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Our December 2018 Newsletter for Healthy Living

The More (Organic) the Merrier

Eating only organic food could slash cancer risk, a new study claims.

The biggest impact was seen on non-Hodgkin's lymphoma risk, which plummeted among those who only ate organic, according to the survey of nearly 70,000 French adults. Overall, their risks of breast cancer also dropped. The finding comes amid a flurry of interest in the cancer risks of pesticides, spurred by this summer's Monsanto trial, when a jury awarded a cancer-suffering groundsman \$250 million after reaching a verdict that the weed-killer Roundup was the cause of his cancer.

The health benefit of an organic diet was far greater for obese people, they found. However, the diet had no significant effect on bowel cancer - which is soaring in numbers globally - or prostate cancer. "Our results indicate that higher organic food consumption is associated with a reduction in the risk of overall cancer," lead author Dr Julia Baudry of the Centre of Research in Epidemiology and Statistics Sorbonne, Paris said. "We observed reduced risks for specific cancer sites - postmenopausal breast cancer, non-Hodgkin's lymphoma, and all lymphomas - among individuals with a higher frequency of organic food consumption. Although our findings need confirmation, promoting more organic food consumption in the general population could be a promising preventive strategy against cancer."

Organic food standards do not

allow the use of synthetic fertilizers, pesticides, and genetically modified organisms and restrict the use of veterinary medications. Consequently, organic products are less likely to contain pesticide residues than conventional foods. While organic food is nothing new, more and more studies are showing how pivotal it could be for your health. A recent review found that, while pesticide manufacturers

farming."

But little research has been done so her team scored 68,946 volunteers who had answered a health and lifestyle questionnaire for the French population study, NutriNet-Santé, on how much organic food they ate. The researchers then followed the participants' health from 2009 to 2016 asking them to report if and when they got cancer. The cohort, who were 78

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dispute cancer links, the amount of evidence showing the links to be true is overwhelming. Earlier this year, a European Food Safety Authority report found almost half (44 percent) of standard food contains one or more chemicals, compared to just 6.5 percent of organic food.

Dr Baudry explained that among the environmental risk factors for cancer there was growing evidence of a link between exposure to pesticides notably in farm workers and cancer development. She added: "While dose responses of such molecules or possible cocktail effects are not well known, an increase in toxic effects has been suggested even at low concentrations of pesticide mixtures. Because of their lower exposure to pesticide residues, it can be hypothesized that high organic food consumers may have a lower risk of developing cancer. Furthermore, natural pesticides allowed in organic farming in the European Union exhibit much lower toxic effects than the synthetic pesticides used in conventional

percent female and an average age of 44 were broken up into four groups according to their organic diet food scores. Factoring in known cancer risks, the proportion of participants in the top quartile for eating organic food who got certain cancers was a fraction compared to those in the bottom quartile.

Dr. Baudry said: "The findings, which were weighted for known cancer risk including lifestyle and family history, also revealed that organic diets benefited obese people the most. Regarding the latter association, previous occupational data have indicated a potential interaction between obesity and pesticide use on cancer risk. It can be hypothesized that obese individuals with metabolic disorders may be more sensitive to potential chemical disruptors, such as pesticides. Our findings revealed a negative association between high organic food scores and postmenopausal breast cancer, non-Hodgkin's lymphoma, and all

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Know Your Beef

Earlier this year, the world's largest meatpacker, JBS Tolleason, recalled more than 6.9 million pounds of raw beef processed in its Arizona facility due to possible contamination with *Salmonella enterica* of the serotype Newport, a more unusual strain of salmonella. The recalled products were processed between July 26 and

single fast food hamburger can contain meat from more than 1,000 animals, and all you need is one sick animal to contaminate nearly unlimited amounts of meat as it all runs through the same processing equipment and gets mixed together in gigantic batches. A recent Environmental Working Group (EWG) analysis of food testing done by the

make it worth keeping. Once a cow's ability to produce milk goes down, she will be culled, meaning sold for meat.

The reason why a cow's milk production goes down is typically due either to old age or illness — including *Salmonella* infection, and *S. Newport* infection in particular. And, since only low producers are sold for meat, this means the ground beef you buy is far more likely to contain the meat of old or sick cows than healthy ones. The reason dairy cows are typically used for ground beef specifically is because they're bred for milking and not for juicy steaks. Hence at least 20 percent of the ground beef on the U.S. market comes from culled dairy cows. Another point of interest is the fact that *Salmonella* (unlike *E. coli*) is not considered a hazardous adulterant in meat, and processors are therefore not required to test for it.

