P.I. NEWS

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PISTACHIOS MAY HELP REDUCE DIABETES RISK

Sunday, October 19, 2014 - For people who may be headed for type 2 diabetes, regularly eating pistachios might help turn the tide, according to a new trial from Spain. People with so-called prediabetes have blood sugar levels higher than normal but not yet in the diabetes range. If they do nothing, 15 to 30 percent will develop diabetes within five years, according to the U.S. Centers for Disease Control and Prevention. In the new Spanish study, people with prediabetes who ate about two ounces of pistachios daily showed significant drops in blood sugar and insulin levels and improvements in insulin and glucose processing. Some signs of inflammation also dropped dramatically.

Although the trial specifically involved pistachios, many previous studies have found encouraging evidence that eating nuts may be linked to a lower risk of heart disease and lower cholesterol, the authors write in Diabetes Care.

The study team divided 54 prediabetic adults into two groups. Both groups were instructed to keep to a calorie-regulated diet with 50 percent of energy from carbohydrates, 35 percent from fat and 15 percent from protein, using provided menus and seasonal recipes.

One group was given 57 grams of pistachios, about two ounces, daily to add to their diets. To match those calories, the comparison group added olive oil and other fats for the four months of the study. By the end of the study, fasting blood sugar levels, insulin and hormonal markers of insulin resistance had decreased in the pistachio group while they rose in the comparison group.

Participants' weight did not significantly change by the end of the study in either group. But glucose-use by immune cells involved in inflammation, as well as circulating inflammatory signaling molecules both dropped in the pistachio group, the authors note.

"Although pistachios were examined in this work, I believe that any beneficial effects on glucose metabolism are shared by all nuts, as they have a general composition with lots of bioactive compounds liable to beneficially affect biological pathways leading to insulin resistance and diabetes," said Dr. Emilio Ros, director of the Lipid Clinic of the Endocrinology and Nutrition Service at Hospital Clínic in Barcelona. He was not part of the new study. Researchers from the Universitari Hospital of Sant Joan de Reus, in Reus, and the Instituto de Salud Carlos III in Madrid collaborated on the trial, which was funded by American Pistachio Growers and Paramount Farms. "The nut industry always supports clinical or experimental studies with their nuts, otherwise no such studies would be carried out," Ros told Reuters Health by email.

PRODUCE EXECUTIVE PROGRAM

pma AUSTRALIA+NEW ZEALAND

INSTITUTE OF FOOD & GROCERY MANAGEMENT

We can now take registrations for the 2015 PMA A-NZ Produce Executive Program. Next year's course will be held from 26 April - 1 May at the Mt Eliza Executive Education campus. Guest speakers and program topics will be finalised in the next couple of weeks and I will send you the new course brochure as soon as it's ready.

The new program name is the result of an enhanced strategic partnership between the Institute of Food and Grocery Management and PMA A-NZ, strengthening the commitment of both organisations to develop and retain talented people in the fresh produce industry.

Specifically tailored to all segments of the fruit, vegetable, flower, nut and nursery industries in Australia and New Zealand, the PMA A-NZ PEP is ideal for middle to senior executives seeking professional development.

For more information, including pricing and registration please visit: pma-anz.com/PEP.

Ben Attfield, Marketing Manager, Institute of Food and Grocery Management

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AUSTRALIAN PISTACHIOS

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DESPITE A DISASTROUS START, THE 2014 SEASON ENDS WELL FOR THIS RESOURCEFUL PISTACHIO GROWER

Long-time pistachio grower Tom Coleman, Fresno, California, sent the first loads of his 2014 harvest to the processor on August 21, five days earlier than last year. Six weeks and two days later, he had finished harvesting the last of his 2,500 acres of trees. They included his orchards and those his company, Coleman Farming Co., manages for other growers.

This was an on-year for some fields, an off-year for others. "By and large, yields were a little above average," Coleman says.

