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Blueberries reduce risk of Parkinson's, boost brain function finds new study

KANNAPOLIS, N.C. – A recent study has shown that consumption of blueberries, long considered a “super food,” may protect human brain performance and reduce the risk of contracting Parkinson’s disease. In the United States, it is estimated that one million people suffer from Parkinson’s, which is the 14th leading cause of death in the country, according to the [National Parkinson Foundation](#).

A team of scientists from Purdue University, North Carolina State University and Rutgers University investigated whether extracts from blueberries, grape seed, hibiscus, blackcurrant and Chinese mulberry – all rich in health-promoting phytochemicals – would suppress cell death caused by Parkinson’s.

Parkinson’s is a degenerative disorder of the central nervous system that involves the malfunction and death of vital nerve cells in the brain, leaving a person unable to control movement normally. Early symptoms include shaking, stiffness, slowed movement and difficulty walking.

Recently published in the scientific journal *Brain Research*, the findings indicate that two specific classes of phytochemicals – anthocyanins and proanthocyanidins, naturally occurring plant compounds prevalent in some fruits and vegetables – are effective against the neurodegeneration, or loss of nerve cell function in the brain, brought on by Parkinson’s.

[Dr. Mary Ann Lila](#), blueberry researcher and director of North Carolina State University’s [Plants for Human Health Institute](#) (PHHI), located at the N.C. Research Campus in Kannapolis, is part of the team of scientists led by Dr. Chris Rochet of Purdue University that conducted the research.



[Dr. Mary Ann Lila](#), Plants for Human Health Institute director, is part of a team that has linked blueberry consumption to reduced risk for Parkinson’s disease.

"Blueberries have both of these natural chemicals (anthocyanins and proanthocyanidins) in high concentrations, so they pack a more powerful, one-two punch," said Lila. "They can have synergistic benefits that surpass many other fruits when it comes to protection against brain cell death, which in turn may reduce the risk of contracting Parkinson’s."

Blueberry extracts rich in anthocyanins and proanthocyanidins were shown to alleviate neurodegeneration by stimulating cells’ mitochondria, which act like a digestive system within the cell, taking in nutrients, breaking them down and creating energy that helps cells survive.

(more)

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Lila is encouraged by the findings and hopes to continue connecting the dots between berries and neurological disorders like Parkinson's disease.

"The study suggests blueberries can contribute to prevention of the onset of neurodegeneration, a hallmark of Parkinson's, which is an extremely encouraging outcome," said Lila. But more work is needed to investigate exactly how berry compounds protect brain cell function and to expound upon berries' role as a deterrent against the disease. "This research has set the stage for some high level in vivo trials (animal or human trials) to determine exactly how the blueberry compounds interact with and protect human brain cells."

Research has already shown that blueberries possess a plethora of phytochemicals that work together to combat cancer, cardiovascular disease, age-related diseases and metabolic syndrome, including central obesity, diabetes and hypertension.

A cup a day is a good routine for health, according to Lila, and it provides abundant amounts of vitamins A and C, fiber, manganese and phytonutrients, which have antioxidant and anti-inflammatory properties. Blueberries are also a "brain food," and have been shown to increase powers of concentration and slow cognitive degeneration.

North Carolina is 7th in the country for blueberry production, having harvested 40.5 million pounds, or nearly nine percent of the country's blueberry crop, in 2012. Blueberries are grown in every county in North Carolina, with peak season occurring from mid-May through June.

In addition to Lila, Drs. Mary Grace and Gad Yousef, both with the Plants for Human Health Institute, co-authored the paper, along with researchers from Purdue University and Rutgers University. The study, titled "Neuroprotective effects of anthocyanin- and proanthocyanidin-rich extracts in cellular models of Parkinson's disease," was published in the March 25, 2014, issue of the scientific journal, [Brain Research](#).

About the Plants for Human Health Institute

The N.C. State University Plants for Human Health Institute is leading the discovery and delivery of innovative plant-based solutions to advance human health. N.C. Cooperative Extension serves as the outreach component of the institute, which is part of the N.C. Research Campus in Kannapolis. The campus is a public-private venture including eight universities, one community college, the David H. Murdock Research Institute (DHMRI) and corporate entities that collaborate to advance the fields of human health, nutrition and agriculture. Learn more at www.plantsforhumanhealth.ncsu.edu.

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