International Division E-News for January 31, 2023 – E-News
Mengmeng Gu and John Griffis Jr.

No peat, no problem

The news in tweet 'Somerset Levels: Ending thousands of years of peat extraction' may be a small step, but it is significant. United Kingdom's Department for Environment, Food & Rural Affairs issued a sales ban of peat in England from 2024 only to amateur gardeners, and a ban is planned for the professional growers too. If you have worked with container plants, you might have heard of environmental issues associated with peat harvest. Peat is harvested from peat bogs and peat bogs are important carbon sinks. Although being renewable, the peat bog regeneration rate is much slower compared to the harvest rate.

A significant portion of research in the container production field has been focused on alternative substrates. Over the last 10+ years, using biochar as a substrate component was a very rewarding part of my research efforts. I went to the biological and agricultural engineering building, right next to the plant sciences building on Mississippi State University campus for I-forgot-what business and stopped at a colleague's office chatting about our recent work. He worked on biofuel and introduced me to biochar and now we have one utility patent, 15 refereed papers and more to come. And just last week, Dr. Ping Yu, Assistant Professor from University of Georgia did an ASHS webinar titled 'Biochar for Nursery and Greenhouse Production'. Another ASHS member who has done tremendous work in the field of alternative substrates is Dr. Brian Jackson from North Carolina State University. I would encourage you to look into his work also. Tons of it. No peat, no problem.

International Opportunities for Horticulturists

Paid and Volunteer Opportunities

Winrock International requests the support of a qualified Farmer-to-Farmer volunteer (**Organizational Development on Agricultural Extension and Advisory Research Services**) for an in country assignment in **Nigeria** (NIG487). This 17-day volunteer assignment (including travel) is located in Kano, Kano State and Dutse, Jigawa State, northwest Nigeria. The volunteer will develop training materials on Agricultural Extension and Advisory Research and provide training to the Extension Africa (EXAF)'s leadership, staff, and Farmer Business Advisors (FBA). Part of the training will focus on planning, data gathering, data

analysis, decision making, assignment would involve visit to fields and meeting with stakeholders. The training will hold in two locations – Kano, Kano State and Dutse, Jigawa States. The host will use the knowledge and information from the training to research on ways to improve on its extension and advisory services to smallholder farmers. The FBAs are extension agents who provide multiple services including input sales, commodity aggregation, soil health services, farmer advisory, market linkages, farmer monitoring and other productive resources for the farmers. The FBAs speak English and local languages understood by the farmers. EXAF have cross disciplines and build mutual trust and respect in the communities where the organization works. EXAF and FBAs are united by a shared mission to enhance food security by creating reliable link to farmers across Africa. This assignment aims to build the capacity of the host on Agricultural Extension and Advisory Research Services. For more information or to apply for this opportunity, please visit https://winrock.org/join-us/volunteer/volunteer-opportunities/?oid=6848 or contact Olivia Caillouet at 501-232-8775 or Olivia.Caillouet@winrock.org.

ACDI/VOCA is currently seeking a **Seed Potato Selection Specialist** for an upcoming **Remote** volunteer Farmer-to-Farmer assignment in **Kyrgyzstan** (KYR-2014-050). As potato is the second most important food in Kyrgyzstan, local farmers are requesting volunteer assistance to improve potato seed production and develop a monitoring methodology for seed potatoes. This assignment will take place remotely from the US over 3 weeks, on a part-time basis. The selected volunteer will work with a local volunteer to provide trainings. For more information, please visit https://volunteeropportunities-acdivoca.icims.com/jobs/6105/kyrgyzstan--seed-potato-selection/job

ACDI/VOCA is also currently seeking a **Blueberry Specialist** for an upcoming **Remote** volunteer Farmer-to-Farmer assignment in **Republic of Georgia** (GEO-2014-082). Local farmers are requesting technical assistance on the production of highbrush blueberries. They would like to improve their practices with young plants and improve the seasonal yields. The assignment will take place remotely and in collaboration with a local volunteer specialist. The selected volunteer will provide guidance part-time for approximately 2-3 weeks. For more information, please visit

https://volunteeropportunities-acdivoca.icims.com/jobs/6085/georgia%3a-blueberry-specialist/job

Food and Agriculture Organization of the United Nations (FAO) is seeking a paid **Green Cities Assessment Specialist** (announcement 2200176) for a 45 day assignment in **Zimbabwe**. Closing date for the position is 2:59:00PM on 6-Feb-2023 local time. The world is becoming more and more urbanized with 55 percent of the population living in cities. The urban population is set to reach 68 percent by 2050, with 90 percent in low-income countries - especially in Africa and Asia. To trigger transformative actions for cities to become greener, cleaner, more resilient and regenerative, FAO launched the Green Cities Initiative (GCI) and Action Plan on 18 September 2020. The FAO Green Cities Initiative focuses on improving the urban environment, strengthening urban-rural linkages and the resilience of urban systems, services and populations to external shocks with an eye towards constructing a robust constituency of actors. The concept will help ensure access to a healthy environment and healthy diets from sustainable agri-food systems, increasing availability of green spaces through urban and peri-urban forestry. The Initiative will also contribute to climate change mitigation and adaptation as well as sustainable resource management. In Zimbabwe, FAO has launched the GCI through the signing of letters of intent with the City of Bulawayo (COB) and City of Harare (COH). To start the project, FAO is seeking to recruit a specialist to assess the Urban and peri-urban areas of the Cities of Harare and Bulawayo.