His best-performing blocks produced a little over 4,000 pounds (in-shell) per acre. Yields of his mature trees, some as old 35 years, ranged from about 3,500 to 4,000 pounds per acre. That compares to the 260-pound yield produced by some 5-year old trees, harvested for the first time this year."

He describes the harvest as surprisingly good, especially in view of the poor winter chilling the trees experienced. Night-time temperatures were cold enough to help insure sufficient dormancy for the trees to bloom properly. The problem was the lack of fog, which customarily helps keep the trees rested through the winter, and unusually warm day-time temperatures which further prevented the trees from experiencing full dormancy.

As he's done several times in the past, prior to bud break he treated most of the trees with a horticultural oil spray in an effort to promote a more uniform bloom.

"It was the most horrible bloom you could imagine,' Coleman says. "Some of the female trees bloomed on the top, on one side or the other, or on the bottom before the rest of tree bloomed. It was very erratic. In addition, all the female trees seemed to finish blooming before the male trees even started. It looked like we'd have zero for a crop this year. It was that bad."

Apparently the oil treatment paid off. "Production was off in those blocks that I didn't oil," he adds.

"Overall, it turned out to be a pretty good crop on the ranches which had enough water for the trees this year. Where the trees didn't get enough water, the number of closed shells was quite high - as much 80 percent in some blocks."

Otherwise, he rates his crop this year as a pretty good one in terms of closed shells, blanks, kernel size and low insect damage. "Industry-wide, navel orangeworm levels were the lowest in several years," adds Coleman, who chairs the California Pistachio Research Board.

Some of the ranches he manages that received no deliveries of surface water had only enough ground water to supply about half their needs this season, Coleman reports. In some of those cases, well production declined steadily through the season. For example, some, that were producing 300-gallon-per-minute flows at the start of the season, were pumping only about 100 gallons per minute by harvest time.

"Those trees defoliated to some extent but not as much as you might think," he says. "However, they didn't have a healthy, lush look to them."

Also, lacking enough water, the nuts were much harder to shake loose, Coleman adds.

The rest of the orchards he manages had enough surface and ground water to remain healthy. In the case of his own fields in Fresno County he paid $60 per acre foot to buy a minimum amount of water. He ended up with some unused water, which he was not allowed to transfer or sell to someone else.

In the case of the orchards he owns in Madera County, Coleman was able to supplement his reduced allocation of surface water by purchasing some insurance water last year for use this year at a cost of $418 per acre-foot. Towards the end of this growing season, he bought some subordinate water for $1,000 per acre-foot.

To stretch available water supplies on his own fields, Coleman made two changes in his irrigation management practices. One was to plug the emitters used to irrigate his male trees after they bloomed. Those trees account for about five percent all his total tree numbers. He diverted the water he saved there to his female trees.

The other water-conserving move was to build a four-acre reservoir at one ranch to capture water back-flushed through the filters to remove sand from the water used with his drip system. To prevent the stored water from percolating into the soil, in lined the reservoir with gunite.

Coleman spent $80,000 to build the reservoir and install the gunite. "It was worth the expense," he says. "It cost less than drilling a new well, and I'm saving as much water as a well would have produced."

Greg Northcutt, Western Farm Press. October 2014

PISTACHIO INDUSTRY VISITS CANBERRA

Andrew Broad, the Nationals Member for the Mallee and Joel Fitzgibbon, the ALP Member for the Hunter are pictured here enjoying Australian pistachios at a Parliamentary reception hosted by ANIC.

ANIC regularly visits Canberra to brief Ministers, members of Parliament and senior public servants of issues of concern to the nut industries.

On this trip in October, meetings were held with the Minister's office for Trade and Agriculture and the head of the Department of Agriculture. About 40 members of the Parliament attended the reception.

TIPS FOR BOOSTING SPLIT PERCENTAGES IN PISTACHIOS

Depending on the timing of irrigations and amount of water applied, split percentages of this year's pistaschio harvest could vary widely, reports Bob Beede, University of California Cooperative Extension farm advisor, emeritus. As he notes in his September/October Pistachio Task List newsletter, research by U.C. Davis plant scientists shows that shell splitting is caused by the physical expansion of the kernel rather than development of an abscission zone.

