



Nutrition News

Feeding the world with knowledge

August 2014

Dole Diet Center

Growing Scientific Minds Of Tomorrow

Dole Supports Groundbreaking Educational Program at North Carolina Research Campus



Scientific discoveries—like a recently published study showing blueberry compounds’ potential to help prevent Parkinson’s—beg more fundamental questions about fruit and vegetables. Such as what compounds do these plants make? And how do they make them?

These are the questions being tackled by the young scientific minds participating in the Plant Pathways Elucidation Project (P2EP)—a groundbreaking, \$1.9 million, collaborative research program bringing

together local industry as well as university and college partners located at the North Carolina Research Campus (NCRC). Forty students from twelve universities and colleges and two high schools are spending the summer working with NCRC’s lead scientists in the field and at the Dole Nutrition Research Lab (the scientific research arm of the Dole Nutrition Institute) under the leadership of Dole Vice President, Dr. Nick Gillitt.

Dole is partnering with other food companies and universities to give P2EP students the chance to work with leading researchers from academia and industry to gain hands-on experiences to help prepare them for future careers in scientific research. “Knowledge is power,” says Gillitt, “and we’re empowering the next generation of plant scientists to help unlock the full potential of fruits and vegetables so that healthier crops and foods can play a bigger role in helping people live longer, healthier, happier and more productive lives.” The students’ research into plant pathways and contributions to a genomic knowledge base build on the work of the first class of P2EP students studying broccoli, oats, strawberries—and blueberries. As P2EP continues to grow, more fruits and vegetables will be added.

Meanwhile, why not enjoy the seasonal delights of blueberries in this vegan, raw version of Blueberry Cheesecake, featured below from blogger Gena Hamshaw’s fantastic new cookbook, *Choosing Raw: Making Raw Foods Part of the Way You Eat*.

Cheer For Chocolate

Dark Chocolate Improves Mobility for PAD Patients



More than eight million people in the U.S. suffer from peripheral artery disease (PAD), a plaque-induced narrowing of the arteries that carry blood to your legs and the rest of the body. Most common symptoms include cramping, pain and fatigue in the legs and hips—making walking for more than a short distance difficult without stopping to rest. More ominously, PAD greatly increases risk of heart attack and stroke. Fortunately, physical activity can help both prevent and alleviate symptoms. Diet also plays a role—and exciting

new research suggests that dark chocolate might provide sweet relief.

A small trial published in the *Journal of the American Heart Association* found that patients walked nearly 40 feet farther and 17 seconds longer on a treadmill two hours

Hot News



NATIONAL WATERMELON MONTH

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Featured Recipe



VEGAN BLUEBERRY CHEESECAKE

after eating the dark chocolate compared to what they walked earlier in the day. Milk chocolate didn't yield any benefits in terms of how far or long patients could walk. Researchers believe that the polyphenols in dark chocolate helped improve the flow of blood to the limbs. A previous study credited the chocolate flavonoid epicatechin for enabling mice to run 50% longer with 30% greater endurance. Cocoa compounds appeared to increase muscle capillaries' density which in turn boosted oxygen delivery to the peripheral limbs.

Other research indicates that dark chocolate compounds may reduce blood stress markers, lower blood pressure, limit blood clotting and improve arterial flexibility. We suggest munching with moderation, however, as even a one-ounce size serving of dark chocolate supplies 34% of your daily saturated fat limit and 168 calories. Try this No Bake Tartlets with Raw Vegan Chocolate Ganache Filling, featured in blogger Gena Hamshaw's new cookbook, *Choosing Raw: Making Raw Foods Part of the Way You Eat* and on our website (newsletter.dole.com).

Tax Diet

Soda Tax Found Effective in Fighting Obesity



America's weight problem puts a crushing economic burden on our healthcare system, our businesses, and our personal pocket books. In recent years, health care costs for the obese grew almost three-times as fast as those for the normal-weight population. A recent study in the *American Journal of Health Promotion* found that compared to normal-weight individuals, a morbidly obese employee costs an employer over \$4,000 more per year in health care and related costs.

This translates into higher health premiums, higher priced goods and services, higher unemployment—all of which can hit low income families hardest of all.