Technical Focus:

The technical areas/profiles covered will be as follows:

- URBAN PERI- URBAN FOREST
  - Urban Forestry vs Water
  - Policy and Regulation
- AGRIFOOD SYSTEMS PILLAR
- URBAN-PERI URBAN AGRICULTURE PILLAR

Tasks and responsibilities include:

- Assess the two Cities of Bulawayo and Harare and their Peri-Urban areas under the three pillars of Urban-Peri Urban Agriculture, Urban Food Systems and Urban-Peri-urban Forestry.
- Conduct workshops to validate findings of the assessment with stakeholders and develop clear activities to feed into identification of

priorities by both cities and key stakeholders
- Prepare detailed report and policy brief from the engagements with the various stakeholders.
- Detailed report on findings of assessment and recommendations on the three pillars:
- List of identified priorities by Cities and key stakeholders and multiyear investment plan for each of the two cities

For much more information, a list of requirements of successful applicants, or to apply for this position, please visit https://jobs.fao.org/careersection/fao_external/jobdetail.ftl?lang=en&searchExpanded=true&job=2200176.

Food and Agriculture Organization of the United Nations (FAO) is also seeking a paid **International Expert on Organic Production and Certification (IEOPC)** (announcement 2300201) for a 25 working days over 6 months assignment (home-based except for 2 technical missions – 10 days each - in country) in **Kyrgyzstan**. Closing date for the position is 5:59:00PM on 7-Feb-2023 local time. FAO Representation Office in the Kyrgyz Republic is currently implementing the TCP/KYR/3901 project focuses on strengthening capacities of public and key stakeholders to implement conducive regulatory framework and to support the production, certification, and marketing of organic products in Kyrgyz Republic. One of the key output will focus to strengthen organic certification system and technical capacities for internationally accredited and certified "Kyrgyzstan Organic Product", and include the establishment of local certification agencies with accreditation to EU and other potential export markets. Applications are invited for the position of an International Expert on Organic Production and Certification (IEOPC) to support project implementation.**Technical Focus:** Organic agriculture trade regulations, control system, certification, international organic standards, accreditation and certifications, and capacity building.

Tasks and responsibilities: The International Expert on Organic Production and Certification (IEOPC) will be responsible for the followings:
- Review draft proposals for establishment of an efficient inspection, certification and Participatory Guarantee System (PGS) for organic agriculture;
- Advice and support to the review of draft organic standard and

certification regulations for the new Organic law.

- Design a composite certification system, in which differentiated functions are recognized between certifying bodies and the regulatory and monitoring function to be exercised over them by the Government;
- Assist the establishment of the national inspection, certification and PGS system on organic agriculture;
- Conduct training workshops on inspection, certification and PGS of organic products;
- Advise and prepare guidelines to help set up national control bodies to get authorization and to prepare for ISO 17065 accreditation;
- Assist in drafting the data collection system well adapted to the inspection and certification system;
- Prepare a brief report summarizing findings, conclusions and recommendations;
- Perform any other duties deemed necessary for the successful execution of the project.

For much more information, a list of requirements of successful applicants, or to apply for this position, please visit https://jobs.fao.org/careersection/fao_external/jobdetail.ftl?lang=en&searchExpanded=true&job=2200201.

Food and Agriculture Organization of the United Nations (FAO) is also seeking a paid **Cacao agronomy specialist and trainer** (announcement 2302989) for a 30 working days assignment in **Saint Lucia**. Closing date for the position is 5:59:00PM on 13-Feb-2023 local time. FAO SLC is implementing activities in Saint Lucia as part of the Programme for Capacity Building Related to Multilateral Environmental Agreements in ACP countries Phase III (ACP MEAs 3). ACP MEAs 3 is a global European Union-funded project that aims to promote environmental sustainability in ACP countries by strengthening environmental governance and the implementation of multilateral environmental agreements. The programme aims, inter alia, to bring about sustainable changes in agricultural policies and practices to conserve and sustainably use biodiversity, and to increase food security and resilience to climate change. The objective of the assignment is to build cocoa producers' capacity in the areas of harvesting, fermentation, drying and storage of cocoa beans, with the ultimate aim of

increasing production and productivity of cocoa beans and processed products, as a key component of enhancing the overall cocoa value chain.
Technical Focus: The objective of the assignment is to build cocoa producers' capacity in the areas of harvesting, fermentation, drying and storage of cocoa beans, with the ultimate aim of improving sustainable production of cocoa and enhancing the overall cocoa value chain.
Tasks and responsibilities:

