

People & Places

Lowly earthworm plays big role

Jodi Johnson-Maynard studies 'ecosystem engineers'

By MATTHEW WEAVER
Capital Press

MOSCOW, Idaho — Jodi Johnson-Maynard has been playing with dirt for a long time.

She remembers playing in a dirt pile in her backyard while growing up in California.

"At one point my mom realized she had no spoons left in the house because I was constantly taking her spoons and any digging implements I could find," she said. "I would dig these giant holes, look at the soil, add water to see what would happen. Early on, I guess I was fascinated by soil."

Nowadays, Johnson-Maynard is a professor of soil and water management at the University of Idaho. Her work includes research on the Giant Palouse Earthworm, an oversized species once thought to be extinct but that was found in 2010.

Her doctoral student is slated to finish his dissertation on the worm this fall.

Johnson-Maynard has been documenting earthworm populations across the Columbia Plateau, identifying species, their locations and their ecological habits. One of her students is studying the impacts of earthworms on nitrogen cycling.

No models currently describe the impact of macroorganisms such as earthworms on soil nutrients, Johnson-Maynard said.

"(The earthworm is) so simple in its biology, but yet it drives so many important processes — it's what we call an ecosystem engineer," she said. "They're incredible creatures, and we still don't know a lot about how they interact with the microbial community and plants."

Farmers are interested in possibly adding more worms



Matthew Weaver/Capital Press

Jodi Johnson-Maynard, a University of Idaho professor of soil and water management, talks about her work. Johnson-Maynard's research includes finding out more about the role earthworms play in soil health.



Courtesy of Christopher Baugher, University of Idaho

A 2014 photo shows a Giant Palouse Earthworm. Researcher Jodi Johnson-Maynard studies the worm and other earthworms, hoping to quantify their impact on the soil.

to their land to increase the amount of nitrogen available to their crops and manage their land for long-term soil health, she said. She hopes to be able to determine the effects of worm activity.

"I can tell farmers, 'You should manage for earth-

worms because they're beneficial,'" she said. But her challenge is to quantify the impact worms have on the soil.

Johnson-Maynard became interested in worm behavior as a doctoral student when she observed that earthworms tended to invade beneath a

Western Innovator

Jodi Johnson-Maynard

Occupation: Professor of soil and water management, University of Idaho

Age: 46

Hometown: Downey, Calif.

Location: Moscow, Idaho

Education: Bachelor's degree in environmental science, University of California-Riverside; master's degree in soil science, University of Idaho; Ph.D. in soil and water science, UC-Riverside

Family: Married, three children



particular species of scrub oak and ignored the ground under a nearby stand of pine trees.

She found that the soil types were different even though they were near one another. It became obvious to Johnson-Maynard that worms were the source of the soil differences and driving soil formation.

Retired Genesee, Idaho, grower Russ Zenner's farm has served as one of the locations for her work.

Interest in soil health has

increased in recent years, Zenner said.

"I don't know of many other researchers in the Pacific Northwest that have the knowledge base on earthworms that she has," Zenner said. "If she can get the research funds, she's very well positioned to help us learn more about that influence on soil health."

"It's really fascinating research," Johnson-Maynard said. "And it's great because people are interested in it."

Calendar

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Through Friday Dec. 2

National Women in Sustainable Agriculture Conference. Doubletree Hotel by Hilton, 1000 NE Multnomah St., Portland, Ore. The 5th National Conference for Women in Sustainable Agriculture will bring together farmers, educators, technical assistance providers and activists engaged in healthy food and farming to share educational and organization strategies, build technical and business skills, and address policy issues aimed at expanding the success of women farmers and ranchers. <http://2016wisa.org>

Saturday, Dec. 3

How to Do Farm Taxes Workshop. 8 a.m.-12:30 p.m. WSU Snohomish County Extension's Cougar Auditorium, 600 128th St. SE, Everett, Wash. Sponsored by Moss Adams LLP and Snohomish Conservation District. What to do throughout the year in order to have the data needed when tax time rolls around. Step-by-step instructions for completing forms as well as one-on-one coaching sessions. Cost: \$15 per person, \$25 per family up to three. FarmTaxes.eventbrite.com

