



**June, 2024**  
**Volume 8, Issue 12**

## **From seed to compost: sustainable systems to feed a hungry world**



Dear reader,  
You are in for an adventure! This issue brings you news of innovations which Rotarians, Rotaractors, and Interactors are promoting at every stage of the human food supply, in partnership with scientists, businesses, specialized non-profits, and communities, especially farmers. Discover some of the many ways members of the Rotary family are using their professional skills to overcome the combined crises of hunger, climate change, biodiversity loss, and pollution.

Our writers share breakthroughs and pictures from Singapore, Canada, Guatemala, Burkina Faso, and the United States. Here is the lineup:

- Transforming local food systems through circular economy
- Empowering subsistence farmers with life-changing seeds
- Striving to save food security in Burkina Faso
- Returning to his roots: a Rotarian connects farmers to sustainable solutions
- ChangeX, EPA grants open to Lunch out of Landfills
- Choose your diet to protect health: yours and the planet's!
- For ESRAG members, a reminder to vote for 2024-25 Directors, and how to find your ballot

More than half the 4,400 subscribers to this newsletter are not yet members. If you are in that group, **[please join ESRAG today!](#)** Annual dues are \$30 for Rotarians, and \$15 for Rotaractors, but think of what we can accomplish together if you all sign up! The ESRAG board is advocating with top Rotary leadership to increase Rotary International's environmental awareness and capacity for effective action. ESRAG is rapidly expanding our online library of free toolkits and project write-ups available to readers worldwide in 13 languages. Your dues will help us do this faster as we race against the climate crisis.

Everyone is welcome to come to our annual meeting on June 21 via Zoom! You'll find the registration link in this issue.

**Our July issue is on sustainable living, with the deadline June 10.** In August we will feature circular economy. If you have story leads or would like to write an article, contact us at [newsletter@esrag.org](mailto:newsletter@esrag.org).

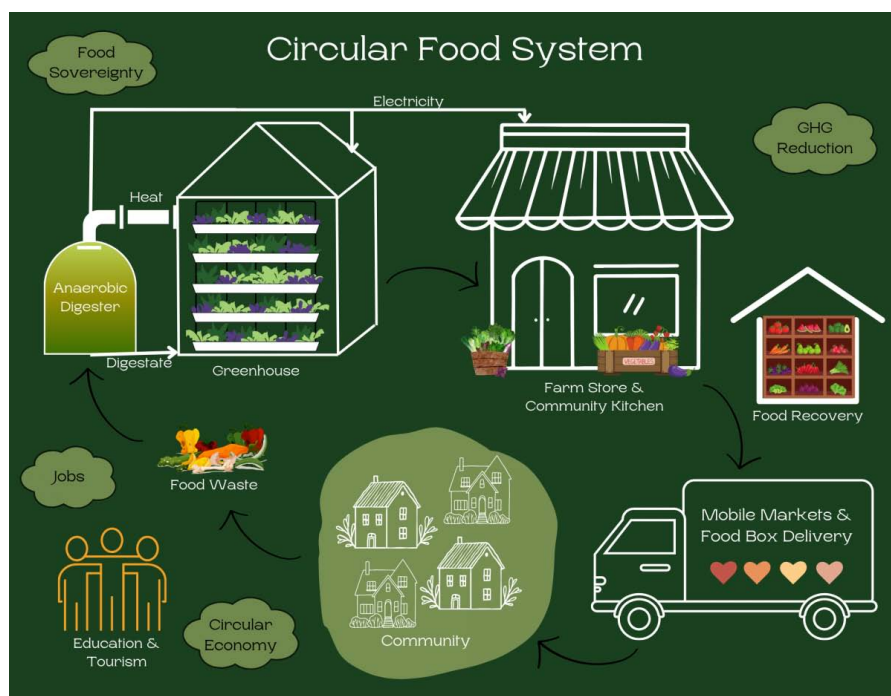
*In the photo: ESRAG members reconnected over a fabulous vegan meal at the Eight Treasures restaurant, organized by Plant-Rich Task Force founding chair Ambaree Majumdar during the Rotary International Convention in Singapore. Photo courtesy of Manish Mehta.*

## Transforming local food systems through circular economy

**By Grace Gillman, Rotary Club of Canmore, Alberta, Canada**

How we feed ourselves is one of the most complex challenges facing humanity and our planet. Agriculture and food systems account for [24% of the world's greenhouse gas emissions](#) through food waste, deforestation and habitat loss, soil erosion, water use, and pollution. It's not just the planet that is [suffering from this system](#): 1.9 billion people are obese or overweight, 795 million people suffer from hunger, and 2 billion people have malnutrition. Although this is a staggering global problem, we have unprecedented power to change this complex system, and it starts right under our nose, with what we put on our plate.

