



News

Exploring the diverse, intimate lives of plants

"I've invented a new algorithm to predict phenotype from genotype," says the presenter in a cartoon about a lab meeting. "Brilliant!" "Superb!" exclaim the attendees. Says another meeting attendee, "Someone did it in plants in 1978." In next cartoon panel, that last commenter is tossed out a window. Scientific findings in animals are sometimes "hailed as breakthroughs" when in fact they were predated by discoveries in plants, as in the case of RNA interference and immune receptors, notes Nick Talbot, who directs the Sainsbury Laboratory in Norwich, UK, where he also runs a lab. Plant blindness, as the underappreciation of plants is sometimes called, is an eye-roll-inducing evergreen. A number of plant labs develop and use new approaches to assess how plants, fungi and microbes interact. There's more than give and take between plants and microbes; dramatic, intimate strategies are at work^{2,3,4,5,6}. Given that climate change demands attention, a deep understanding of these interactions offers new ways to address how to sustain ecosystems and biodiversity. [.....Read more...](#)

Date: July 16, 2021**Source:** Nature**Tropical Rainforest Index**

Rainforests are a powerful, natural solution to combat climate change — providing water filtration, capturing carbon and regulating global temperatures. But major threats like large-scale land use changes, including agricultural expansion and clearcutting, have turned these biodiversity havens into one of the most endangered habitats on our planet. In 2019, select scientists, including the University of Delaware's Rodrigo Vargas, met at the National Geographic headquarters in Washington, D.C., to discuss the threats to rainforests. The researchers pinpointed a need to develop a worldwide tracking system, which would find trends to help fight land degradation and promote conservation. [.....Read more...](#)

Date: July 26, 2021**Source:** Environmental News Network**Soil tested for hidden contaminants in community gardens**

This year saw many people rediscovering an interest in gardening, digging in the dirt and maybe even harvesting vegetables from a garden plot. But around the Puget Sound, not all garden soils are created equal. Soil, particularly in urban areas, can hold contaminants that are unhealthy for people who handle it or eat things grown in the ground. Chemicals left behind by vehicles, air pollution and heavy industry can show up in the ground and in plants. Soil can reflect our human activities, says Melanie Malone, assistant professor in UW Bothell's School of Interdisciplinary Arts & Sciences. Even compost and wood chips we add to our gardens can bring in the residues of pesticides that were once applied to those materials. Malone's recently published work investigates these contaminants and their prevalence in shared garden spaces like community gardens. [.....Read more...](#)

Date: July 29, 2021**Source:** PHYS**MRIs On Crop Roots Open New Doors For Agriculture**

A team of scientists led by Texas A&M AgriLife is using magnetic resonance imaging (MRI) to examine crop roots in an effort to develop crops with stronger and deeper root systems. The team from Texas A&M AgriLife Research, Harvard Medical School, ABQMR Inc. and the Soil Health Institute developed a novel MRI-based root phenotyping system to nondestructively acquire high-resolution images of plant roots growing in soil, and established the Texas A&M Roots Lab to further develop this technology as a new tool for assessing crop root traits. It is part of the Rhizosphere Observations Optimizing Terrestrial Sequestration (ROOTS) program funded through U.S. Department of Energy's Advanced Research Projects Agency-Energy program. [.....Read more...](#)

Date: July 29, 2021**Source:** Environmental News Network**Adapting Roots to a Hotter Planet Could Ease Pressure on Food Supply**

The shoots of plants get all of the glory, with their fruit and flowers and visible structure. But it's the portion that lies below the soil — the branching, reaching arms of roots and hairs pulling up water and nutrients — that interests plant physiologist and computer scientist, Alexander Bucksch, associate professor of Plant Biology at the University of Georgia. The health and growth of the root system has deep implications for our future. Our ability to grow enough food to support the population despite a changing climate, and to fix carbon from the atmosphere in the soil are critical to our, and other species', survival. The solutions, Bucksch believes, lie in the qualities of roots. "When there is a problem in the world, humans can move. But what does the plant do?" he asked. "It says, 'Let's alter our genome to survive.' It evolves." [.....Read more...](#)

Date: July 30, 2021**Source:** Environmental News Network

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