So, while rigorous testing for *Salmonella* could prevent many of these kinds of outbreaks, that simply isn't happening. The reason for this is because *Salmonella* is typically destroyed during cooking, so if the raw meat contains the pathogen, it's not considered hazardous to human health. All of these factors are reasons to buy your meat at Arbor Farms. Our Michigan beef is crafted from a single steer, and our 80% Ground Beef is produced from that day's steer.

Reference: *New Food Economy* October 4, 2018. [USDA.gov](http://www.usda.gov) October 4, 2018. [EWG.org](http://www.ewg.org) June 28, 2018 *Press Release*. [USDA.gov](http://www.usda.gov), *Dairy 2007: Reference of Dairy Cattle Health and Management Practices* (PDF). [Beefboard.com](http://www.beefboard.com) *Your Checkoff Investment* (PDF).

“A single pack of hamburger is actually an amalgam of meat from many different cows...”

September 7, 2018. Between August 5 and September 6, 56 individuals in 16 states fell ill from eating the contaminated products. As noted by USDA, *“Consumption of food contaminated with Salmonella can cause salmonellosis, one of the most common bacterial foodborne illnesses. The most common symptoms of salmonellosis are diarrhea, abdominal cramps and fever within 12-72 hours after eating the contaminated product. The illness usually lasts four to seven days. Most people recover without treatment. In some persons, however, the diarrhea may be so severe that the patient needs to be hospitalized.”*

But just how does the meat of 13,000 animals get contaminated with a pathogen like *Salmonella* in the first place? The answer is quite simple. While many think of a pack of ground beef as being the meat from an individual cow, it's actually an amalgam of meat from many different cows — a

Food and Drug Administration (FDA) in 2015 reveals 83 percent of all supermarket meats — including turkey, pork, beef and chicken products — were contaminated with *Enterococcus faecalis*, i.e., fecal bacteria, and a high percentage had antibiotic-resistant bacteria. Sixty-two percent of ground beef samples were contaminated with drug-resistant *Enterococcus faecalis*, 26 percent of which were resistant to tetracyclines.

Knowing that it takes just one sick animal to contaminate enormous amounts of meat, the next question would probably be: Where did the sick animal come from and why was it allowed into the meat supply? According to a report by New Food Economy, the outbreak appears to have originated at a concentrated animal feeding operation (CAFO) for dairy cows. As explained in a New Food Economy article, dairy farming is all about productivity. Each cow must be as productive as possible to

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lymphomas. No associations were observed with other cancer sites.”

Participants got a score from 0-32 on how often they ate organic food from common food categories such as cereals, fruits and vegetables, dairy and meat products and more. Among the participants, 1,340 first incident cancer cases were identified during the study's follow-up period. The most common was 459

breast cancers, followed by 180 prostate cancers, 135 skin cancers, 99 colorectal cancers, 47 non-Hodgkin lymphomas, and 15 other lymphomas. High organic food scores were inversely associated with the overall risk of cancer being 25 percent less for those of the top quartile compared to the bottom.



But Dr. Baudry warned of the limitations of the study saying the findings needed to be confirmed and with only 90 percent of cancers were accu-

and current smokers, and participants with a high overall dietary quality, while the strongest association was observed among obese individuals.” Limitation

“...the strongest association was observed among obese individuals.”

rately reported by participants. She added the organic food effect on cancer was not seen when the cohort was further broken down to compare people with similar lifestyles such as how much they smoked and education levels.

She said: “When considering different subgroups, the results herein were no longer statistically significant in younger adults, men, participants with only a high school diploma and with no family history of cancer, never smokers

were it was based on volunteers who were likely particularly health-conscious individuals, participants were more “female, well educated, and exhibit healthier behaviors compared with the French general population. These factors may have led to a lower cancer incidence herein than the national estimates, as well as higher levels of organic food consumption in our sample.”

The paper was published in *JAMA Internal Medicine*. Daily Mail Oct. 23, 2018

Don't Forget the Fiber

Dietary fiber has been noted as a remarkable nutrient because of the many functions it can perform in your body. Getting the ideal amounts of dietary fiber can help you maintain your weight, improve your blood sugar pro-

harmful chemicals from being produced by inflamed microglia. One chemical in particular — interleukin-1 β — had been linked to Alzheimer's disease. Researchers called the discovery a "chemical cascade" for lowered brain inflammation.

