



ARBOR FARMS MARKET

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Our May 2024 Newsletter for Healthy Living

Can't Beat Broccoli

Broccoli and broccoli sprouts have potent anticancer activity courtesy of sulforaphane, a naturally occurring organic sulfur, and other chemoprotective compounds. Studies have shown sulforaphane: supports normal cell function and division and acts as an immune stimulant; causes apoptosis (programmed cell death) in colon, prostate, breast and tobacco-induced cells; three servings of broccoli per week may reduce your risk of prostate cancer by more than 60 percent; activates nuclear factor-like 2 (Nrf2), a transcription factor that regulates cellular oxidation and reduction and aids in detoxification, as well as other phase 2 detoxification enzymes.

Broccoli sprouts, in particular, have been shown to help detox environmental pollutants, reducing damaging reactive oxygen species (ROS) by as much as 73 percent, thereby lowering your risk of inflammation, which is a hallmark of cancer. However, the health benefits of this cruciferous veggie do not end there. Research shows it may reduce your risk for a number of common diseases, including but not limited to arthritis, heart disease and kidney disease.

Aside from sulforaphane, broccoli contains several other health-promoting nutrients and compounds, including:

Fiber, which helps nourish your gut microbiome to strengthen your

immune function and reduce your risk of inflammatory diseases;

Glucoraphanin, a glucosinolate precursor of sulforaphane that influences carcinogenesis and mutagenesis; compared to mature broccoli, broccoli sprouts can contain up to 20 times more glucoraphanin;

Phenolic compounds, including flavonoids and phenolic acids, which

are naturally available based on the parent compound. You can increase this amount and really maximize the cancer-fighting power of broccoli by preparing it properly. Steaming your broccoli spears for three to four minutes will optimize the sulforaphane content by eliminating epithiospecifier protein — a heat-sensitive sulfur-grabbing protein that inactivates sulforaphane — while still

"Research shows broccoli may reduce your risk for a number of common diseases, including heart disease."

have a potent ability to eliminate damaging free radicals and quell inflammation, resulting in a lower risk for diseases such as asthma, type 2 diabetes and heart disease;

Diindolylmethane (DIM).

Your body produces DIM when it breaks down cruciferous vegetables. Like many other broccoli compounds, DIM has shown multiple potential benefits, including boosting your immune system and helping to treat cancer;

Nicotinamide mononucleotide (NMN), an enzyme involved in the production of nicotinamide adenine dinucleotide (NAD), a compound involved in mitochondrial health and energy metabolism. NAD may slow age-related decline in health by restoring your metabolism to more youthful levels. Previous research has shown that, with age, your body loses its capacity to create NAD — an effect thought to be related to, or the result of, chronic inflammation.

When you eat raw mature broccoli, you only get about 12 percent of the total sulforaphane content theoretic-

ally available based on the parent compound. You can increase this amount and really maximize the cancer-fighting power of broccoli by preparing it properly. Steaming your broccoli spears for three to four minutes will optimize the sulforaphane content by eliminating epithiospecifier protein — a heat-sensitive sulfur-grabbing protein that inactivates sulforaphane — while still

retaining the enzyme myrosinase, which converts glucoraphanin to sulforaphane. Without it, you cannot get any sulforaphane.

If you prefer raw food, you'd be better off eating raw broccoli sprouts instead of mature broccoli, as they're a far more potent source of sulforaphane. Tests show three-day-old broccoli sprouts consistently contain up to 50 times the amount of anti-cancer compounds found in mature broccoli, including sul-

foraphane. This super-charged nutrient density means you can eat far less of them while still maximizing your benefits.

Reference: *Cancer Research* March 1, 2000. *Science Direct* August 2012. *Clinical Cancer Research* May 1, 2010; 16(9):2580-90. *Cancer Research* Sept 15, 2005; 65(18):8548-57. *Science Daily* March 7, 2017. *Cancer Prevention Research* June 9, 2014 (Epub). *Diabetes* August 4, 2008. *Medical Daily* August 4, 2016. *Journal of Biomedical Research* Sept. 2014; 28(5):339-48. *Cell Metabolism* October 27, 2016.