- Hold an inception meeting with FAO project personnel and project counterparts in Saint Lucia to establish the details of the scope and implementation modalities of the assignment.
- Liaise and collaborate with local cocoa farmers, experts, and stakeholders in the design and delivery of good practice guidance, training materials and training sessions.
- Draft guidelines and instructions for the design and construction of cocoa fermentation boxes and solar drying trays, drawing on existing local good practice.
- Draft an accessible good practice guide for farmer, processors, and other cocoa sector producers on harvesting, fermentation, drying and storage of cocoa beans, with consideration of how to incorporate ecosystem-friendly approaches and practices for enhanced product quality.
- Based on the guidelines and good practice guide, develop a suitable training agenda and materials, incorporating both virtual and in-person delivery methods, on cocoa harvesting, fermentation, drying, and storage.
- Conduct one training with a duration of 10 days (not necessarily consecutive) for a target cohort of 20 persons, using a combination of in-person and remote delivery.
- Prepare a report on the training and overall assignment, including recommendations for future cocoa sector capacity-building in Saint Lucia.
- Finalise the guidelines and good practice guides based on stakeholder feedback, including feedback from the training session.

For much more information, a list of requirements of successful applicants, or to apply for this position, please visit https://jobs.fao.org/careersection/fao_external/jobdetail.ftl?lang=en&searchExpanded=true&job=2202989.

CNFA is currently seeking a Farmer-to-Farmer volunteer for an **Integrated Pest and Disease Management paired** assignment for

Mozambique (MZ-P62), proposed for Feb. 2023. In 2020, Mozambique produced around 50,000 metric tons of soybean, half of which is produced by small scale commercial farmers (farmers with less than 20 ha each) and the other 50% produced by large commercial farms (with more than 50 ha each) and emerging commercial farms (with 20-50 ha each).The soybean produced in Mozambique is mainly for the growing poultry feed industry. Additionally, soybean that is mainly produced along the borders, i.e.,the higher elevations inTete, Zambezia and Niassa, is exported to Malawi. Beside processing soybean into poultry feed, little other processing takes place in Mozambique. There are a few emergent initiatives such as soybean oil processing, but such initiatives are limited. Although soy chunks are an increasingly important food in the neighboring Malawi and Zambia, they are not yet produced in Mozambique. There is therefore great potential to increase soybean production and to diversify its uses. In Báruè district, the focal region of this assignment, average annual rainfall ranges from 1,000 to1,100 mm and evapotranspiration is relatively high compared with the rainfall (1220-1290mm). In general, the rainy season begins in November and ends in March. April and October are transitional months, with lower rainfall (40 and 50 mm, respectively) to a dry season starting in May/September when the monthly rainfall does not usually exceed 20 mm. *Clube de Produtores de Cagole* (the CagoleFarmers Club)was established in 2012 with assistance from the local Government, with the main objective being the promotion of market-oriented agriculture to improve the socioeconomic conditions of its members. Clube de Produtores de Cagoleis in the Báruè District, about 130km from the Chimoio town and 15km from its principal marketin Chidengue. This farmer club is comprised of 35 members. In November of 2022, the host completed an assignment on soybean production with assistance of local F2F volunteer Becas Magalhães paired with U.S. volunteer Eric Sedivy from the USAID Soybean Innovation Lab. As a result of the smooth implementation of this assignment, the host requested assistance on Integrated Pest and Disease Management aimed at increasing the yield and quality of soybean by reducing the level of damage causedby pest and diseases.

Objectives:

Primary objectives (with the host):

- Assess Clubede Produtores de Cagole’s current pest and disease management practices

- Train and advise on Integrated Pest and Disease Management for soybeanproduction that will lead to an increase in yields and incomes.

For more information or to apply for this opportunity, please visit https://www.dropbox.com/s/wnz522asryx4ayd/CNFA%20Farmer-to-Farmer%20Assignments.docx?dl=0 to download the complete Scope of Work from the list of projects provided.

CNFA is also currently seeking a Farmer-to-Farmer volunteer for an **Production and Processing of Quality Coffee** assignment for **Madagascar** (MD-26). Madagascar produces a wide variety of horticultural crops, both for export and for domestic consumption. These include a great diversity of spices and fruits.The most known for spice is vanilla, the spice Madagascar is famous for, grows best in the eastern part of the country, and the most known for fruit are coffee and lychees. During the Second Republic of Madagascar (1975–1992), most of the horticulture plantations were transferred to local Malagasy farmers. Most of the large plantations were then split into smaller farms, which average one to two hectares in size. In recent decades, national statistics show that the farm-level production has been decreasing continuously due to the lack of skills and knowledge necessary for sustainable production and managementand leading to a decrease in exportation in the 1990s. Some of Madagascar's coffee is still recognized by connoisseurs for its exceptional quality. Madagascar produces the two main species of coffee, the higher altitude Arabica (*Coffea arabica*) andlower altitude Robusta (*Coffea canephora*), however, Robusta constitutes 95 % of the in-country production and Arabica only 5%, as the highlands in Madagascar, location favorable to Arabica, is very densely populated. The host of this assignment is the VOKOMAMI cooperative which is based in the rural commune of Andemakarural commune in the Vohipeno district, located 30 km of the town of Vohipeno which in turn is 50 kim south of Manakara, the regional capital of Fitovinany. Andemaka is known for production of coffee, rice,and honey. Several projects are supporting farmers in Andemaka; of them, the most important is the IFAD-and Malagasy government-funded Inclusive Agricultural Value Chains Development Program (DEFIS, 2017-2028). VOKOMAMI was created in2010 and is currently composed of202 members(40 women). Each member has around 2 hectares of land used for coffee production. The cooperative has a storage facility to benefit all of the producers. The objective of the cooperative is to

