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lawn that do not pose a threat to public health. Use of pesticides for cosmetic purposes is not necessary for the management of lawns, especially in light of the risks associated with their use;

7. pesticide regulations at the federal and State level, and the risk assessments that inform them, do not mimic real world exposure scenarios. They fail to account for synergistic or cumulative effects of multiple chemicals acting on the same pathway; they do not include sufficient evaluation of a pesticide's "inert" ingredients and the pesticide formulations that are sold to consumers; and then often fail to take sensitive populations like children and pollinators into account;
8. in the absence of adequate regulation at the federal or State level, the County is compelled to act to protect the health of children, families, pets and the environment."

**Link to the law
can be found on our web site.**

**The 2023 Scholarship
Applications
Open on
January 15, 2023
Please help us find
qualified candidates**

Tell friends and neighbors about the scholarship. Four of our recipients did learn about it this way. Feel free to send us contacts to whom we can send information. The scholarship is for \$5,000 . The scholarship purpose is to provide financial aid to individuals growing up in southeast Minnesota who are committed to sustainability in the fields of agriculture and forestry, and have demonstrated leadership and communication skills. Details are available on our website:
**www.
protectourresources.
org**

Leave a lasting legacy

**Gifts of Retirement Funds,
Life Insurance,
and Bank Accounts**

Naming this Scholarship as a beneficiary of your retirement plan, IRA, life insurance policy, or bank or brokerage account is a generous way to make a legacy gift 'outside' a will. Like a bequest, these gifts help ensure the future of this scholarship and its contribution to a sustainable future food and fiber supply.

Beneficiary designations are easy to implement, and giving retirement funds is tax-wise strategy for many Donors.

For retirement and life insurance accounts, you will need to request a change of beneficiary form from your plan or policy administrator.

For bank or brokerage accounts, you will need to fill out the appropriate form.

The following information will help you in completing the beneficiary forms:

Legal Name:

Rochester Area Foundation
Attn: Sustainable Agriculture & Forestry Fund

Address:

12 Elton Hills Drive NW
Rochester, MN 55901

Telephone: 507-282-0203

Tax ID: 41-6017740

If you too are concerned about the indiscriminate use of chemicals which are killing our pollinators, polluting our water, and negatively affecting our food supply, then JOIN US by donating today. Contributions to the Fund are fully tax deductible.*

100%
of your
donation
goes to
build this
endowment
fund!*

The purpose of this scholarship is to provide financial aid to individuals growing up in southeast Minnesota who are committed to sustainability in the fields of agriculture and forestry, have demonstrated leadership and communication skills, and are interested in pursuing a career in fields related to and advancing practices of sustainable agriculture and/or forestry. Sustainable practices ensure clean water, healthy regenerative soils, and vibrant rural communities for future generations.

The scholarship fund seeks to find the next generation of professionals who will learn how to manage our environment on a completely sustainable basis, provide food, fiber and shelter for people, and in the process protect our precious natural resources for our children and those yet to come.

Methods of contributions are numerous:

- ★ A check or credit card* is wonderful.
- ★ Matching funds from your employer.
- ★ Direct tax-free transfers from an IRA.¹
- ★ Endowments through your Estate Plan, wills or life insurance policies.¹

¹ See website for method and be sure to contact your financial advisor, accountant or lawyer for advise.

The Scholarship Endowment Fund is structured such that only earnings from the invested capital are used to pay for scholarship(s) and Fund operating expenses. This rule assures that the Fund will operate in perpetuity. The Rochester Area Foundation (RAF) is the steward of the Fund. RAF's administrative fees are 1.25% of the annual fund balance and are amply covered by RAF's investment performance. Neither scholarships nor fees are reducing the endowment equity!

* There is a cost for credit card donations.



To access the website with all its references, current and past newsletters, scholarship information, donor list and more, use your smart phone to scan the QR code.

For more details and references related to articles in this newsletter, visit our website:

www.protectourresources.org



Printed on at least 30% post consumer recycled paper.
Forest Stewardship and Rainforest Alliance Certified.
Envelope made from 100% recycled fibers.

