

# JUICE PLUS+® PREVENTION Plus+®



## Juice Plus+® shines in new clinical studies.

Three new clinical studies published in peer-reviewed scientific journals over the past few months demonstrate the healthful benefits of taking Juice Plus+®.

### University of Florida: Juice Plus+® helps support the immune system and protect DNA.

Good nutrition is important for normal function of the immune system. So a research team at the University of Florida studied the impact of taking Juice Plus+® on the immune systems of 59 healthy, young law school students. Like almost every new clinical investigation conducted on Juice Plus+® since 2001, the Florida trial was a “gold standard” (a randomized, double-blind, placebo-controlled) study: 31 students consumed Juice Plus+® Orchard Blend and Garden Blend twice a day for 77 days, while 28 students took a placebo for the same time period. The scientists then compared the Juice Plus+® group with the subjects who did not take the product.



The results, published in the October, 2006 issue of *The Journal of Nutrition* (136: 2606-2610), showed a significant increase among the Juice Plus+® subjects in a specific type of T-cell, called a gamma delta T-cell, that plays an important role in protecting the body from microbes associated with infectious illnesses. In addition, the researchers saw a significant increase in the phytonutrients beta-carotene, lutein, lycopene, and vitamin C after consumption of Juice Plus+® as well as a significant decrease in susceptibility to DNA damage. DNA is the basic building block of life that determines the development and behavior of every cell.

“There was not just an increase in the plasma levels of important (continued on next page)

### Inside...

*UNCG and Vanderbilt Studies*

*Prevention Plus+ Profile: Roger D. Woodruff, M.D.*

*About the Researchers*

nutrients,” lead investigator **Susan Percival, Ph.D.** observes, “but the antioxidants were actually doing something beneficial when they got there.”

Dr. Percival is especially impressed with the immune results given the nature of the subjects involved. “Law students are by definition an extremely stressed population, and stress has been shown to impair immune response. In addition, Florida was hit by four hurricanes during the 11 weeks of the study, which further added to the stress level of the subjects.”

The *Journal of Nutrition* is a monthly publication of the American Society for Nutrition.

**University of North Carolina, Greensboro:  
Juice Plus+® reduces oxidative stress.**

Researchers at the University of North Carolina, Greensboro, led by **Allan Goldfarb, Ph.D.**, found that Juice Plus+® was as effective as much higher amounts of vitamins C and E in reducing a marker for oxidative stress associated with aerobic exercise.

In earlier research, the UNCG research team had established the effects of high doses of vitamins C and E alone on the oxidative stress that naturally occurs when we perform aerobic exercise. Of course, Juice Plus+® contains a wide variety of natural antioxidants including vitamins C and E. In a gold standard study of 48 healthy, aerobically trained men and women, the UNCG scientists tested whether the much lower levels of vitamins C and E in Juice Plus+® – delivered in combination with the other phytonutrients in the product – would have a similar effect as much higher doses of isolated vitamins C and E.

“We took the vitamin C level generally used in previous studies and we gave our subjects a little bit higher level of vitamin C than even that,” Goldfarb elaborates. “Then we combined that higher dose of Vitamin C with a high dose of vitamin E.” The subjects were divided into three groups who were randomly assigned to take one of the following for a two-week period: placebo; 1000 mg of vitamin C and 400 IU of vitamin E; or, Juice Plus+® Orchard, Garden, and Vineyard blends.



The investigators concluded that Juice Plus+® – with its substantially lower amounts of vitamins C and E – provided similar antioxidant benefits compared to the much larger doses of freestanding vitamins C and E.

“This is important for two

reasons,” explains John Blair, NSA’s Vice-President of Product and Research. “First, with Juice Plus+®, you get not only the vitamins C and E, but also the benefits of all the other antioxidants in our fruit and vegetable juice powders. Second, some recent studies suggest that large doses of isolated antioxidant vitamins might not be beneficial and can actually have harmful effects.”