bring together members to become a professional unit and increase the strength of the cooperative members, and to enable the cooperative to protect the interests of members and to boost the cooperative business performance and competitiveness. In total, 40 men and 20 women will be trained. As the host members already have basic knowledge of coffee processing, the training will coverthe following activities:

- Basic assessment in Antananarivo to assess the coffee value chain and current markets.
- Obtain random samplesof coffee beans from the VOKOMAMImembers toassess their quality and factors determining quality, including at production level.
- Conduct a SWOT onthe coffee value chain in the locations of the assignment.
- Provide guidance and training on production and maintenance of coffee trees, for high quality harvest.
- Trainthe membersin properharvestingof coffee, by using good techniques and respecting the critical times.
- Trainmembers inprocessing of coffee, including roasting of beans and grinding.
- Provide basic trainingand good practices incoffee packaging/branding.
- If time allows, review and provide suggestions on thebusiness plan of the host.

For more information or to apply for this opportunity, please visit https://www.dropbox.com/s/wnz522asryx4ayd/CNFA%20Farmer-to-Farmer%20Assignments.docx?dl=0 to download the complete Scope of Work from the list provided.

NCBA CLUSA requests the support of a Farmer-to-Farmer volunteer for a 2-week volunteer assignment (**Biological Pest Control Expert**) located in Naranjito, **Ecuador** to support *Asociación de*

Trabajadores Agrícolas "Luis Vargas Torres". *Asociación de Trabajadores Agrícolas* Luis Vargas Torres was established in 2005, by a small group of cacao growers. The organization was created to help producers gain access to broader markets, and negotiate fair prices for their products. Throughout the years, the association has engaged members in the cacao paste production process. There are currently 24 active members (75% men and 25% women, including one male youth) and more than 200 cacao suppliers. The producers of the association have serious challenges dealing cacao diseases. One of their main goals is to be productive and ecologically sustainable. That is why they need training in how to capture, cultivate and manage beneficial microorganisms to control pests and avoid the use of chemical commercial products. Inoculation of beneficial microorganisms is a potential solution used in other places. The association members want to learn how to inoculate, produce and apply beneficial microorganisms for biological control. Furthermore, the production of these microorganisms can be an additional way of income for the association and promote environmentally friendly agriculture in Naranjito.

- **ESSENTIAL AREAS OF RESPONSIBILITY:**
  Train the participants on how to minimize the impact of plagues and diseases in cacao production using cost efficient methods and/or products compatible with organic production.
- Train the participants on how to observe the field for insects and diseases, how to prevent the attack of plagues and diseases, and the process of inoculation for biological disease control
- Collaborate with Luis Vargas Torres to develop plague management best practices plan, guides and/or demonstrative plots.

For more information about this opportunity, please visit https://jobs.smartrecruiters.com/NCBACLUSA1/743999839852463-farmer-to-farmer-biological-pest-control-expert and click on the "I'm interested" button to apply.

International Social Media Feed

Food and Agriculture Organization
@FAO
Soils & water are finite resources & we can't grow food without them. Wasting food means wasting the soil & water that were used to produce it too. Here are 15 tips to end #FoodWaste https://bit.ly/3DTwaI8 #WaterAction