"...functions decline during old age; there may be a remedy to delay the inevitable: dietary fiber."

file, support your immune system, control gut problems that can cause both hemorrhoids and chronic constipation and even positively impact your brain health. But new research in the journal *Frontiers in Immunology* reveals another benefit: consuming optimal amounts of fiber on a regular basis (pun intended) diminishes inflammation, which is at the heart of numerous bodily dysfunctions. Researchers from the University of Illinois (U of I) showed dietary fiber may help delay what both medical experts and the general public believe to be inevitable: the decline not only of motor function but of cognitive health.

Associated Press reports: "As mammals age, immune cells in the brain, known as microglia, become chronically inflamed. In this state, they produce chemicals known to impair cognitive and motor function. That's one explanation for why memory fades and other brain functions decline during old age ... But, according to a new study from the University of Illinois, there may be a remedy to delay the inevitable: dietary fiber." Not only does dietary fiber promote beneficial bacteria in your gut but, when digested, the bacteria produce short-chain fatty acids (SCFAs). One of these byproducts is butyrate, which Rodney Johnson, head of the department of animal sciences at U of I, explains reduces inflammation in the microglia.

The drug form, known as sodium butyrate, improved memory in mice in other studies, but until the featured study, it wasn't clear how. *MedicalNewsToday* explains that microglia are a major type of immune cell in your brain that, as you age, can become hyperactive and chronically inflamed. This is likely one culpable factor in the decline of memory and cognitive function in older people. Significantly, microglia are said to account for about 15 percent of all the cells in your brain. In old mice (aged 22 to 25 months versus young mice at 3 to 6 months), butyrate inhibits

The scientists conducted the study to determine whether they could produce the same inhibitory effect by giving the mice fiber. In this way, they could make the most of the natural "gut" conversion of fiber into butyrate without people having to eat it as sodium butyrate. While your diet has a major influence on both the composition and function of the microbes in your gut, scientists point out that when you eat a lot of fiber, it benefits the good bacteria, while diets containing high amounts of unhealthy fat and protein can take the composition and function of those bacteria in the wrong direction and have a negative influence. While the scientists supposed that butyrate from fiber would affect brain health in the same way as the drug form (sodium butyrate), it hadn't been clinically proven.

Their hypothesis was tested by feeding both low- and high-fiber foods to young and old mice, then measuring the amount of butyrate and other SCFAs in their blood, also keeping track of inflammatory chemicals in their intestines. They noted: "The high-fiber diet elevated butyrate and other SCFAs in the blood both for young and old mice. But only the old mice showed intestinal inflammation on the low-fiber diet. It's interesting that young adults didn't have that inflammatory response on the same diet. It clearly highlights the vulnerability of being old." Interestingly, the intestinal inflammation in the mice eating the high-fiber diet was dramatically reduced, and in fact was demonstrably on par with those of the younger mice, prompting researchers to conclude: "Dietary fiber can really manipulate the inflammatory environment in the gut."

Even more significantly, evidence that dietary fiber also impacts brain inflammation was found when the researchers scrutinized about 50 unique genes in microglia and confirmed that the high-fiber diet reduced levels of brain inflammation in the older mice.

Further, eating high amounts of fiber reduced the intestinal inflammation of aging mice so much that it looked no different from that of young mice. Although the researchers didn't look at how different amounts of fiber affect "cognition and behavior or the precise mechanisms in the gut-brain axis," Johnson says, the answer to that will be sought through a nearly \$2 million grant

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from the National Institute on Aging, part of the National Institutes of Health. Johnson says he's confident that the positive effects found in the brain profiles of mice will easily translate to humans: "What you eat matters. We know that older adults consume 40 percent less dietary fiber than is recommended. Not getting enough fiber could have negative consequences for things you don't even think about, such as connections to brain health and inflammation in general." A high-fiber diet can help lower your risk of premature death from any cause, a serendipitous perk linked to a reduced risk of chronic disease.

Organic whole husk psyllium, chia seeds, sunflower sprouts, mushrooms and fermented veggies are excellent sources of high-quality fiber, but some of the most beneficial day-to-day sources are crucifers like broccoli and cauliflower, root vegetables and tubers such as sweet potatoes (including the peel), jicama and onions. Pears, stewed prunes, dried figs or dates, raspberries, pumpkin, almonds, apples with the skin intact, bananas and oranges also contain fiber. Another way to get the fiber you need is to take organic psyllium husk (avoid the nonorganic option).

Reference: AP.com Sept 15, 2018. *Frontiers in Immunology* August 14, 2018. *MedicalNewsToday* Sept 17, 2018. *Forbes* Sept 23, 2018. College of Agriculture, Consumer and Environmental Sciences Sept 23, 2018.



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