Sunday-Wednesday Dec. 4-7

California Farm Bureau Annual Meeting. Hyatt Regency Hotel, Monterey, Calif. <http://cfbf.com>

Tuesday, Dec. 6

Columbia-Snake River System Scoping Meetings. 4-7 p.m. The Columbia Gorge Discovery Center, River Gallery Room, 5000 Discovery Drive, The Dalles, Ore. www.crsi.info/

The Nuts and Bolts of Ag Management. Salem Convention

Center, 200 Commercial St. SE, Salem, Ore. What you didn't learn growing up on the farm, an Oregon Farm Bureau Leadership Conference presented by the Young Farmers and Ranchers Committee. oregonfb.org

CORE Private Pesticide Applicator Training. 8-11:40 a.m. OSU Extension Service-Lane County, 996 Jefferson St., Eugene, Ore. Four CORE credits anticipated. Pre-register. Cost: \$30. <http://extension.oregonstae.edu/lane/farms>

Tuesday-Thursday Dec. 6-8

84th Oregon Farm Bureau Annual Meeting. Salem Convention Center. Open to voting and supporting Farm Bureau members. oregonfb.org

Oregon Interagency Noxious Weed Symposium. Oregon State University, LaSells Stewart Center, 875 SW 26th St., Corvallis, Ore. <http://bit.ly/2dQBQpQ>

Wednesday, Dec. 7

Oregon Clover Commission meeting, 6-8 p.m. Golden Valley Brewery, 980 NE Fourth St., McMinnville, Ore.

OSHA hearing on proposed changes to agricultural worker protection standards. 10 a.m.-1 p.m. Medford City Hall, Suite 340, 411 W. Eighth St., Medford, Ore. www.orsosha.org

Monday, Dec. 12

Internal Auditor Workshop. 8 a.m.-5 p.m. Idaho Water Center, 322 E. Front St., Boise. We will teach you how to conduct internal audits in your facility against one of the Global Food Safety Initiative (GFSI) Audit Schemes, which are becoming a standard for the food industry as a tool for assuring food safety and regulatory compliance and has become a customer requirement for many processors. <http://bit.ly/2etdxP6>

Oregon Fine Fescue Commission meeting. 7-9 a.m. Salem Convention Center, 200 Commercial St. SE, Salem, Ore. www.oregon-finefescue.org

Monday-Tuesday Dec. 12-13

Oregon Seed Growers League Annual Convention. Salem Conference Center, 200 Commercial St. SE, Salem, Ore. The agenda includes industry speakers, educational sessions, displays, trade show and an industry reception. seedleague.org

Monday-Wednesday Dec. 12-14

Far West Agribusiness Association 57th Annual meeting. Three Rivers Convention Center, 7016 Grand Ridge Blvd., Kennewick, Wash. Featured speakers are Chuck Conner, president and CEO of the National Council of Farmer Cooperatives and Chris Jahn, president of The Fertilizer Institute. www.fwaa.org

Wednesday-Friday Jan. 4-6

Potato Expo 2017. Moscone Center West, 800 Howard St. San Francisco, Calif. potato-expo.com

Friday-Wednesday Jan. 6-11

2017 AFBF Annual Convention & IDEAg Trade Show. Phoenix Convention Center, 100 N Third St., Phoenix, Ariz. <http://annual-convention.fb.org>

Tuesday, Jan. 10

Idaho-Eastern Oregon Alfalfa and Clover Seed School. Caldwell Elks Lodge, Caldwell, Idaho. Contact: benjamin@amgidaho.org

Thursday-Friday Jan. 12-13

Oregon Mint Growers Annual Meeting. Salishan Lodge & Golf Resort, 7760 Hwy 101 North, Gleneden Beach, Ore. oregonmint.org