Food and Agriculture Organization of the United Nations

ISAAA Inc.
@isaaa_org

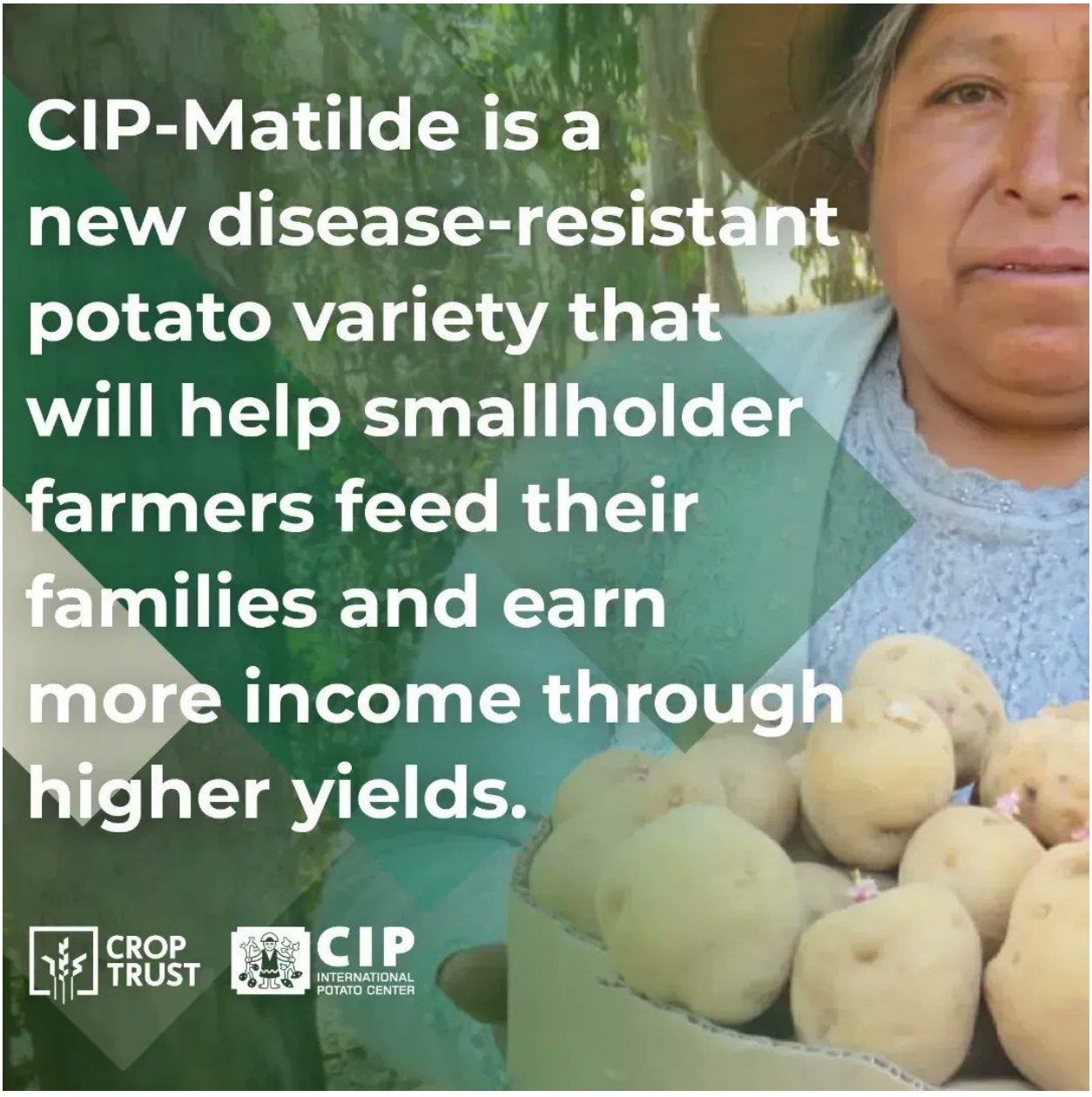
In a virtual dialogue with over 200 participants from 100 countries, representatives shared strategies in transforming agrifood systems to alleviate hunger, poverty, food loss and waste; protect biodiversity; and mitigate #climatechange. Read details here: https://bit.ly/3XjvGlt

FAO Forestry
@FAOForestry

Submit your abstracts for voluntary presentations & posters for the 2nd World Forum on Urban Forests! Deadline: 17 February 2023 More details https://bit.ly/3JbU2JA #WFUF2023 #greencities @arborday @forestservice @FAONewYork @ISArboriculture @SISEFtweet

The Crop Trust
@CropTrust

New released CIP-Matilde potato is a prime example of harnessing beneficial traits in crop wild relatives to build climate resilience in our agriculture. Learn more about the new disease-resistant potato variety developed by @cipotato https://buff.ly/3GxMPAu #BOLDcwr



WBG Agriculture
@WBG_Agriculture

The cost of fertilizers has increased so much across Central America that resource-constrained farmers are reducing fertilizer, planting less & increasing crop prices. This threatens #FoodSecurity in a region where food inflation is already escalating: http://wrld.bg/rNea50Mw1WH

WBG Agriculture
@WBG_Agriculture
A taste of the clean energy future? Thriving wine vineyards in southwest #Poland open new markets and increase investment in a former coal region. #JustTransition http://wrld.bg/rMwI50Mricx

FloralDaily
@FloralDaily
"Excellent results for pot Anthuriums at 14°C in the retail phase.” Given the current energy situation, the consumption of heat and electricity in cultivation should be minimized. This offers great opportunities because Anthurium is robust and a survivor by nature. A unique property of Anthurium is that it can be grown in a humid climate combined with moderate temperatures. Keeping pot Anthuriums on the shelf at a garden center for a period of 6-7 weeks at a minimum storage temperature of 14°C has no significant effect on the shelf life and quality of the Anthuriums. The fact that in a garden center, the temperature fluctuates during the day, and there is more light on sunny days is only advantageous for the plant.
@AnthuraBV
https://floraldaily.com/article/9497242/excellent-results-for-pot-anthuriums-at-14degc-in-the-retail-phase/

