



# 25 Breakthroughs in Georgia



## NO. 13:

### Bacteria that extends the shelf life of fruit

A peach can only travel so far. After a few days in shipping it begins to spoil, making it tough for people in faraway lands to enjoy the iconic Georgia fruit.

But that could soon change, thanks to a breakthrough at Georgia State University. Biologists Sid Crow and George Pierce have come up with a way to delay ripening in certain fruits, slowing the growth of mold and doubling their shelf life.

Their discovery hinges on a bacterium (*Rhodococcus rhodochrous*), which produces enzymes that diminish perception and impact of the fruit's release of ethylene gas, slowing the ripening process.

In the researchers' GSU lab, the bacteria is fermented in industrial-grade stainless steel tanks, thriving on a diet of sugars, proteins and oxygen. The crucial development-ripening enzymes are then harvested and formulated as a spray, which can be applied to the interior of shipping boxes or containers.

So far, the discovery has yielded six patents for Georgia State and is capturing the attention of industry. Through their newly launched company, Aeglia Bioscience, Crow and Pierce are expanding field trials. Next, they'll seek regulatory approval so they can bring the product to market.

Crow and Pierce believe their find will bring enormous cost savings to farmers and food distributors, huge benefits to the environment and cheaper, tastier nutrition for working families. And maybe a chance for the famous Georgia peach to see more of the world.