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2024 Organic Produce Club

Michigan Organic Family Farms



Farming Practices

Healthy food starts with promoting life in the soil. Our growers are certified organic. Every year these farms are inspected by a third party and certified in compliance with National Organic Program Standards. This is to assure you that no harmful chemicals, pesticides or genetically-modified organism (GMO) seeds are used in the production of your food. In the rare circumstance that an item in your box is not certified organic, we will include details and an explanation.

About Our Club

By joining our club, you become a patron of organically-grown produce. Our CSA/club has supported small Michigan family farms for over 10 years. In doing so, we have seen that the unpredictability of the seasons can significantly impact the variety, quality and value of the boxes. Simultaneously, weather variations and the availability of farm help (or not) can create problems for a single farm(er). To provide more value and variety in your weekly box, we will be working with several Michigan family farms in the 2024 season. These will include the growers from previous years, Green Valley Organics, Pleasant Lane Farm, and Homer Organic Family Farms. We will also welcome new growers Daniel Detweiler, Yost Stutzman and their neighbors in Blanchard. You will find a weekly update in your box with info about the harvest.

What are the benefits?

By subscribing to our club you are supporting Michigan Organic family farms. Not only are members getting the freshest food, but they are also using their dollars to assist and ensure that these farms remain “certified organic”. In appreciation of your patronage, you also receive: a 10% discount on any “in-store” produce purchases, any day, for the duration of the season (June 19 - October 5); your choice of three different pickup days, and a pickup location that is super-convenient. Grab and run or choose to shop a well-stocked grocery while you’re here.

What might I see in my weekly box?

Early Season: June - mid-July

Asparagus,
Leaf Lettuce,
Swiss Chard,
Kale varieties,
Collards,
Zucchini,
Peas: Snap and Shell,
Salad Greens,
Rhubarb
Strawberries

Summer Season: July/August

Lettuce, Broccoli, Cabbage,
Cauliflower, Radishes, Beans,
Zucchini, Cucumbers,
Hot Peppers, Garlic,
Carrots, Peas, Tomatoes,
Sweet Potatoes, Basil, Garlic,
Kale, Potatoes, Green Onions,
Sweet Corn, Onions, Beets,
Summer Squash, Watermelon,
Blueberries

Late Season: September

Any remaining
summer crops,
Red Peppers,
Hard Squash,
Spinach, Pie Pumpkin,
Late Greens, Turnips,
Eggplant, Parsnips,
Cabbage, Brussels
Sprouts, Watermelon,
Cantaloupe

Enroll now through May 31st

Be a Patron of Organic Produce

Where Did the Bugs Go?

If you've ever gone on a road trip, you probably have distinct memories of bugs flying at, and smashing on, your windshield — along with the inevitable cleanup the mess necessitated afterward. If you think about it for a minute, though, you may realize that it's

"Loss of insect diversity and abundance is expected to provoke cascading effects on food webs..."

been awhile since your windshield was covered with insects. This may initially seem like a good thing, but this occurrence, dubbed the "windshield phenomenon" by entomologists, is an ominous warning — a canary in the coalmine that the environment is in grave danger.

It's also not all in your head. Insects are vanishing right before our eyes, at a rate that's at once sobering and alarming. Declines in certain insect groups like bees, butterflies and even moths have been apparent for some time, according to researchers of a recent study published in PLOS One. However, their study looked at total flying insect biomass over a period of 27 years in 63 protected areas in Germany to assess the bigger picture.

Using malaise traps, which are large, tent-like traps used for catching flying insects, the researchers set out to estimate trends in the number of flying insects in the region between 1989 and 2016. A 76 percent decline was revealed, seasonally, while a midsummer decline of 82 percent in flying insect biomass was also recorded. The declines occurred regardless of habitat type and could not be explained solely by changes in weather, land use or varying habitat characteristics.