Split percentages are affected by:

- Time of bloom
- Low levels of boron and zinc
- Insufficient water from July 1 to harvest
- Excessive cool weather during the growing season
- Heavy big bug damage during kernel fill

"Waiting for increased split percentages at harvest after much of the crop has creamy hulls can backfire in the form of higher stain - especially on the east side of the Valley where Alternaria is a bigger problem - and insect percentages," Beede says.

If split percentages are poor, he recommends examining your irrigation program during Stage 1 (shell development) and Stage 3 (kernel filling). University of California research shows that split percentages can be improved by inducing regulated plant stress during Stage 1.

If you typically have good split percentages, the gain from Stage 1 stress is primarily water savings, Beede says. You can save at least 50 percent of ETc between April 1 and June 1. In northern California, irrigation may not be necessary at all during this period.

Split percentages can also be affected by the uniformity of water application. There is no question that water stress during Stage 3 reduces split percentages, Beede notes.

He suggests comparing the amount of water you applied to average water use: July is 9.8 inches. August is 8.3 inches. For the first two weeks in September, that figure is 2.8 inches. Determining when to stop irrigating before harvest depends on weather, disease pressure, soil texture, split development and orchard access, Bede adds.

If Alternaria pressure is not a concern, he advises watering right up to within three or four days of shaking. Unlike almond trees, pistachios don't require an extended dry-down period to avoid trunk damage by the shaker, he explains.

"In pistachio, it's common to still be irrigating blocks awaiting harvest while shaking," Beede says. "A little post-harvest water, 25 percent to 50 percent of ETc, is advisable for relieving shaker stress and improving nutrient uptake in the fall. I have visited several orchards with sparse canopy development. In our irrigation research, this was very characteristic of insufficient water during leaf-out. Nut size is also affected."

Greg Northcutt, Western Farm Press

HIGH-TECH GADGETRY IMPROVES PISTACHIO WATER EFFICIENCY

Phil Reh, director of sales and business development with Observant Inc., shows sensors to detect soil moisture levels.

Before launching into a discussion of what he sees as the need for high tech gadgetry to bring greater efficiency to water use on crops that include pistachios, Phil Reh opened a talk at Fresno State University with an interesting observation.

"The best moisture soil sensor in the world is you and a shovel and a good boot, digging a hole and going down into the root zone," said Reh, director of sales and business development with Observant Inc.

But that sort of hands-on approach "is not practical with the acreages and all the crops people manage today," Reh said, "so we're turning to sensors."

Observant, started 10 years ago in Australia, expanded into the U.S. market just this year, launching in February at the World Ag Expo in Tulare. In recent months, its monitoring equipment has found its way onto the campus farm at Fresno State.

On the campus, an Observant camera keeps an eye on the level in a reservoir that sits between a field of sugar beets and a pistachio orchard. The camera - and other monitors on gauges in a building beside the reservoir - saves managers of campus crops trips to the site. They simply access information with a cell phone.

Reh, based in Sacramento, explained that Observant first started as a way to keep tabs on the water levels in stock tanks on huge cattle ranches in Australia.

Its products and applications allow monitoring and control of water use, irrigation systems, valves, gates, diesel engine and electric pumps, renewable energy monitoring and agricultural pump management systems.

Dennis Pollock, Contributing Writer, Western Farm Press

MKR FARMER'S CHALLENGE

Chris Joyce participated in the My Kitchen Rules farmer's challenge. Famers brought their produce on to the set and the contestants were challenged to create dishes featuring that produce. After a day in the 33°C heat, Chris learnt that reality television is not that real with most 'takes' being shot three or four times. The results for the day were not disclosed to the participants. They, along with the viewers, will have to wait until the middle of 2015 when MKR again goes to air to learn the winners. However Chris voted for the rhubarb and pistachio dessert as the dish of the day. What a surprise.