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CALIFORNIA ASSOCIATION OF REGIONAL OCCUPATIONAL CENTERS AND PROGRAMS

CAROCP Market Watch

A Trends & Forecasting Report

Tires Go Full Circle

Engineering & Design, Transportation Sectors

Reuse and recycle.

It’s a message that’s been hammered home; unfortunately, it isn’t always feasible. The automobile tire is the perfect example.

Worldwide, about a billion tires are sold annually, and eventually all get tossed. In the United States alone, we throw away 300 million tires a year -one for every man, woman, and child. These castoffs are a huge source of automotive-related pollution - the average used tire weighs 22.5 pounds and contains about two gallons of fuel, as well as other combustible carbon compounds. Dumped into huge stockpiles, tires harbor vermin, contribute to the spread of disease by creating mosquito breeding grounds, and feed huge fires.

Engineers have been making some progress in dealing with this refuse, using old tires as raw ingredients for new construction materials for roads and recreation facilities.

Since 1992, processors have dipped into the scrap tire inventory to convert it into new products, mixing crumb rubber and tire dust - ground-up rubber tires - with a urethane binder to make sidewalks, playground surfaces, and basketball courts. One company has a huge number of tires - some 20 million at this point - buried beneath mounds of gravel. The plan is to process those tires into crumb rubber that can be peddled to day care centers, schools, horse arenas, and anyone else who needs a soft landing,

while doing something for the environment.

Inner tubes are loaded into open-top trailers and sold to rubber reclaimers who use them as truck-tire liners. The sidewalls of huge truck tires - thousands per week during the summer - are sold as covers for silage pits and as sleeve anchors to hold plastic traffic barrels in place. Tires shredded into two-inch-wide strips are sold to construction companies for backfill, roadbed, or retaining walls.

Because of innovations like these, figures from the RMA show the percentage of scrap tires that have been recycled in the United States *Continued on page 4*

Recipe for Burger 2.0

Agriculture & Natural Resources, Engineering & Design, Health Science & Medical Technology Sectors

If the biotech industry has its way, ordering a hamburger might soon sound something like this: “one charbroiled cloned-beef patty, with genetically modified cheese, lab-grown bacon and vitamin-C-fortified lettuce, on a protein-spiked bun.” The burger of the future is delicious, nutritious and contains

more engineering than a stealth bomber.

The Food and Drug Administration ruled in January that meat and milk from cloned cows, pigs, goats, and their offspring is safe to eat. The only thing keeping the “superburger” off your dinner plate is time *Continued on page 4*

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Rock and Roll's Got Milk

Agriculture & Natural Resources, Marketing, Sales & Service Sectors

In the crags of Rock Olympus dwell the newest god of the power chord; White Gold. As his name implies, he loves the white stuff. Not the Bolivian marching powder enjoyed by some of his cohort; White Gold gets high on milk. Grade A moo-juice. He drinks it right out of his transparent, hollow guitar.

If you've never heard of White Gold, that's probably because he doesn't really exist. But he does star in the new advertising campaign from the California Milk Processor Board (the "Got Milk?" people). It's an obvious bid to hit the teenage demographic where they're most vulnerable: the funny bone. And the campaign is genuinely hilarious.

White Gold, the mock rock god, has been given the full Spinal Tap treatment. A MySpace page went up last month, along with an elaborate White Gold web site. Two full-length videos of White Gold's

surprisingly excellent music (and ridiculously silly lyrics) have dribbled onto YouTube in the past month and will soon be available on iTunes. Short segments of the videos are appearing on California television along with "Behind the Music"-style documentary footage of the mythical guitar hero espousing the mighty virtues of milk (he once replaced a broken string mid-concert with a lock of his protein-strengthened tresses).

CMPB is not ditching its iconic "Got Milk?" campaign anytime soon. But as U.S. consumption of milk slumped 14% between 1980 and 2006 the decidedly weird campaign is an opportunity to reach out to kids just as they're reaching out for sodas.

It seems to be a viral hit, the video for "One Gallon Axe" has netted 380,000 views in three weeks; "Tame the White Tiger," replete *Continued on page 4*

Gator Blood Chomping Down on Superbugs

Health Science & Medical Technology Sector

Proteins in alligator blood could lead to new drugs that fight the super infections that plague humans, Louisiana researchers say. Alligators often get banged up in battles over territory or food, but they never seem to get infected, despite slimy living conditions in bacteria-filled swamps.

"These alligators tend to get into tussles and fights," says Lancia Darville, a researcher at Louisiana State University. "They have torn limbs and scratches that are exposed to all of this bacteria in the water, yet they are never infected."

When researchers exposed 23 species to bacteria to the serum from alligator blood, all of the bugs were destroyed. Humans typically can defeat only eight of the bacteria.

"That was a good indication that alligators must have some other additional proteins or some proteins that are overly expressed in their system that are either not present in ours or not overexpressed in ours," Darville says.

The study was the first to explore the anti-microbial activity of alligator blood in detail. Previous studies found that alligators, unlike humans, who need to be exposed to a bug for their immune system to gear up to fight it, are known with what is called an innate immune system. They don't need to be exposed to microorganisms such as bacteria, viruses, or fungi for their bodies to respond against them.

The findings may lead scientists to new drugs that can fight some of the most stubborn infections in humans, such as the "superbugs" that resist antibiotics. If scientists can identify and then mimic the alligator's microscopic defenders they might be able to make stronger bug-fighting pills or creams that could be applied to burns to fight infections.