A few Rotarians in Canmore Alberta are looking to tackle these challenges by transforming local food systems to pave the way for a healthy and thriving community and planet. Using the principles of circular economy, food waste can be used to power local food production year-round in any climate. Anaerobic digestion transforms food waste into valuable biogas that generates heat and electricity for indoor vertical hydroponic farms. This system uses renewable energy to produce 100 times more food per square foot, reduces food waste, and uses 95% less water than traditional farming. Using this model, our goal is to help develop food hubs in every community around the world. These hubs can foster connection, education, and health, all while addressing some of the most difficult global challenges: climate change and hunger.



There is a large capital cost for the anaerobic digester, the vertical farm equipment, land and renovations, a delivery van and accessory systems. But based on our initial projections of annual operating expenses and revenue, we see a potential payback within 5 years. We are hoping to primarily fund the project through grants, but we may also look for investors. As you read through this article, feel free to [email me](#) for more information.

*Grace Gillman is a member of ESRAG's Plant-Rich Diet Task Force and created the graphics for this article.*  
[Read More](#)

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## Empowering farmers with life-changing seeds

**By Ariel Miller, ESRAG Newsletter Editor**



### OUR IMPACT

- In 2022, Semilla Nueva and its partners :
  - improved the nutrition of more than 600,000 people around the country
  - reached 20,500 farmer families with biofortified corn seeds.
- Our studies have shown that our seed is nutritious enough to:
  - eliminate zinc deficiencies for women and children in rural, maize-growing families.
  - cut iron deficiency by 50% for children and 100% for women.

Trekking through the Guatemala highlands in his early twenties, meeting and listening to indigenous farmers, Curt Bowen was appalled to witness widespread malnutrition. The corn these farmers raised was nutritionally inadequate to prevent stunting, with lifelong harm to children's physical and cognitive abilities, and its low yields trapped farmers in a cycle of poverty. Bowen embarked on a quest to empower farmers to fill that nutritional void. It's urgent because 1.2 billion people worldwide depend on corn as their staple food.

The solution Bowen ultimately developed is [Semilla Nueva](#) (New Seed), a Guatemala-based US nonprofit with a scalable solution for making biofortified, climate-resilient, high-

yield seed available to small farmers. With it, participating small farms are now raising corn that delivers zinc, iron, and quality protein—all essential to human health. The Semilla Nueva team is now preparing to expand its reach in Central America and East Africa. Semilla Nueva was chosen from 5,000 applicants as a finalist in the [2023 Zayed Sustainability Prize](#) awarded at COP 28 in Dubai.

The son of ESRAG Communications Director Laurie Zuckerman, Bowen was encouraged and mentored by Idaho Rotarians as he developed the new nonprofit, and has worked with Rotary clubs on a series of grants, the most recent a 2020-22 global grant for the Rotary Club of Guatemala de Ermita and RC Boise Southwest.

Semilla Nueva's story exemplifies qualifications Rotarians should look for in an NGO to help clubs achieve lasting humanitarian benefits: a team with proven technical expertise, whose members are rooted in the culture and economy, alert to the strengths of potential partners, and skilled in building win-win collaborations.

[Read More](#)

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## Striving to save food security in Burkina Faso

**By Dimitri Oubda, ESRAG West Africa Correspondent**

*Editor's note: [Save the Children International warns](#) that 1.4 million children in Burkina Faso will face critical levels of hunger this summer, a crisis forged from years of armed conflict and climate change in this Sub-Saharan nation, where temperatures are rising faster than the global average. The [International Rescue Committee reports](#) that weak rainfall last year is expected to reduce crop yields and pasture available for livestock. Armed groups have set up blockades around major cities and towns across the country, disrupting trade, farming, and access to vital services for over a million people. Against this dire backdrop, ESRAG's West Africa correspondent, who lives in Burkina Faso, reports on how a Burkinabé NGO is working to restore national food security.*