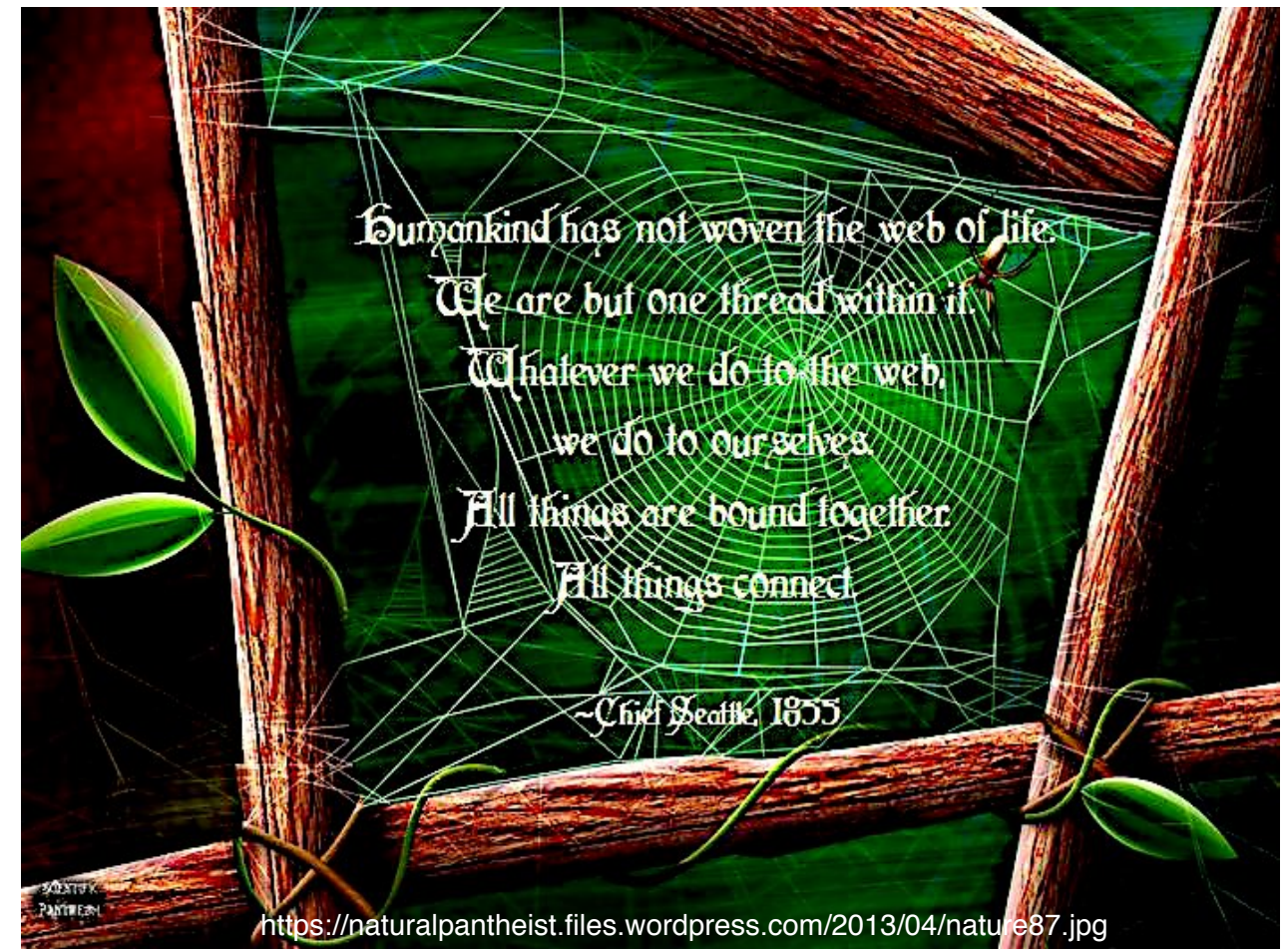
Issue 16

Sustain US

November
2022

By Protecting Our Resources

The Sustainable Agriculture & Forestry Scholarship Endowment Fund Newsletter



<https://naturalpantheist.files.wordpress.com/2013/04/nature87.jpg>

WHEN TRUTH BE TOLD...