Dr. Goldfarb agrees. “There are a number of studies that show that if you take a large amount of just vitamin C alone, for example, it can actually cause a prooxidant response.”

The results of the study by Goldfarb and his colleagues appeared in the June, 2006 issue of *Medicine & Science in Sports & Exercise* (38: 1098-1105), the official journal of the American College of Sports Medicine.

**Vanderbilt University School of Medicine:  
Juice Plus+® improves markers of cardiovascular health.**

In a non-gold standard pilot study conducted by investigators from Vanderbilt University School of Medicine, researchers monitored 51 adults – primarily hypertension patients, most of them on medication – who took Juice Plus+® Orchard, Garden, and Vineyard blends for two years. Overall, the test subjects showed improvements in several key measures of vascular health – with no adverse side effects.



“First, Juice Plus+® improved the antioxidant status of the patients,” lead investigator **Mark Houston, M.D.** elaborates. “We also found that their arterial health improved – the arteries became more elastic, more pliable. In addition, as the arteries got healthier, we observed a modest reduction in both systolic and diastolic blood pressure – clearly beneficial, but not enough to support any change in medication. We also observed small but significant decreases in two key markers of cardiovascular health: glycated hemoglobin and homocysteine.

“Putting it all together, the results showed that important markers of oxidative stress, oxidative defense, arterial health, and coronary heart disease all improved in subjects consuming Juice Plus+®.”

These pilot study results were just released in the March, 2007 edition of the online journal *Evidence-based Complementary and Alternative Medicine*.  
*(continued on next page)*



## Prevention Plus+ Profile: Roger D. Woodruff, M.D.

**Home:** Spokane, Washington.

**Specialty:** Family medicine.

**Education and Training:** Graduated from Loma Linda University School of Medicine in Loma Linda, California in 1981. Completed residency in Family Practice at Florida Hospital in Orlando in 1984.

**Professional History:** Served on the teaching faculty of Florida Hospital in Orlando from 1984-1987. Family practice, South Hill Family Medicine of Spokane, 1990-present.

**Key Professional Accomplishment:** Between 1987 and 1990 served as Director of the Family Medicine Residency Program at Loma Linda University Medical Center. In that capacity he helped to establish and build a respected new residency program and secure its accreditation.

**Key Personal Accomplishment:** Father of three.

**Community Service:** Served as President and two-term member of the Board of Directors for the Spokane Youth Symphony.

**Personal Mission:** “We must educate the next generation in healthier eating in order to reverse the current epidemic of degenerative diseases such as heart disease, stroke, diabetes, and cancer.”

**Health Advice:** “Whole food nutrition is the foundation of a healthy and vibrant life. When it comes to diet, I’ve learned that making a few little changes here and there can make very big differences in one’s health – differences that start to ‘snowball’ in a positive direction over time.”

**Why he recommends Juice Plus+®:** “Sometimes the most powerful remedies are the simplest. After many years of taking diet histories from my patients, I can say unequivocally that almost no one has a ‘perfect’ diet and that most people never will. It’s just so hard for people to eat ‘right’ given the hectic pace of modern life and the proliferation of unhealthy food options. Even those patients who really try to improve their diets find that maintaining the proper balance – especially eating enough fruits and vegetables – is a very difficult, if not impossible, task.

“Now I can encourage a healthy diet that includes daily nutrition from a wide variety of fruits and vegetables – with far greater confidence that my patients can actually comply. Because even though most of them can’t, don’t, or won’t eat enough fruits and vegetables, they can take Juice Plus+® to help bridge that nutritional gap.

“I know of nothing else with or without a prescription that provides the range of clinically-proven benefits that Juice Plus+® does. It provides a nutritional safety net that everyone needs.”

“Sometimes the most powerful remedies are the simplest.”