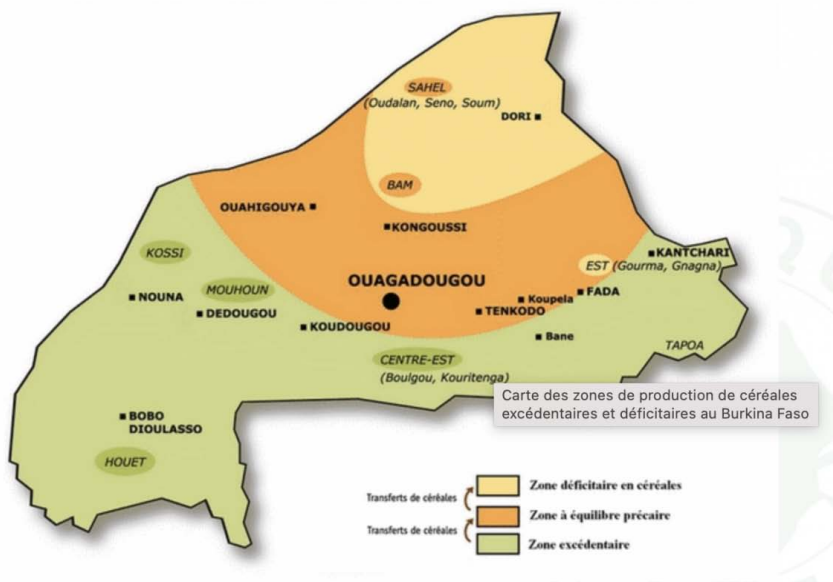
The Association for the Promotion of  
Food Security and Food Sovereignty in

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Burkina (APROSSA - Afrique Verte Burkina) was established in 2005 as an autonomous organization following the empowerment of the Burkinabé branch of the French NGO Afrique Verte, which has been present in Burkina Faso since 1991. APROSSA's mission is to improve food security for the population in a sustainable manner by professionalizing the cereal sector.

APROSSA provides support to more than 1,500 peasant agricultural production organizations organized into cooperatives or Cooperative Unions. Furthermore, it collaborates with over 300 processing units led by women, forming a national network.



Key APROSSA actions include:

- Facilitating the organization and structuring of peasant unions and federations. This collaborative approach enhances coordination and ensures better distribution of agricultural products at the national level.
- Providing technical and commercial training to enhance the skills of peasant leaders. This includes technical knowledge related to agriculture and commercial expertise for effective management and marketing of surplus stocks from agricultural regions to deficit areas.
- Literacy sessions, empowering participants with essential reading and writing skills. Literacy is crucial for informed decision-making and effective communication.
- Advice and credit services to improve the commercialization of agricultural products. This helps farmers access markets and financial resources more efficiently.
- Organizing annual cereal markets (*bourses aux céréales*), facilitating exchanges among producers, traders, and consumers. These markets contribute to food security by ensuring a steady supply of quality local cereals.
- Assisting small women-led cereal transformation enterprises. These units play a vital role in supplying quality cereal products to urban centers, thereby enhancing food security in cities.
- Promoting knowledge sharing among different peasant organizations (inter-OP) through exchange visits. This fosters learning, innovation, and best practices
- Providing information on cereal prices and availability, helping farmers make informed decisions and optimize their marketing strategies.

Graphic: APROSSA's map of food supply zones in Burkina Faso. Yellow represents shortage; orange, zones of precarious equilibrium, and green represents areas capable of generating surplus crops.

[Read More](#)

## Returning to his roots: a Rotarian connects farmers to sustainable solutions

By Ariel Miller

As farmers worldwide struggle to survive rising risks and costs, an American Rotarian is bringing his entrepreneurial expertise to their aid, and relishing the challenge. Lance



Miller, a member of Rotary LA 5 in Los Angeles, California, is the CEO of [TerraX](#), a company that connects start-up producers of environmentally sustainable solutions directly to the farmers who are trying to stay in business. "All the products we carry allow farmers to get higher yields with less inputs," he explains. "These products can salvage a lot of independent family farms - can help them survive financially."

A new ESRAG member, Miller emailed us when we asked readers to share their experiences in sustainable food systems. This led to a fascinating conversation about how leading TerraX has reconnected this mega-city dweller to his

rural childhood, and how being part of Rotary has restored him to the sense of community he enjoyed growing up in a farm town of 2,000 where families had built multigenerational friendships.

