

“Having a steady supply of domestically produced natural latex would open the door for major dipped-goods manufacturers and medical glove producers to re-establish facilities in the U.S. As a raw material supplier, we applaud the work championed by Dr. Cornish and supported by OARDC.”

— Tom Marsh, president, Centrotrade Minerals & Metals, Chesapeake, Virginia



TYPE I AND
TYPE IV
ALLERGY
SAFE



ESSENTIALS

- Medical professionals prefer natural rubber latex gloves over synthetic ones because they are stronger, have more tactile sensitivity, provide superior protection to blood-borne pathogens and cause less hand fatigue.
- Latex is also the preferred material for many healthcare and consumer products such as catheters, masks, dental dams, orthodontic rubber bands and condoms.
- The Ohio State University is conducting guayule trials in southern Ohio with the aim of developing a new domestic rubber-and-latex-producing crop as well as economic opportunities in the region.
- Cornish is also working with partners in South Africa to grow guayule there and to produce allergy-free condoms, empowering poor women to start their own enterprises while helping to combat the AIDS epidemic.
- A startup company — EnergyEne Inc., headquartered in Wooster — has been established to lead the development and commercialization of products made from these new latex materials.

Graduate student Cindy Barrera Martínez (left) and researcher Katrina Cornish make latex gloves for testing at OARDC's alternative rubber pilot plant in Wooster.

New hypoallergenic latex creates business opportunity

Ohio Agricultural Research and Development Center researchers have developed new materials that will allow medical professionals to have the natural latex gloves they prefer, while avoiding the risk of allergic reactions.

The patent-pending materials include a latex film made from guayule that is safe for both Type I and Type IV latex allergy sufferers, and a traditional Hevea rubber tree latex film that is Type IV-hypoallergenic.

“Guayule is a U.S. desert shrub that produces a high-quality latex which is very strong, tear-resistant, soft, comfortable and less irritating than synthetic materials from which many gloves are now made,” said Katrina Cornish, The Ohio State University’s Ohio Research Scholar and endowed chair in bioemergent materials. “And guayule latex is naturally Type I-hypoallergenic.”

To make the guayule and Hevea gloves Type IV-hypoallergenic, Cornish and her graduate students used new “accelerators” — chemicals added to speed up the curing reactions and production of latex products — that don’t leave residues associated with this type of allergy in the finished product.

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OARDC: A Leader in Agbioscience

ag·bi·o·sci·ence (ăg'bt'ō-sī'ens) *n.* the integration of scientific disciplines to address critical needs of food security, safety and health; environmental sustainability; and biobased energy, fuel and products



**Food Security, Production,
and Human Health**



**Environmental Quality
and Sustainability**



**Advanced Bioenergy
and Biobased Products**

Ohio Agricultural Research and Development Center

As the research arm of The Ohio State University's College of Food, Agricultural, and Environmental Sciences (CFAES), the Ohio Agricultural Research and Development Center (OARDC) employs nearly 650 scientists and staff members throughout the state.

Ohio State's Wooster campus is the largest agbioscience research facility in the U.S. OARDC scientists work closely with researchers in Ohio State's Colleges of Education and Human Ecology, Medicine, Public Health, Veterinary Medicine, Biological Sciences and Engineering.

At any given time, OARDC researchers are engaged in nearly 400 research projects. Primary focus is in three signature areas:

- Advanced Bioenergy and Biobased Products
- Environmental Quality and Sustainability
- Food Security, Production, and Human Health

The Ohio General Assembly established OARDC as the Ohio Agricultural Experiment Station in 1882. It is supported by a line-item appropriation from the Ohio General Assembly, competitive grants, gifts, contracts, federal grants and other sources. OARDC uses these funds to provide direct research support and economic development for Ohio's annual \$100+ billion agbioscience industry. OARDC is not funded by student tuition or any other general funds of The Ohio State University.

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