BBC News (World)
@BBCWorld

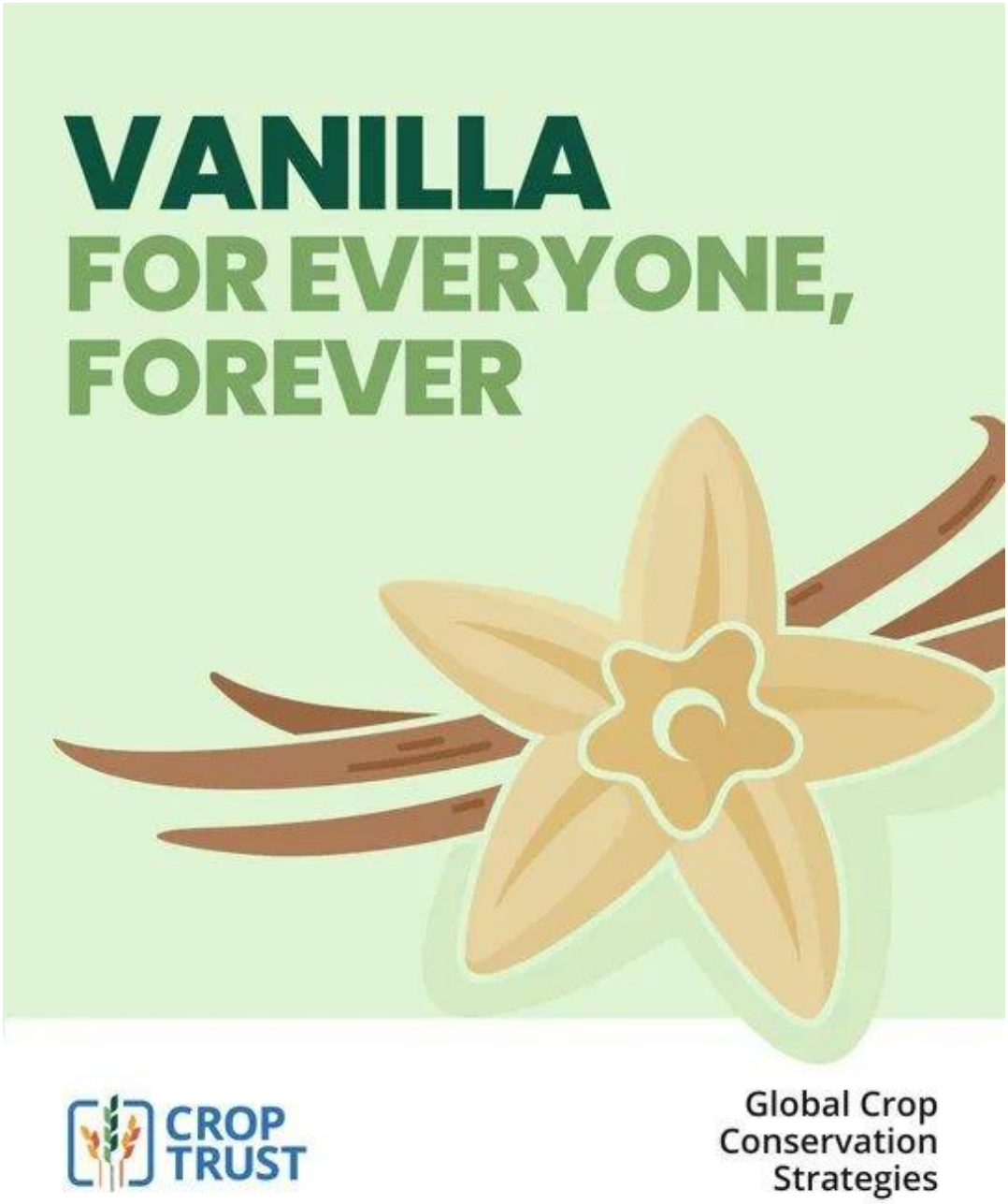
Official - Somerset Levels: Ending thousands of years of peat extraction
Environmental campaigners have welcomed news that companies could be paid to stop the extraction of peat. Somerset County Council and the government are discussing how to fund the move. Sales of peat to amateur gardeners will be banned in England from next year but it can still be mined under licence. Sian Russell, from Somerset Wildlife Trust, said "peat is an invaluable resource" and its extraction needs to "end as soon as possible". The Somerset Levels have a 2,000-year history of peat excavation but before winning last year's county council election the Liberal Democrats pledged to end it. The council wants to pay compensation to companies who volunteer to end the practice.