**This County Passed a Law to
Protect the Health of Its
Citizens From Pesticides**

Here are the Legislative findings behind their law:

1. "The County Council (Montgomery County, MD) finds that: pesticides have value when they are used to protect the public health, the environment, and our food and water supply;
2. pesticides, by definition, contain toxic substances, many of which may have a detrimental effect on human health and the environment and, in
3. exposure to certain pesticides has been linked to a host of serious conditions in children including pediatric cancers, decreased cognitive function, and behavioral problems such as ADHD, and the following conditions in adults: Parkinson's disease, diabetes, leukemia, lymphoma, lupus, rheumatoid arthritis, dementia, reproductive dysfunction, Alzheimer's disease, and a variety of cancers including breast, colon, prostate and lung cancer;
4. clean water is essential to human life, wildlife and the environment, and

particular, may have developmental effects on children;

5. bees and other pollinators are crucial to our ecosystem, and the use of neonicotinoid insecticides, which have been repeatedly and strongly linked with the collapse of honey bee colonies, as well as harm to aquatic insects and birds, pose an unacceptable risk to 30 beneficial organisms;
6. there are non-toxic and less-toxic methods of cultivating a healthy, green

the unnecessary use of pesticides and herbicides for cosmetic purposes contributes to the deterioration of water quality, as substantiated by several studies including the 2014 USGS study which found that 90% of urban waterways have pesticide levels high enough to harm aquatic life;

Continued on last page

Prepared and distributed by Deirdre Flesche and Dag Knudsen, Founding Contributors. Contact at dag@dagknudsen.com

Pollution Problems are Getting Worse

Fruits and Vegetables are Less Nutritious than They Used to Be

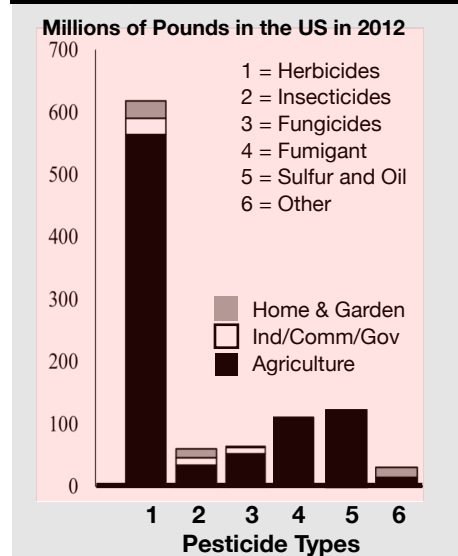
“Mounting evidence from multiple scientific studies shows that many fruits, vegetables, and grains grown today carry less protein, calcium, phosphorus, iron, riboflavin, and vitamin C than those that were grown decades ago. Scientists say that the root of the problem lies in modern agricultural processes that increase crop yields but disturb soil health. These include irrigation, fertilization, and harvesting methods that also disrupt essential interactions between plants and soil fungi, which reduces absorption of nutrients from the soil. Grains have also experienced declines, experts say. A study in a 2020 issue of *Scientific Reports* found that protein content in wheat decreased by 23 percent from 1955 to 2016, and there were notable reductions in manganese, iron, zinc, and magnesium, as well.

www.nationalgeographic.com/science April 29, 2022

New Research shows Soil disturbance can directly impact a key dietary factor associated with long-term human health.

“UNIVERSITY PARK, PA. — Soil tillage on farms may significantly reduce the availability in crops of ergothioneine (ERGO), an amino acid produced by certain types of soil-borne fungi and bacteria that is known as a “longevity vitamin” due to its potent antioxidant properties, according to new research by an interdisciplinary team at Penn State. The study is among the first to demonstrate that soil disturbance can directly impact a key dietary factor associated with long-term human health.

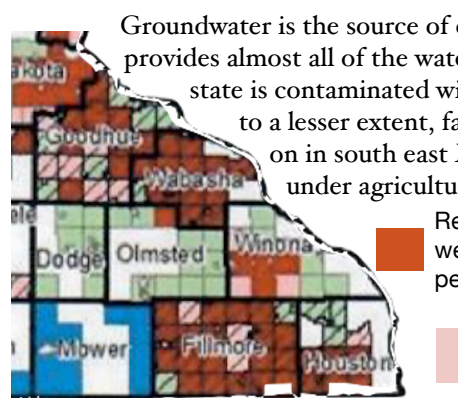
Pennsylvania State University, February 7, 2022



Conventional Pesticide Active Ingredient Usage in the US by Pesticide Type and Market Sector, 2012 Estimate.

