luis.salazar@croptrust.org, +33 6 99 70 3434, or Alec Caso, acaso@burness.com, +1-310-488-5604. **BCT**

Above: Field trials of two wild relative-derived potatoes are underway in farmers' fields near Huancayo, Peru. *Photo courtesy of Michael Major/Crop Trust*