Issue #3 March 2007

Nutrition Roundup

Stemilt.com World Famous Fruit

Research Corner

Diets rich in apples deter onset of Alzheimer's-like symptoms

Alzheimer's Disease Statistics

- The Elderly is the fastest-growing segment of our population
- 22,431,000 people in the U.S. were > age 65 in 1980
- 57,590,000 in the U.S. will be > age 65 in 2030

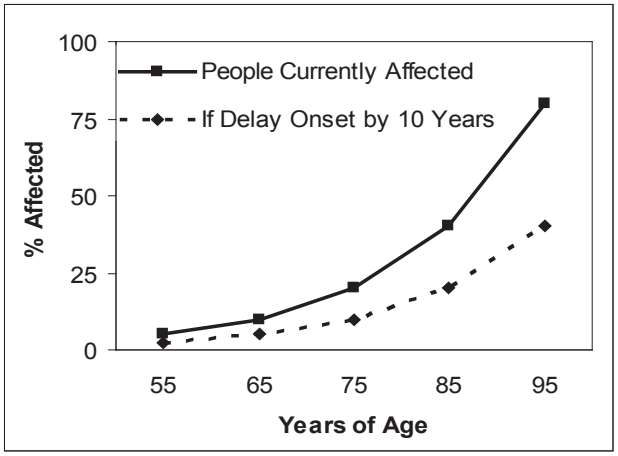
Alzheimer's Disease is diagnosed for:

- 10% of people >65
- 20% of people >75
- 40% of people >85
- 80% of people >95

In just the last five years, studies have continually shown the positive impacts of diet in reducing the development of dementia-like symptoms both in mice and in human cells. Researchers point to the increasing number of elderly in the U.S. population as reason to take notice of these findings.

Source: Research conducted by Thomas B. Shea, Ph.D, Director of the Center for Cellular Neurobiology and Neurodegeneration at the University of Massachusetts Lowell. These statistics were sourced from a presentation at www.uml.edu/Dept/Biology/tshea/SmartPillAndover.htm.

% IN U.S. AFFECTED BY ALZHEIMER'S



Studies underscore the fact that diets which are higher in antioxidants, including the antioxidant quercitin found in apples, may help delay the onset of dementia-type diseases in humans such as Alzheimer's disease.

Research backs connection between brain health & apples

In the last five years, scientists have shown that diet makes a difference in the development of memory-deteriorating diseases such as Alzheimer's and Parkinson's diseases.

And research on apples and apple juice supports that both products may improve human memory and help deter the effects of dementia-creating diseases.

In a study published in October 2006, researchers showed how quercetin, an antioxidant abundant in apples, helped to reduce cellular death that is caused by oxidation and inflammation of neurons. Oxidative stress and neuron inflammation are connected not only to memory loss but to other diseases such as Parkinson's. Researchers G. Bureau and M. Martinoli from the University of Quebec a Trois-Rivieres conducted the study and presented the results at the Society of Neuroscience annual conference in Atlanta in October last year.

The University of Quebec study was previously confirmed by similar research published in May in the journal, ***Experimental Biology and Medicine***. In that study, researcher Eric Gershwin, M.D., and his team of scientists with the University of California, Davis Health System, exposed human cells to an extract of apple mash made from different apple varieties. The UC Davis team then exposed the cells to a protein-like compound that usually triggers cell death and promotes inflammation and tumor development. The UC Davis research demonstrated how the apple extract protected the cells from the normally lethal effects of the tumor-development process by interfering with the interactions that would usually damage or kill cells in the human body.

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Nutrition Roundup from Stemilt Growers

Brain health, from page 1

Another study published in August last year in the ***Journal of Alzheimer's Disease*** indicated that apple juice consumption may actually increase the production in the brain of the essential neurotransmitter acetylcholine. The study was conducted by the University of Massachusetts Lowell.

Neurotransmitters such as acetylcholine are chemicals released from nerve cells that transmit messages to other nerve cells. Such communication is vital for overall good health, not just in the brain but throughout the human body. Mice that had Alzheimer's-like symptoms showed improvement in acetylcholine levels in their brains after consuming apple-enhanced diets. In addition, these mice performed better when challenged to navigate a maze than those who had not eaten the special apple diet.

Apples and pears are available and highly affordable year round, and both contain high levels of disease-fighting antioxidants.

The study published in August by the University of Massachusetts Lowell research team was preceded by a similar study released in December 2005 in which older mice performed better on memory tests than did animals whose diet was not enriched with apple products. The conclusion: apples must have a unique and super-beneficial mix of antioxidants that improves cognition and memory via inhibition of oxidation in the brain.

Pears pack a powerful phyto-chemical punch

While several studies seem to connect apple and apple juice consumption with slowing the onset of memory-depleting illnesses such as Alzheimer's disease, proponents of Northwest pears say don't forget d'Anjou, Red d'Anjou and Bosc when it comes to brain health.

These are just three of the pear varieties available year round from Washington and Oregon that contain high levels of phyto-chemicals. Phytochemicals are natural plant compounds that occur in fruits and vegetables. Research by the United States Department of Agriculture indicates that pears have a high level of phytochemicals and consequently a high level of antioxidants that help in the battle against brain-depleting diseases. ***(See www.usapears.com/healthy/prohealthychoice.asp for source.)***

The USDA has found that pears have a very high ORAC. ORAC (Oxygen Radical Absorbance Capacity) is a way of expressing a measure of the antioxidant activity of food. Anti-oxidants help prevent damage caused by free radicals, which are by-products of reactions between oxygen and foods when energy is created. Free radical damage increases when diets are antioxidant-poor because free radicals are allowed to roam the body, damaging cells and tissues. To reduce the chance of damage, the USDA recommends a diet high in antioxidant-containing foods -- such as pears.

In addition, pears are high in soluble fiber, the type which reduces blood cholesterol. Lower cholesterol has been found to help prevent heart disease and type 2 diabetes. Patients who suffered from these diseases have also been found to have a higher incidence of memory-depleting illnesses such as Alzheimer's. The message -- eat apples AND pears for a sound body and mind.

Apple Bacon Popovers

These popovers are a terrific treat for a springtime breakfast, brunch or snack item. Serve warm with low-sugar apple butter or light-calorie margarine.

2 large eggs
2 large egg whites
2 cups 1% milk
2 cups all-purpose flour
2 tsp. sugar
1 tsp. salt
2 strips turkey bacon
1 large apple
1 Tbsp. light, unsalted butter, melted
Cooking Spray
Apple Butter, optional

In a large bowl, whisk together eggs and egg whites until well blended. Whisk in milk and set aside. In a medium bowl, combine flour, sugar and salt. Gradually add flour mixture to egg mixture, stirring well with a whisk. Let stand 30 minutes. While batter is standing, preheat oven to 450 degrees. Cook bacon strips until crispy. Drain, let cool, and finely chop. Coarsely grate apple, including peel. Coat a 9-cup popover pan with cooking spray. Fold the bacon, grated apple, and melted butter into batter, stirring until well blended. Pour batter into prepared popover cups until ¾ full. Bake at 450 degrees for 18 minutes. Reduce heat to 325 degrees and bake for 10 minutes more.

Servings: 9; Prep Time: 30 minutes;
Total Time: 1 hour

Nutrition Information Per Serving:
Calories: 170 Calories from fat: 35
Cholesterol: 55mg Total fat: 4g
Carbohydrates: 28g Saturated fat: 1.5g
Dietary Fiber: 1g Protein: 7g
Sodium: 350 mg

Source: U.S. Apple Association