The researchers noted: *"Loss of insect diversity and abundance is expected to provoke cascading effects on food webs and to jeopardize ecosystem services ... This yet unrecognized loss of insect biomass must be taken into account in evaluating declines in abundance of species depending on insects as a food source, and ecosystem functioning ..."*

The ramifications of disappearing insects should not be taken lightly. It's estimated that 80 percent of wild plants depend on insects for pollination, and 60 percent of birds depend on them for food. Further, the "ecosystem services" provided by insects as a whole is estimated at \$57 billion annually in the U.S. alone, the researchers noted, so "[c]learly, preserving insect abundance and diversity should constitute a prime conservation priority." While increasing

attention has been given to declines in bees and butterflies, the data suggest that "it is not only the vulnerable species, but the flying insect community as a whole, that has been decimated over the last few decades."

The researchers described the significant decline as "alarming," made even more so because the traps were placed in nature preserves that are meant to protect ecosystem functioning and biodiversity. Still, nearly all (94 percent) of the protected areas included in the study were enclosed by agricultural areas, giving clues as to why so many insects may be disappearing. After observing the massive decline in flying insects in under 30 years, the researchers then began looking into potential driving mechanisms.

Landscape and climate changes were not strongly associated with the declines, according to their analysis, so they suggested other "large-scale factors," like agricultural intensification, may be involved: *"Agricultural intensification (e.g., pesticide usage, year-round tillage, increased use of fertilizers and frequency of agronomic measures) that we could not incorporate in our analyses, may form a plausible cause ... Part of the explanation could therefore be that the protected areas (serving as insect sources) are affected and drained by the agricultural fields in the broader surroundings (serving as sinks or even as ecological traps). Increased agricultural intensification may have aggravated this reduction in insect abundance in the protected areas over the last few decades ... Agricultural intensification, including the disappearance of field margins and new crop protection methods has been associated with an overall decline of biodiversity in plants, insects, birds and other species in the current landscape."*

The application of chemicals in agriculture is now so commonplace that it seems necessary, but pesticide usage can be cut — without harming yields. A 2015 study found that IPM techniques reduced pesticide use while boosting crop yields in a meta-analysis of 85 sites in 24 countries. Some were even able to eliminate pesticide use entirely using techniques such as crop rotation and pheromone traps to capture insect pests. One of the lead researchers, John Tooker, associate professor of entomology,

Penn State said in a news release: *"Substantial research exists supporting the value of IPM for pest control ... It is the best chance we have of conserving beneficial insect species while maintaining productivity in our agricultural systems."*

It's now common knowledge that deforestation leading to the tragic loss of vast swatches of rainforest is devastating the environment. Lesser

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Porterhouse & T-Bone Steaks
only \$19.99/lb

known is the fact that U.S. prairies are equally as diverse and important to the ecosystem as rainforests; they're also similarly threatened. Since the early 1800s, grasslands in North America have decreased by 79 percent — and in some areas by 99.9 percent, largely to plant vast swatches of chemically intensive genetically engineered (GE) corn and soy. Unfortunately, this two-crop planting cycle of GE corn and soybeans, along with CAFOs (concentrated animal feeding operations) that raise one type of meat, has become the dominant model in the Midwest, thanks to the federal farm policy that subsidizes these crops, with devastating consequences to the environment and human health.

Choosing grass-fed products like grass-fed beef and dairy is a solution that we can all take part in. Arbor Farms partners with Michigan farmers who use diverse cropping methods, raise animals on pasture, and utilize other methods of regenerative agriculture to protect beneficial insects. You can take steps to make your own backyard friendlier to your insect friends, by eliminating the use of pesticides and other chemicals and planting a diverse variety of native flowers and other plants.

Reference: Science May 10, 2017. PLOS One October 18, 2017. Penn State News December 7, 2016. Insects 2015, 6(1): 152-82.