TerraX markets agricultural solutions, including a water treatment system that makes water more bio-acceptable to the plant, resulting in saving 25% of water in irrigation, without needing chemicals or electricity, and a foliar treatment, made from plant extracts, that protects crops from many pathogens and enhances water absorption. "We are advancing food security in a more environmentally-sustainable way. All our products are disruptive to the market they serve," Miller says. For example, "the foliar spray reduces fertilizer and pesticide sales by 50%, so we have to get directly to the end user rather than the suppliers who also sell the fertilizers and pesticides."

This direct connection is equally vital to the survival of the inventors and producers of new, sustainable technologies, "workable solutions that weren't being marketed effectively to potential customers," Miller explains. "Many innovative firms are too small to take on the marketing and distribution individually. My team and I know how to structure the marketing and distribution of products. The manufacturers do a great job making it and we do a great job getting to the market through trade shows and media coverage."

Giving farmers a fighting chance is restoring this Los Angeles resident to his rural roots. [Read More](#)

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## **ChangeX, EPA grants open to Lunch out of Landfills!**

***By Joe Richardson, Chair, Lunch out of Landfills***

We are excited to announce that Lunch out of Landfills (LOOL) is now [part of the ChangeX Platform](#) and is included in a \$200,000 fund from Nickelodeon to promote school compost programs. [LOOL](#) is a powerful way for students to reduce both greenhouse gas emissions and hunger, by diverting safe food to those in need, and by composting food scraps instead of sending them to landfills.

We are encouraging schools from around the country to apply for ChangeX funding. Each school will be awarded \$3200, and LOOL will be given a stipend to introduce and support each awardee. A local school in Union Bridge, Maryland is the first school to be awarded under the program. The \$200,000 will go fast, but with Microsoft, Amazon and Nickelodeon as major contributors the potential for more funds is substantial. Interested K-12 educators need only complete [ChangeX's simple application](#) and onboarding process, and then they can receive money directly to fund their in-school composting program. The platform walks them through the formation of a project and team. Please feel free to forward to any U.S. educators you know that are interested in starting a program but are hampered by

lack of funding.

On April 26th there was a planning Zoom meeting led by Christina Laney Mitre from the Kaka Ako Rotary Club that focused on starting Lunch out of Landfill programs in Hawaii. \$360,000 in funding from the EPA was awarded to create food recovery and compost programs and increase capacity for composting on the island of Oahu. With limited capacity for landfills, the Hawaiian Islands may be the most motivated state to integrate waste diversion, and our Rotarians in Hawaii are poised to initiate programs at four elementary schools, a middle school, and one or two high schools next year.



On May 15, LOOL hosted a dinner honoring five amazing young women, Shruti Amula from the Rise and Shine Foundation, Sanjana Ranasinghe, Pragna Yalamanchili, and Angelina Xu and Advika Agarwal. These high school graduates will continue to assist, and expressed a desire to work with students from around the country to expand the programs. Advika, Angelina and Shruti presented me with the President's Environmental Youth Achievement Plaque they received at the EPA last summer. They felt that the plaque belonged at my corporate office for display. I was deeply touched.

Advika was one of the twelve Rotaractors chosen worldwide to represent Rotary at COP 28 in Dubai. Angelina and Advika are the founders of [Compostology](#). Working through the Committee to Reimagine School Waste, these young women initiated programs in over 50 schools and successfully lobbied the Maryland State Legislature for \$1.25 million in funds for compost programs.

The Committee to Reimagine School Waste will be meeting with underclass students from Maryland, New York, New Hampshire, Maine and Utah and Hawaii in June as we gear up for the next school year. *Photo: At the LOOL celebration May 15, from left: LOOL coordinator Joe Richardson with LOOL leaders Sanjana Ranasinghe, Pragna Yalamanchili, Angelina Xu, Erica Weiss, Shruti Amula, and Advika Agarwal.*

## Choose your diet to protect health: yours and the planet's!

***By Dawn Angela Byford and Kris Cameron, Co-Chairs, ESRAG Plant-Rich Diet Task Force***

Biodiversity is vital to all life on Earth. Without it, the stability and resilience of all ecosystems are in danger, which means we are in danger. Sir David Attenborough explains it beautifully in this short [video](#).