Some policymakers have argued that expensive fruit and vegetables are to blame. But in experimental simulations of grocery shopping, lowering produce prices prompted shoppers to buy more junk food! By contrast, behavioral scientists at the University of Buffalo found that higher prices on unhealthy foods (i.e., the kind that would result from junk food taxes) could shift spending to fruit and vegetables. More recently a group of researchers at Australian's Monash University and Britain's Imperial College London and University of York have looked at how raising prices on sugar-sweetened beverages might influence consumption trends—and impact obesity.

The study compared the effects of taxing soda at 20% flat rate sales tax (valoric) or at an extra twenty cents per liter volumetric tax and found that the latter could yield weight loss of roughly 7.5 pounds for those with low and middle incomes and high soda intake. Moreover, lead author Dr. Anurag Sharma argues that such taxes could “generate tax revenue that can be used for public health care.”

Such soda taxes would likely most benefit those “consumers” who don't make their own purchasing decisions—children, whose health has suffered from rising soda consumption. Caffeinated sodas are contributing to kids' sleep problems and rising blood pressure rates. Better beverage options include 100% fruit juice, which is linked to lower body mass indices and higher nutrient intakes.

Nutrition News Desk

National Watermelon Month

Watermelon Juice Relieves Post-Workout Pain



August is National Watermelon Month—and new research findings provide a fresh reason to celebrate! Not only does the budget-friendly melon quench post-workout thirst, its juice might prove an effective, delicious remedy to exercise-induced muscle soreness.

In a study published in the *Journal of Agricultural and Food Chemistry*, Spanish scientists followed leads of previous research on watermelon's potential to enhance athletic performance to investigate whether it might also provide a post-exercise benefit. They had a group of young male athletes drink either watermelon juice—straight or heat-treated (pasteurized)—an hour before a grueling cycling test. When surveyed 24 hours later, the watermelon juice drinkers reported significantly less muscle soreness than those who consumed a control beverage. Interestingly, the benefit was the same for fresh watermelon juice without any artificial concentration of the active ingredients as for a more boosted, fortified beverage, suggesting the natural fruit provides the most effective bioavailable and bioactive sports nutrition.

Watermelon boasts an impressive line-up of nutrition heavyweights—vitamins A and C, amino acid citrulline and carotenoid lycopene. Indeed, this latter carotenoid is concentrated at nearly twice the levels in watermelon as found in fresh tomatoes, compared gram-for-gram. In addition to possible heart health, lycopene may also support male fertility, minimize sunburn damage, and reduce prostate cancer risk. In this particular study, scientists credit the amino acid citrulline, concentrated in the watermelon rind with helping the athletes recover. Previous research found that citrulline may help enhance blood flow by suppressing certain enzymatic activity. Watermelon supplies tremendous bang for your buck as the cheapest fruit measured by weight. Since that cost per weight includes the rind, stretch your pennies further by juicing the rind as well.

Golden Year Goals

Soccer in Your Seventies Scores Big with Health



Your favorite team didn't win the World Cup? No worries! Here's some soccer news we can all cheer about: Researchers have found that seniors who play soccer reap amazing health gains—even if they've never kicked a ball before!

That's right, sports fans. If the most physical activity soccer has inspired in you these past few weeks is lifting the remote control and dashing to the fridge between commercial breaks, then now's the time to take to the field. Three studies published in the *Journal of Medicine & Science in Sports* demonstrated that after a mere four months of twice-weekly one-hour training sessions, a group of 27 untrained, previously inactive men ages 63 to 75 improved their maximum oxygen uptake by 15% and muscle function by 30%. The soccer training also showed promise as a guard against osteoporosis, increasing seniors' retention of minerals (calcium, iron, phosphorus, zinc, etc.) in their bones.

Previous research has shown that soccer beats jogging when it comes to weight loss, muscle gain and cholesterol management. Moreover, those 70-year-old men with lifelong participation in soccer possess a postural balance and rapid muscle force that is comparable to that of 30-year-olds who haven't played the game. But

these latest findings break new ground, showing that soccer can literally change the lives of previously inactive older men. According to Professor Peter Krstrup of the Copenhagen Centre for Team Sport and Health, University of Copenhagen: “The remarkable improvements in aerobic fitness and muscle strength make it easier for the players to live an active life and overcome the physical challenges of everyday life such as climbing stairs, shopping, cycling and gardening. This benefits not only the players themselves, but also their families and friends.”