Alliance for Agri Innovation
@AllianceAgri

According to a study, the effects of weather change could cause barley to become scarce. Future price increases are expected up to twofold and even fourfold in some nations. Source: https://bit.ly/3iPap45

The Crop Trust
@CropTrust

Baking enthusiasts love to talk about #vanilla — what type they like, how they use it, and its delicious flavor and aroma. But the "real" vanilla is under threat. Conserving vanilla diversity is a top priority https://buff.ly/3iGULrx #cropstrategies #foodforever



The Crop Trust
@CropTrust

Did you know that the dates from palms in Saudi Arabia can have different names, depending on their quality? **What lies behind a fruit crop variety name?** Discover in a paper published by @plantspplplanet https://buff.ly/3jaWxkP

BBC Future
@BBC_Future

Fresh fruit and veg are some of the most wasted foods – but an array of emerging technologies is contending to stop produce going bad before it reaches our plates. It's a problem humans have been reckoning with since the first moment we had more food than we could eat in one go. When food is abundant, how do you store it to make it last? The question has almost as many answers as there are foods. The ancient Greeks washed figs in seawater and dried them in the hot sun, while in medieval China lemons and oranges were covered in waxes. In 15th Century Japan, vegetables were coated with soy milk to prevent moisture loss and extend their shelf-life. In 16th Century England, meanwhile, they were coated with lard. The problem of rotting apples and mouldering grain may have been a matter of season-to-season survival for our ancestors. Today preventing food waste is no less of a challenge, though the stakes have changed somewhat. The world's greenhouse gas emissions from wasted food are about 10 times greater than those from the UK. https://www.bbc.com/future/article/20230118-how-to-make-fruit-and-vegetables-last-longer

Agristok
@agristok

Multiple PhDs and Postdoctoral Funded Positions at The Max Planck Institute for Plant Breeding Research in Cologne, Germany ... Please Retweet and spread the word! For details visit the link below https://wp.me/pbv48T-5iE

MAX PLANCK INSTITUTE
FOR PLANT BREEDING RESEARCH
DEPARTMENT OF PLANT MICROBE INTERACTIONS

Multiple PhDs and Postdoctoral Funded Positions

The Max Planck Institute for Plant Breeding Research in Cologne, Germany

The Max Planck Institute for Plant Breeding Research in Cologne, Germany is seeking to fill

multiple PhD and postdoctoral researcher positions

to join an **ERC-funded project** focused on designing and building synthetic microbial consortia to understand host-microbiota interactions.

For details visit: https://wp.me/pbv48T-5iE

Applications deadline is February 26th 2023

The Max Planck Society is one of Europe's leading research organizations. In its research laboratories, workshops, libraries, and administration, scientists and researchers perform demanding tasks with a high degree of autonomy and creativity.

The Max Planck Institute for Plant Breeding Research carries out fundamental research on plants using a wide range of methods including molecular genetics, genomics, imaging, computational biology and biochemistry.

Alliance for Agri Innovation
@AllianceAgri

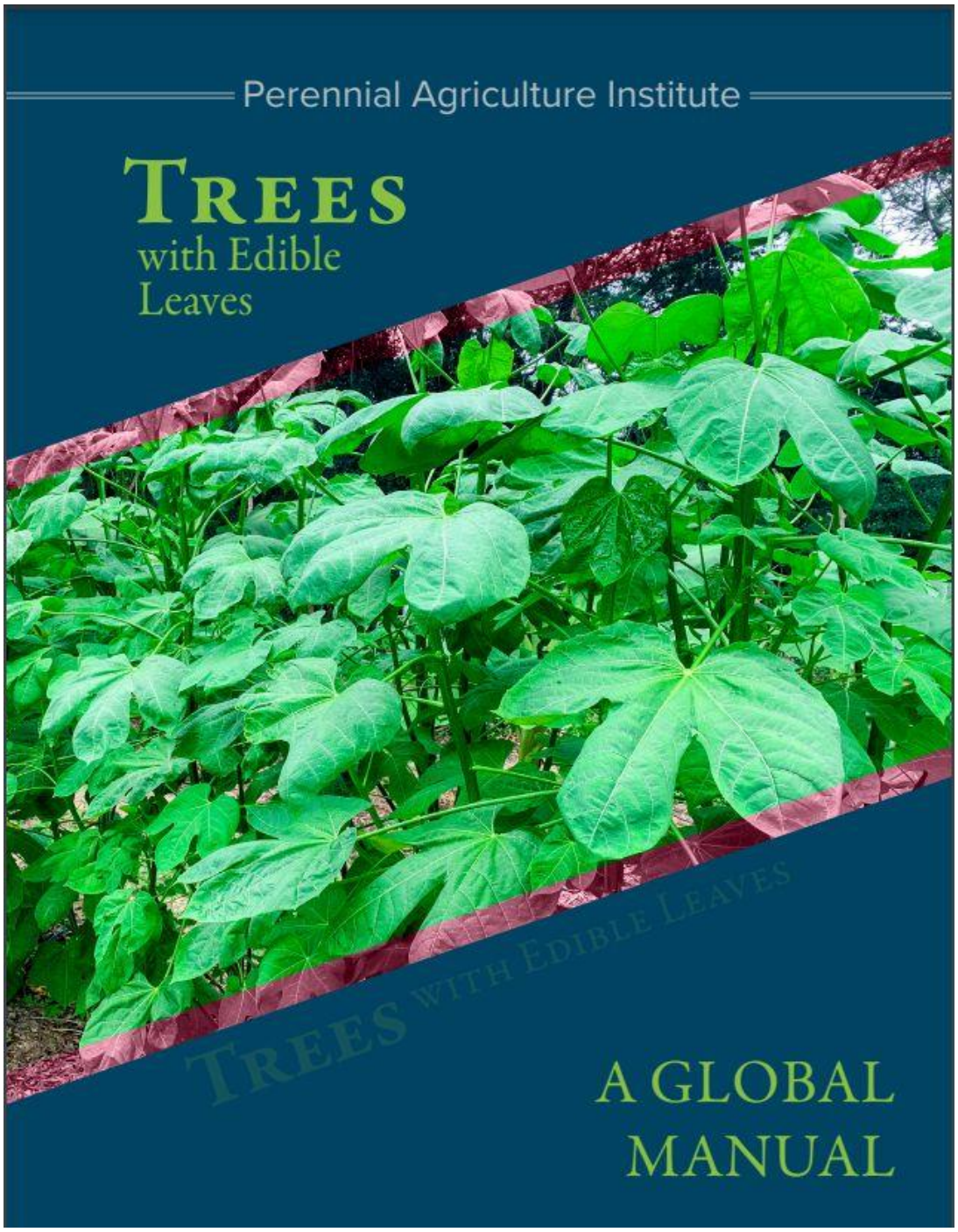
It is essential to enroll #farmers to adopt promising #technologies like #GMcrops, given the pressing need to solve #foodsecurity and livelihood issues. Source: https://bit.ly/3Go81sL