Just as biodiversity is vital to the health of our planet, it is also critical to human health. We have an internal ecosystem in our digestive tract, or gut





microbiome, which relies on a diversity of bacteria to thrive, just like any ecosystem. The more diverse it is, the healthier we tend to be. This shows up as more energy, a stronger immune system, better digestion, less inflammation, easier absorption of nutrients, and overall increased resilience, just to name a few of its positive impacts.

What is the best way for us to build a strong microbiome? Eat fibre. Where is fibre found? In plants! Eating whole-food plant-rich meals is a win-win for all! It not only helps keep us healthy, but it also helps save planetary biodiversity. Why? [Industrialized animal agriculture is a major driver of biodiversity loss](#) on both land and sea.

Eating more plants and fewer animal products helps us stay well, and protects the wild species of our planet. Watch the [EAT-Lancet Commission Planetary Health Diet video](#) for tips on building a more human and planet-friendly plate.

To help get you started, check out this super easy and delicious [Black Bean Corn Salsa](#). It's chock-full of a variety of whole plant foods, containing many beneficial nutrients and fibre to help keep your microbiome diverse and happy! More fun facts: [Beans are one of the most sustainable foods](#) on the planet, and just one cup provides up to 60% of our recommended daily fibre and 30% of our recommended daily protein.

This [summary](#) shows how a plant-rich diet advances all of Rotary's seven humanitarian priorities, such as disease prevention, and meets the Four-Way Test. Rotarians can choose the plant-based foods that work for their lifestyles. We invite you to learn how, by taking the delicious [ESRAG 15-Day Plant-Rich Diet Challenge](#): a guided journey to improve personal and planetary health. Here's a [preview presentation from the Challenge](#) with excellent tips to get you started. The Challenge also includes a cookbook, recipes, and much more! The time for Rotarian action to help transform our food systems is *now*.

For more information visit our webpage or email us at [plantrich@esrag.org](mailto:plantrich@esrag.org) Follow us on [Facebook](#) and [Instagram](#).

*Photo: ESRAG members Ambaree Majumdar and Dr. Manish Mehta sharing good news about the personal and planetary benefits of plant-rich diets at the 2024 Rotary International Convention in Singapore. Ambaree, founding chair of ESRAG's Plant-Rich Diet Task Force, organized a delicious vegan banquet for ESRAG's dinner gathering during the convention.*

# Vote now for ESRAG Directors!

By Laurie Zuckerman, ESRAG Communications Director

If you are a current dues-paying member of ESRAG, we sent you an email on May 23 inviting you to vote for up to nine people to serve as ESRAG board members for three-year terms. This includes the qualifications of twelve outstanding Rotarians and Rotaractors who've accepted nomination. Please open that email, titled "**ESRAG 2024-27 Term Election Ballot and Annual Audit Decision**," read the profiles, and cast your votes for up to four returning and five new Directors. We need board members who will help ESRAG and Rotary:

- **Grow our Reach**, especially in Africa, Asia, Latin America, and Island Nations
- **Increase our Impact** by sharing expertise in leadership, governance, strategic development, policy-making, and the Rotary Global Grant process
- **Expand our Coverage**, especially by sharing managerial expertise with teams utilizing information technology, CRM's, or data management systems
- **Adapt**, especially through knowledge of non-profit development, fundraising, human resources, and international law pertaining to non-profit organizations



Vote with this big vision in mind. Make the time to thoughtfully read each candidate's qualifications. Is this candidate from a region most affected by the environmental crisis, AND does this candidate have skills that your ESRAG Board needs? See [Characteristics for Candidates](#).

Why is this critical? Unlike most non-profit organizations, we do not have any full-time staff people. We rely on ESRAG Directors and members to provide over 90% of our services to Rotary worldwide. ESRAG provides the expertise for, not one or two, but 6.5 of the [UN Sustainable Development Goals](#). The world needs your thoughtful vote.

How has ESRAG created hope in 2023-24? Find out at **ESRAG's Annual General Meeting on Friday, June 21** at 1300 UTC. Press to [REGISTER](#).

