



This research has developed a patent and is now commercializing a process to produce hypoallergenic peanuts for the relief of millions of Americans and others worldwide who suffer from peanut allergy.

# Hypoallergenic Peanuts

## Who cares and why?

Estimates vary as to the numbers of people who suffer from peanut allergy, but health officials agree it is one of the most severe and prevalent food allergies. A report from the National Institute of Allergy and Infectious Diseases in 2010 reported that the various studies on the issue, some based on self-reports, estimate the prevalence of peanut allergy in the United States population ranges from 0.6 percent to 1.3 percent (2-4 million people). According to the American College of Allergy, Asthma and Immunology approximately 400,000 children in the U.S. suffer from the allergy. Making matters worse for them, peanut allergy is rarely outgrown, unlike many other food allergies.



## What has the project done so far?

Scientists in the Food and Nutritional Sciences Program at North Carolina Agricultural and Technical State University have developed a safe, relatively simple technology for deactivating the allergenic proteins in whole roasted peanuts. The patented technology relies on treating whole roasted peanuts with various food-grade enzymes. Repeated laboratory trials using extracts from treated peanuts at N.C. A&T, as well as an initial clinical trial using skin-prick tests at the University of North Carolina at Chapel Hill, have shown promising results. Laboratory tests indicate allergenic proteins can be reduced by up to 98 percent. Researchers have also worked on applying the technology to wheat protein allergens. A master's student is now studying the functional properties of peanut flour made from peanuts that have undergone the hypoallergenic treatment.

A&T signed a licensing agreement with Xemerge in June 2014. The Toronto-based, firm is planning to establish a new company in Greensboro to further optimize, test and market the patented

technology. The technology is safe, and can easily be integrated into existing peanut processing facilities.

One of the greatest advantages of this technology, says Dr. Jianmei Yu, a research scientist at A&T, and one of the inventors of the technology, is its potential to produce peanut products that can reduce the severity of allergic reaction in the case of accidental exposure. Yu is hopeful that the new license means that food science

is one step closer to releasing peanut allergy-prone individuals and their families from daily stress. Yu developed the process with Drs. Mohamed Ahmedna and Ipek Goktepe, who are no longer with the University.

## Impact Statement

Researchers have developed a safe process for inactivating the allergenic proteins in peanuts.



### What research is needed?

The next step is to commercialize the technology, in hopes of making hypoallergenic peanuts and peanut products available to food manufacturers, and ultimately, to consumers. Plans are to form a new company that will further optimize, test and market the technology to food manufacturers. Yu continues the research at A&T, and will also play a role in the new company.

### Want to know more?

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