Tuesday-Thursday Jan. 17-19

38th Annual Eastern Idaho Ag Expo. Idaho State University Holt Arena, 921 South 8th Ave., Pocatello, Idaho. www.spectraproductions.com

Wednesday-Thursday Jan. 18-19

49th Annual Idaho Potato Conference. Idaho State University's Pond Student Union Building, 921 South 8th Ave., Pocatello, Idaho. Speakers include Idaho Potato Commission President and CEO Frank Muir, Potatoes USA President and CEO Blair Richardson and National Potato Council Executive Vice President John Keeling. <http://bit.ly/2fayqPE>

Idaho Noxious Weed Conference. Riverside Hotel, 2900 Chinden Blvd., Boise, Idaho. www.idahoweedcontrol.org

Thursday, Jan. 19

Oregon Tall Fescue Commission meeting. 6-8 p.m. Cascade Grill restaurant, 110 Opal St. NE, Albany, Ore. www.oregontallfescue.org/

Tuesday-Thursday Jan. 24-26

Northwest Agricultural Show. Portland Expo Center, 2060 N Marine Drive, Portland, Ore. The hours are 9 a.m.-6 p.m. on Tuesday, 9 a.m.-8 p.m. on Wednesday and 9 a.m.-3 p.m. on Thursday. www.nwagshow.com

Wednesday-Friday Jan. 25-27

FSPCA Preventive Controls for Human Food Course. Idaho Department of Labor, 600 N. Thornton St., Post Falls, Idaho. The new Food Safety Modernization Act regulation requires every processing facility to have a trained resource person or "Preventive Controls Qualified Individual" who has completed a specialized training course (such as this one) developed by the Food Safety Preventive Controls Alliance that is recognized by the FDA. This person will oversee the implementation of the facility's food safety plan and other key tasks. <http://bit.ly/2f6cogT>

Wednesday-Saturday Jan. 25-28

American Sheep industry Association Convention. Denver Marriott City Center, 1701 California

St., Denver, Colo. www.sheepusa.org/About_Events_Convention

Wednesday, Feb. 1

California Prune Industry Summit. Orchard Creek Lodge, Lincoln, Calif. www.californiadriedplums.org

Tuesday, Feb. 7

Pesticide Short Course-IPM. 8 a.m.-4:10 p.m. Lane Community College, Center for Meeting and Learning, Bldg. 19, 4000 E. 30th Ave., Eugene, Ore. \$85 if registered by Jan. 23; \$95 after. <http://extension.oregonstae.edu/lane/farms>

Tuesday-Thursday Feb. 7-9

Spokane Ag Expo and Pacific Northwest Farm Forum. Spokane Convention Center, 334 W Spokane Falls Blvd., Spokane, Wash. Spokane Ag Expo is the largest farm machinery show in the Inland Northwest. <https://greaterspokane.org/ag-expo/>

Wednesday-Feb. 8

Oregon Clover Growers Annual Meeting. Noon-1 p.m. Holiday Inn, Wilsonville, Ore.

Wednesday-Thursday Feb. 8-9

The 8th Annual Organic Farming Conference. Canyon Crest Event Center, 330 Canyon Crest Drive, Twin Falls, Idaho. The event is organized by the Northwest Center for Alternatives to Pesticides. www.pesticide.org/events

Tuesday-Thursday Feb. 14-16

Practical Food Safety & HACCP. The Riverside Hotel, 2900 Chinden Blvd., Boise, Idaho. HACCP or Hazard Analysis Critical Control Points, is a preventive system for the control of health threatening food hazards during food processing. The comprehensive three-day workshop is designed for individuals responsible for implementing and managing a HACCP system in a food processing facility. Participants who pass a final test will receive a certificate of completion. <http://bit.ly/2f2iJ9Q>

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Index

California 7
Dairy 13
Idaho 9
Livestock 13
Markets 14
Opinion 6
Washington 10

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