

## Women needed for chia seed study

[Tagline]

Published Saturday, August 07, 2010 11:00 PM

By Emily Ford

eford@salisburypost.com

KANNAPOLIS — Appalachian State University scientists at the N.C. Research Campus will use overweight, older women and elite cyclists to determine if chia seed has health benefits.

In different studies, postmenopausal women and endurance athletes will consume the same seeds that sprout animal fur and cartoon character hair on kitschy Chia Pets.

Participants who complete either study will receive \$300.

Scientists believe chia seed, the richest plant source of omega-3 fats, could lower risk factors for heart disease.

The ASU Human Performance Laboratory in Kannapolis will determine if consuming 25 grams of chia seed each day for 10 weeks elevates blood levels of omega-3 fats, as well as lowers inflammation, blood cholesterol and blood pressure while improving the health of blood vessels.

Promising results from the human trials could bolster chia seed's standing as an alternative to fish oil.

"People are worried about mercury contamination in the fish and pollution in the water," ASU lab Director Dr. David Nieman said. "There is a big push to have an alternative to fish oil."

The Research Campus, founded by Dole Food Co. chairman David Murdock, is a public-private partnership focused on health and nutrition.

Chia seed has been consumed for centuries, dating back to the Aztecs in Mexico. The seed fell out of favor as an agricultural crop but has gained popularity as a supplement.

And as a novelty Christmas gift.

In a previous study, the ASU lab in Boone used traditional risk-factor markers — cholesterol and blood pressure — to determine if chia seed had any health benefits.

"We found no effect of using chia seed," Nieman said.

However, ASU scientists at the Research Campus have access to sophisticated equipment that can measure more than 500 metabolites in the body.

Metabolites are the microscopic byproducts of metabolism found in blood and urine and can indicate health or illness.

With the advent of a new science called metabolomics, the days of looking at just cholesterol and blood pressure are over, Nieman said.

"We think that chia seed, with the omega-3 fats, have medicinal effects in the human body, and we want to find out what tissues receive benefits," Nieman said. "This will be the first study ever using metabolomics with chia seed."

In preliminary studies, chia seed appears to provide more nutrition than its popular cousin, flax seed, Nieman said.

"This is still speculation," he said. "We are not going head-to-head with flax seed."

Scientists in Kannapolis are analyzing nutrients in nine types of chia seed. The seed is a good source of calcium, zinc, iron and copper and has a high antioxidant value, Nieman said.

But researchers are most interested in discerning the seed's power as an anti-inflammatory.

"Inflammation undergirds several types of cancer and is one of the major contributors to chronic diseases that people get as they get older, especially overweight people," Nieman said.

Scientists want to study chia seed's ability to fight inflammation in two populations, overweight women and athletes.

Overweight people often are chronically inflamed, so ASU will recruit 100 overweight women ages 50 to 75. The 60 most inflamed will proceed with the study.

The study will begin Aug. 30.

If approved by ASU's ethics panel later this month, the endurance athlete study will begin in October. Long, hard workouts create inflammation in humans.

Thirty cyclists will participate. Half will consume chia seed for four weeks, and half will receive a placebo.

All will ride on indoor trainers for two hours at a high intensity, sprint for 10 kilometers and then give a blood sample.

Recruitment has not started, but cyclists can join a waiting list.

Ultimately, a food company could include chia seed in a sports bar, Nieman said.

Together, the studies cost \$130,000. Nieman said he could not identify the private sponsor but said he would publish the results of his research.

Nieman's lab in Kannapolis is part of the new College of Health Sciences at ASU.

To sign up or learn more, send an e-mail to [ASU-NCRC@appstate.edu](mailto:ASU-NCRC@appstate.edu) or call 704-250-5359.