*ESRAG's membership reflects an incredible diversity of professional experience and cultural roots. Just in this snapshot, taken at ESRAG's exhibit at the Singapore Convention, you'll find experts in education, ecology, engineering, management, and medicine, from Western Asia, South Asia, North America, Australia, and Western Europe. In this photo, from left: PDG Ajay Gupta, Manmohan Singh, Amrit Sankar, Jo Randolph, Dr. Mina Venkataraman, ESRAG Past Chair Dr. Pat Armstrong, ESRAG Chair-Elect Yavuz Atila, and Dr. Ludwig Kalthoff. Photo provided by Yavuz Atila.*

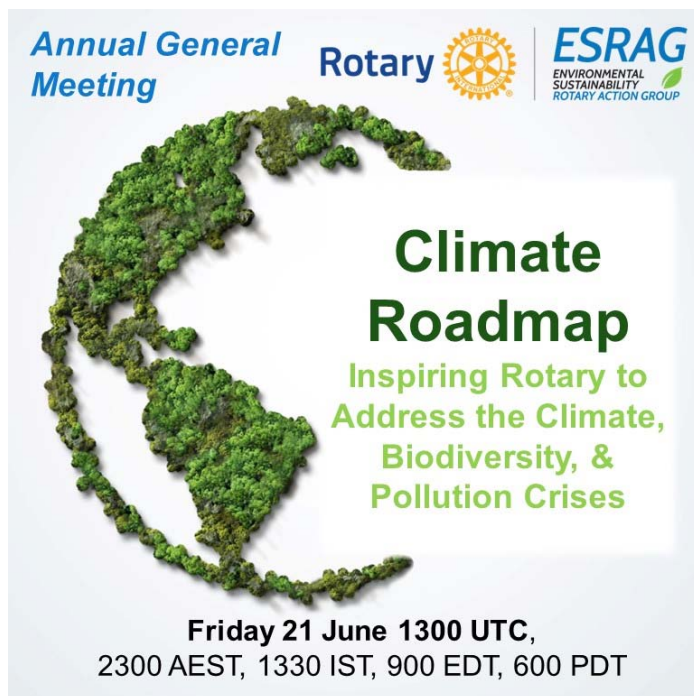
## Register for ESRAG's June 21 Annual Meeting: progress on the Climate Roadmap!

By Laurie Zuckerman

**Friday 21 June 1300 UTC,  
2300 AEST, 1330 IST, 900 EDT, 600 PDT**

Join your fellow ESRAG members on Zoom to





celebrate the progress we've made together over this past year in inspiring Rotary to address the climate, biodiversity, and pollution crises.

Your involvement in ESRAG and Rotary makes a measurable difference. In just 60 minutes, we'll spotlight how ESRAG has tackled major problems in 2023-24, and provide you with an opportunity to chat in small groups with ESRAG leaders. Feeling overwhelmed by crisis overload? Join us for a cup of eco-hope and discover how you can contribute to a thriving future. Register [HERE](#)

Then, if you are a current dues-paying member and have not voted yet, please open your May 23 email now to access your personal ballot and the profiles of twelve board candidates. The email sender is Yavuz Atila, ESRAG Chair Elect, and the subject line is

**"ESRAG 2024-27 Term Election Ballot and Annual Audit Decision."** The email includes important criteria for Directors, including professional experience and geographic representation. Your vote is one powerful way for you to build ESRAG's capacity to catalyze effective environmental action throughout Rotary.

## June Projects + Webinars

Our Wednesday webinars in June highlight sustainable food systems, mental health in the era of climate chaos, and effective climate communication. These talks draw people from all across the world and always generate a lively discussion.

Register for any program that intrigues you, and choose the option to join the ESRAG Projects + email list. That way you'll receive links to recordings of the weekly talks and can watch them even if you can't attend the live seminar.

Here's an overview of the offerings for June, 2024. Click on "read more" for details and registration links.



- June 5: Climate change and mental health - Bonita Ford
- June 12: Plant-based eating for beginners - Lauren Held
- June 19: Serendipity: transforming ugly vegetables into beautiful free food- Eileen Hotho and Earl Knauss
- June 26: Communicating about climate and sustainability from different political perspectives - Andrew Eyerly and Rob Sisson

*Photo (clockwise from top left): Bonita Ford, Lauren Held, Eileen Hotho, Andrew Eyerly, Rob Sisson, and Earl Knauss.*  
[Read More](#)

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## **The Environmental Sustainability Rotary Action Group**

operates in accordance with Rotary International policy, but is not an agency of, or controlled by,  
Rotary International.

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### **Connect with us on social media**