Indeed, scoring goals in the golden years may be a safer bet than long-distance running, since recent studies reveal that older athletes who run more than 20 to 25 miles a week begin to see their longevity gains evaporate. You can also choose to “walk before you run”: seniors who adopt a simple regimen of walking three times a week can improve aerobic ability, which in turn cuts their odds of premature death. What’s more, regular brisk walking can increase brain volume as we age—which guards against cognitive decline.

Booze Breath

Too Much Liquor Harms Lungs



When we think of the organs damaged by excessive drinking, the liver and the brain come first to mind. New research suggests our lungs may also deserve a place on the list.

Researchers at Thomas Jefferson University and Penn State noticed that alcoholics run a greater risk of pneumonia and other respiratory problems, and suspected that heavy drinking undermined the immune system’s ability to ward off infection.

Their recently published study used an animal model to explore just how this process occurred. This study, published in the *American Journal of Respiratory Cell Molecular Biology*, found that chronic alcohol ingestion altered behavior of cells in the lungs that make fat by expelling a fatty secretion onto the lungs’ inner lining. Extended alcohol exposure led these cells to increase production of triglycerides and free fatty acids by 100% and 200%, respectively.

In a kind of domino effect, all this excess fat provided more work for lung macrophages—the cells responsible for protecting against infection. “It’s likely that the macrophages try to engulf the excess fat in order to protect the cells in the lung, but in doing so, they become less effective sentinels against infection and disease,” observed Ross Summer, MD, the study’s lead author. Previous research has found that alcohol reduces the effectiveness of macrophages by 83%, while also reducing the ranks of another kind of immune cell, cytokines, leading to increased inflammation.

When the liver is overloaded with alcohol, fat burning takes a back seat. Fat cells get stretched to the limit, and with no place else to go, fat ends up clogging other organs, like the heart and the lungs. So show your lungs some love, by limiting, or at least pacing, alcohol consumption.

Featured Recipe

Vegan Blueberry Cheesecake

Crust Ingredients:

- 1-1/2 cups almonds
- Pinch sea salt
- 2 cups pitted Medjool dates



Filling Ingredients:

- 3 cups cashews, soaked in water overnight and drained
- 1/4 teaspoon sea salt
- 2/3 cup melted coconut oil
- 2 teaspoons vanilla extract, or seeds of 1 vanilla bean
- 1/4 cup freshly squeezed lemon juice
- 1/2 cup agave nectar

Serves: 8-10

Topping Ingredients:

- 2 cups blueberries
- 2 teaspoons freshly squeezed lemon juice
- 2 tablespoons agave nectar or pure maple syrup

Directions

1. Place the almonds and sea salt in a food processor and grind roughly. Add the dates and process until the mixture is well processed and sticks together when you squeeze a bit in the palm of your hand. Press the mixture evenly into the bottom of a 9-inch springform pan.
2. Use a high-speed blender or food processor (high-speed blender is preferable, but a food processor will work as well) to process all the filling ingredients thoroughly, until they are silky smooth. If you're working with a processor, you may need to stop often to scrape it down. Pour the mixture over the layer of crust and use an inverted knife to smooth it over. Place the cheesecake in the freezer for an hour, then transfer it to the fridge and let it set overnight.
3. When the cheesecake has set, blend 1 cup of blueberries, the lemon, and the agave nectar in a blender until smooth. Transfer to a small bowl and stir in the remaining whole blueberries. Pour the mixture over the cheesecake (or you can spoon it over individual slices). Serve.
4. Cover and store the cheesecake in the fridge for up to 3 days, or in the freezer for up to 10. If you freeze the cake, defrost the slices in the fridge for several hours before serving.

If you think authentic cheesecake flavor is impossible without the cheese, think again. Raw cheesecake happens to be one of the most authentic tasting raw desserts, thanks to the magical combination of cashews and coconut oil. The cheesecake is easier to prepare in a high-speed blender than a food processor, but the processor can work if that's what you have. Just be sure to soak your cashews overnight! If you don't have cashews, macadamia nuts are a perfect substitute.

From *Choosing Raw* by Gena Hamshaw. Reprinted with permission from Da Capo Lifelong, © 2014

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Dole Nutrition Institute / Lead Editor: Nicholas Gillitt, PhD

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