The US share of the World consumption is 21% for herbicides, 14% for insecticides, 10% for fungicides, and 23% for fumigants in 2012. Worldwide consumption of pesticides increased by about 15% between 2008 and 2012. A growth-rate of ~40% per decade.

Source: Copied from Fig 3.2 in the USEPA report: https://www.epa.gov/sites/default/files/2017-01/documents/pesticides-industry-sales-usage-2016_0.pdf



Township testing results showing percentage of wells exceeding legal limits for nitrates.
Source: Report from Minnesota Pollution Agency which can be found at www.pca.state.mn.us/sites/default/files/wq-am1-10.pdf

Minnesota’s Impaired Waters List Is Growing—Again

Existing impaired waters in MN as of 2008

Select additions to impaired waters list for 2020. That year added more than 700 new locations



Minnesota's impaired waters can be found all over the state.
More than half (56%) of Minnesota’s lakes, streams and other waters are classified as “impaired,” or polluted in some way, under an inventory the state updates every two years. This year officials added 581 new water bodies, a few of which are highlighted on the map. *Star Tribune* November 13, 2019

The above does not include what is happening to our drinking water!

The Solutions are Practical, Proven and Profitable

The Solution is Agroecology

The application of ecology to agriculture, as in the conservation of soil and water resources, the minimization of pollution, and the use of natural fertilizers and pesticides.

Practical	Proven	Profitable
<p>The five steps to agroecology are straight forward. It all has to do with the soil:</p> <ol style="list-style-type: none">Limit disturbances: No till. limit mechanical, chemical and physical disturbances of the soil.Armor the soil surface: There should be no open areas of soil.Plant diversity. Add cover crops and diversify crop rotation.Keep living roots in the soil as long as possible throughout the year.Integrate livestock: Practice managed rotational grazing with ruminating animals.	<p>‘Green’ programs encourage Minnesota farmers to fight water pollution The no-till method of planting and other practices help protect water from soil erosion and cow manure. By Chloe Johnson (https://www.startribune.com/chloe-johnson/9346094/) <i>Star Tribune</i> JULY 26, 2022</p> <p>Regenerative Ag = No ponding, No Runoff, No Ag Chemicals “During one 24 hour period a few years ago, 13 inches of rain fell in south-central North Dakota’s Burleigh County. After the storm, fields in the area were inundated, with water ponding on the surface and many crops swamped. But one farm in the area stood out. Gabe Brown’s low-lying fields had no standing water, to the surprise of neighboring farmers, as well as natural resource experts and soil scientists. Brown has created fields that can manage water efficiently by avoiding disturbance of the soil with no-till production, and integrating cover crops and rotational grazing of cattle to keep it protected and biologically active all year-round. That biological activity has helped Brown do something that soil scientists long thought wasn’t possible: Increase organic matter within a matter of a few years. During the past decade or so, Brown has used livestock and continuous living cover to more than double the organic matter in some of his fields, raising it from less than 2 percent to nearly 5 percent. Not only has this reduced his reliance on agrichemicals, but, as the 13-inch rainstorm showed, it’s allowed the farmer to better manage water on his land. No wonder: As soil organic matter increases from 1 percent to 3 percent, soil’s water holding capacity doubles. <i>From Dirt to Soil: One Family’s Journey into Regenerative Agriculture</i> by Gabe Brown</p>	<p>Soil Health Practices increased net farm income an average of \$52.00 per acre for corn growers and \$45.00/acre for soy bean growers as reported by the Soil Health Institute. These numbers represent an average for 100 farmers. For the 10 Minnesota farmers in the study, the results were a change in Net Farm Income of \$32.13 for corn and \$37.63 for soy bean growers, per acre. The report can be found at https://soilhealthinstitute.org/app/uploads/2022/01/Economics-of-Soil-Health-Minnesota-04-12-21-vFinal.pdf</p> <p>The Minnesota Agricultural Water Quality Certification Program demonstrates that the average net farm income of MNWQCP farms is \$25,000 more per year. MN Department of Agriculture reports that a 400-acre Water Quality Certified Farm will save, per year, 23 tons of sediment, 65 tons of soil. 29 pounds of phosphorus, and 23 short tons CO2-e (or equivalents). Contact your local county Soil and Water Conservation District about technical advice and financial aid to get started.</p>
<p>Details in the right-hand column.</p>		