International Potato Center
@Cipotato

Farmers are sick of losing potato crops to late blight disease and are eager to plant new highly resistant potatoes. https://bit.ly/News-NigeriaBioPotato… @aatfafrica @nrcri_umudike @Ftfpotatopjt

CIFOR
@CIFOR

Trees with edible leaves? Absolutely! This publication provides an overview of a remarkable group of crops, with details on nutrition and cultivation techniques. Download a free copy: https://bit.ly/3ILQMV5 #Trees4Resilience



BBC Science News
@BBCScienceNews

Eryri: Sensors protect rare plants from mountain climbers. New temperature sensors have been installed on mountain crags to protect some of the rarest plants in Wales from accidental damage. The Snowdon lily grows in only a small number of rocky areas in Eryri, also known as Snowdonia. But it and other rare plants are at risk from winter mountain climbers. Ice axes and crampons can damage the ground unless the terrain is properly frozen. Officials hope the new sensors will tell climbers when the ground is solid enough for safe ice climbing without harming the plants, which also include purple saxifrage and Arctic Mouse-ear. The project to install them has focused on Cwm Idwal near Bethesda, Gwynedd, which is home to some of the best winter ice climbing routes, but also some of the rarest plants.

Global Env. & Climate Conservation Initiative
@GlobalECCI

FREE Sustainability courses from the @UN. 1. My Sustainable Living Challenge: https://lnkd.in/exai6_yU
2. Sustainable Lifestyles: https://lnkd.in/es_ksmNU
3. Digital Sustainability Learning Path: [https://lnkd.in/e3Vu_842]

Kew Gardens
@kewgardens

Soil contains living and non-living matter, including fungi, bacteria & other microorganisms. This ecosystem is vital for healthy crops. In our Kitchen Garden we use the no-dig method to better protect our soil. Learn more http://ow.ly/BnS750LS8As

BBC Future
@BBC_Future

Italy's treasured olive trees, many of them hundreds of years old, are dying from a fast-spreading disease. Could a highly trained squad of super-sniffer dogs stop the spread? On a sunny winter morning, the dog trainer Mario Fortebraccio slowly bends toward a line of potted olive trees and indicates it with his hand. Waiting for that signal, Paco, a three-year-old white Labrador, rushes through the row of plants with his head tilted, sniffing each pot at the root, the rhythm of his inhaling echoing through the greenhouse. The dog is carefully scouting for something humans can't sense. "They don't do anything if there is no reward," Fortebraccio tells me with a smile. After a few seconds, having completed his task, Paco returned to the trainer, lifted his leg to urinate on a nearby plant, wagged his tail, and claimed a little crunchy treat. At Vivai Giuranna, an extensive commercial greenhouse with over one million plants in Parabita, in the southern Italian region of Puglia, Paco is searching for *Xylella fastidiosa*, a type of bacterium that has been ravaging southern Italy's olive fields for the past decade. Paco and a few other four-legged colleagues make up the highly trained *Xylella* Detection Dogs team. "These dogs have got something unique," says Angelo Delle Donne, the head plant health inspector for the government of the province of Lecce, who has been battling *Xylella* since it was discovered in Puglia in 2013. https://www.bbc.com/future/article/20230111-the-super-sniffer-dogs-saving-italys-dying-olive-trees