*Roger Woodruff is one of the many health professionals speaking to audiences around the world as part of our Juice Plus+® Prevention Plus+ Health Education Series. If you’d like to attend a Prevention Plus+ seminar in your area, ask your Juice Plus+® representative or call our Juice Plus+® information line at 1-877-JUICEPLUS (1-877-584-2375).*

### A commitment to independent research

All three researchers emphasize both the quality and the independence of the clinical research being conducted on Juice Plus+®. Dr. Goldfarb is “very impressed that NSA allows scientists to do the research without interference and to publish the results regardless of what they are.”

“We’re not just doing little ‘side studies’ here,” Dr. Percival adds. “We’re doing important, complete, high quality clinical research.”

“It takes a very bold and very ethical company to turn their products over to independent researchers to prove that they have scientific merit,” Dr. Houston suggests.

“That’s not surprising for a company like ours that tells people our product is only ‘the next best thing’ to eating a wide variety of fruits and vegetables every day,” Blair concludes. “But people just aren’t likely to do that. Juice Plus+® is there to help fill the inevitable gap between people’s actual daily diets and the nutrition they need.”

## About the researchers



Susan Percival, Ph.D.

**Susan Percival, Ph.D.** is a full professor of nutritional sciences in the Department of Food Science and Human Nutrition at the **University of Florida**, where she teaches a course on Dietary Supplements and a course on Nutrition and Immunity. She recently returned to Florida from a sabbatical at the National Cancer Institute of the National Institutes of Health. From 1978 to 1981, Dr. Percival served on the faculty of the University of Rhode Island, leaving to pursue her Ph.D. at the University of Texas, Austin. She did post-doctoral research in the department of Biochemistry and Biophysics at Texas A&M University.

Dr. Percival has served on the editorial board of *The Journal of Nutrition* since 2000, as well as on two committees of the Food and Nutrition Board at the Institute of Medicine of the National Academy of Sciences. Her current research activities are focused on how dietary components – particularly bioactives from foods – influence immunity and DNA.



Allan H. Goldfarb, Ph.D.

**Allan Goldfarb, Ph.D.** – a full professor in the Exercise and Sport Science Department at the **University of North Carolina, Greensboro** – is an exercise physiologist with a specialization in sports nutrition. Dr. Goldfarb was awarded his Ph.D. from Temple University in 1979, after which he served as a post-doctoral research associate in the Department of Pharmacology at the Medical College of Pennsylvania. He moved on to become an assistant professor at the University of Maryland, then relocated to UNCG in 1987. He has been a fellow of the American College of Sports Medicine (ACSM)

since 1983 and is the immediate past president of the Southeast Chapter of that organization.

Dr. Goldfarb has published more than 60 peer-reviewed articles in such journals as the *Journal of Applied Physiology*, *Medicine & Science in Sports & Exercise*, the *European Journal of Applied Physiology*, the *International Journal of Sports Nutrition and Exercise Metabolism*, *Endocrinology*, and the *Canadian Journal of Applied Physiology*. He has also published over 100 presentations and 14 chapters in books, and serves on the editorial board of two journals.



Mark Houston, M.D.

**Mark Houston, M.D.** is an associate clinical professor of medicine at **Vanderbilt University School of Medicine**, as well as Director of the Hypertension Institute and Vascular Biology at Saint Thomas Hospital in Nashville, Tennessee. He graduated from Vanderbilt Medical in 1974 and served his internship and residency at the University of California, San Francisco. He returned to Vanderbilt as chief resident in 1977 and has been affiliated with the medical school ever since, including 12 years as a full-time member of the faculty.

Dr. Houston has conducted over 80 studies and published more than 130 medical articles and scientific abstracts in peer-reviewed journals, primarily on cardiovascular disease and hypertension. He is the author of several best-selling books, including *What Your Doctor May Not Tell You About Hypertension*. He has served on the editorial boards of – or as editorial consultant or a peer reviewer for – 20 different medical journals, including *The New England Journal of Medicine*, *The Journal of the American Medical Association*, and *Hypertension*.



955210