Associated Press. 29 April 2008.

ROCP IS THE HEART OF CTE

Bells and Whistles in Advertising

Marketing, Sales & Service Sectors

Readers of the latest issue of *People* magazine may have been startled when they opened a page in the middle and heard Natasha Bedingfield's latest pop song start playing out loud. The music is courtesy of a large ad for Verizon Wireless's music download service - and a tiny battery and speaker wedged within the pages of the magazine.

The phenomenon is made possible by technology that makes it less expensive to put unusual objects in magazines. Readers will soon be used to such sensory affronts from their reading material. With blinking lights, pop-up ads, kiss-on lipstick samples, scratch-off scents, and melt-in-you-mouth taste strips, advertisers are stuffing magazines full of just about anything to make their advertisements stand out.

For many years, the beauty business has led the charge to stand out from the pack by offering free samples in magazines. More technology advances on the chemical side, such as being able to affix face powder to a piece of paper, have led to powder, lipstick, and even nail-polish samples. Perfume samples now can be contained beneath seals and wrapped in little packages.

But many of the more unusual inserts are now coming from outside the beauty industry. Advertisers have been playing with pop-up ads since the 1970s, but design software and laser equipment have allowed much cheaper, more complicated pop-ups, often incorporating light, sound and materials like mylar.

Scratch 'n' sniff has given way to scented ink. Batteries have become small enough that an ad can light up or carry a

sound chip. And taste, which had no place in magazines until recently, has been conquered by Welch's Grape Juice when the company ran an ad with the strips in *People* this February.

Publishers welcome the new trend as the taste strips and musical ads come with a relatively big price tag. The cost of an insert with a sample is three times that of a normal advertisement. The cost of a flavor-strip insert roughly doubles the cost of a single-page advertisement in a national magazine.

New York Times. 22 April 2008.

"The stretchers operate on battery power and lift patients..."

Big Equipment Needs for Emergency Workers

Public Services Sectors

Emergency workers are experiencing a higher call volume regarding bariatric patients. The number of calls from obese patients has increased dramatically in recent years posing a challenge for fire departments and other emergency service providers. Traditional gurneys cannot adequately support the weight of some patients forcing some departments to invest in new equipment.

Ferno, a company which sells emergency medical equipment, reports sales of bariatric products have steadily in-

creased in the last five years. Most departments say they bought the equipment to help prevent injuries to patients and first responders.

The director of one emergency medical service bought bariatric cots after several paramedics had strained their backs and injured their shoulders transporting patients on inadequate equipment. "We had to do something," he said. "It was one of those things where we could try to use the equipment we had and were afraid that you were going to end up hurting somebody, the

patients themselves or the staff."

Bariatric gurneys can hold patients weighing up to 600 pounds, about twice the holding capacity of a regular stretcher. The stretchers operate on battery power and lift them so paramedics do not have to hoist patients into ambulances.

But the effort can be expensive. A bariatric ambulance that can transport patients weighing up to 1,000 pounds cost \$110,000 to build, compared with \$70,000 for a standard

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Trends & Forecasting

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Emergency Workers

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ambulance. A bariatric cot costs around \$4,000, four times the price of a regular cot.

Most department directors feel the cost is necessary. "If something collapses, you injure a patient and yourself," said one. "We're in the people business. We're about taking care of people who get sick and hurt, and we have to be prepared for anything."

New York Times. 8 April 2008.

"Superburger"

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and cost. Cloning the perfect (and tastiest) cow can cost upward of \$15,000, so it will be a few years before cloned meat hits store shelves. In the meantime, researchers are busy formulating all the fixings, from bun to beef and everything in between.

Vitamin Bun - After isolating a gene in wild wheat that controls protein, zinc, and iron content, scientists at the University of California Davis spliced the gene into domestic wheat, boosting nutrient content by 12 percent.

Cruelty-Free Bacon - Scientists in the Netherlands have grown minced port in a dish by adding water, glucose and amino acids to pig stem cells. Expect artificial ground meat by 2012 and bacon within the decade.

Better Cheddar - Food engineers are boosting cheddar flavor by adding a bacterial gene that produces an enzyme that eliminates the bitter taste created during ripening.

Healthier Ketchup - The ethanol boom is driving up the price of corn syrup, so Heinz is breeding a tomato that is 10 percent sweeter than those grown today. Look for naturally sweeter ketchup by 2010.

High-C Lettuce - By splicing rat genes into lettuce, Virginia Tech scientists figured out how to turn on the vegetable's latent vitamin-C-producing abilities (rats are natural C-makers). Since rodent-altered lettuce is somewhat unappetizing, the team used the data to identify plant DNA that can do the same thing.

Popular Science. 18 April 2008.

Reuse & Recycle

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rising, from virtually zero in 1990 to 30 percent in 2005.

This progress is helping make a dent in the stockpiles of old tires. In 1990, the United States had an estimated 1 billion old tires lying around. By 2005 (the recent year for which statistics are available), the United States had slashed that figure to 188 million, thanks to both recycling and using tires as industrial fuel.

New York Times. 16 April 2008.

White Gold

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with cowbell, a milky jungle waterfall and lasers, has been watched more than 5,000 times in 10 days.

Will all this translate into dairy sales? Although it may not have the timeless, malleable appeal of the milk-mustache campaign, at least for the moment, White Gold is milk magical.

Newsweek. 8 April 2008.



The new "superburger?"