



New Entomology Specialist In Place



Varenhorst

BROOKINGS — Adam Varenhorst is the new SDSU Extension Entomology Specialist. As an SDSU Extension Entomology Specialist, Varenhorst will inform South Dakota crop producers of impending pest issues they need to watch for in their fields; provide growers with the research-based best management practices for pest management in South Dakota; and conduct research.

“When insect issues get out of control, growers lose yields and ultimately profits. Adam brings research experience and a broad knowledge base to help South Dakota growers utilize the best practices when managing,” said Alvaro Garcia, SDSU Extension Agriculture and Natural Resources Program Director.

Growing up on a farm in northwest Iowa, Varenhorst spent time scouting his family’s fields for pests and truly understands the impact pest issues can have on a grower’s bottom-line.

However, it wasn’t until he took an entomology class as an undergraduate at Briar Cliff University that he decided to focus his career on helping growers protect their crops and livelihoods from pests.

“Through that one class, I discovered a strong interest in insects. It changed my career path,” Varenhorst said. “I discovered that as an entomologist I could incorporate my agriculture background with my new found interest in insects to help producers by providing them with research-based information that can provide management guidelines that ultimately protect yields.”

Varenhorst received a master’s and doctorate degree in Entomology from Iowa State University. He focused his research on the management of soybean aphids by using selective insecticides and host plant resistance.

Varenhorst joins the team of SDSU Extension staff who provide research-based information to South Dakotans as part of South Dakota State University’s Land Grant mission.

To learn more about SDSU Extension, visit iGrow.org.

Conservation Fund Deadline Nearing

LINCOLN, Neb. — Farmers and ranchers interested in soil, water and wildlife conservation are encouraged to sign up now for the Environmental Quality Incentives Program (EQIP). EQIP is available from the USDA Natural Resources Conservation Service. Those interested in applying are encouraged to sign up before Oct. 16, 2015.

EQIP is a voluntary conservation program available to private landowners and operators. Through EQIP, farmers and ranchers may receive financial and technical help to install conservation practices on agricultural land.

According to Craig Derickson, NRCS State Conservationist, there are several options available to producers through EQIP.

“EQIP is one of our most versatile programs. It offers cost share and technical assistance to apply conservation measures on cropland and rangeland, as well as for animal feeding operations and establishing or enhancing wildlife habitat. There are many opportunities available, and NRCS staff can help landowners and operators sort out their EQIP options,” Derickson said.

The Environmental Quality Incentives Program has become one of the most widely applied conservation programs in Nebraska; enrolling over 300,000 acres in 2015 with more than 1 million acres currently under contract statewide. The goal of EQIP is to provide a financial incentive to encourage landowners to install conservation practices that protect natural resources, resulting in cleaner air and water, healthy soil and more wildlife habitat.

Individuals interested in entering into an EQIP agreement may apply at any time, but the ranking of applications on hand to receive funding will begin Oct. 16, 2015. The first step is to visit your local NRCS field office and complete an application.

For more information about the Environmental Quality Incentives Program and other conservation programs, visit your local NRCS field office or www.ne.nrcs.usda.gov.

SD Local Foods Conference Nov. 6-7

BROOKINGS — The fifth annual South Dakota Local Foods Conference is scheduled for Nov. 6-7 at Cadillac Jack’s Resort in Deadwood (360 Main St.).

“The local foods movement is gaining momentum around the nation and this conference offers timely information on business, marketing and production,” said Chris Zdorovtsov, SDSU Extension Community Development Field Specialist.

Other components of the event include local food meals, a local food panel of successful stories, a vendor show, and producer and resource provider networking.

Friday, Nov. 6 will consist of a number of sessions focused on marketing topics including: utilizing the fresh fruit and vegetable program for school sales, a marketplace panel and community supported agriculture (CSA) as well as production topics, such as growing healthy berries, season extension, permaculture, honey bees and organic production.

In-depth sessions will also be held Nov. 6 on specialty crops and traditional foods on the reservations as well as business tools and analysis for farm enterprises.

Nov. 7 a discussion will be held on “Getting to the State of Local Foods,” presented by keynote speaker, Marty Travis from Stewards of the Land Food Hub out of Illinois.

In-depth sessions on Nov. 7 will include the topics of food hubs with focus for both producers and buyers, food safety and developing GAP plans, and estate planning and farm transitions.

The Local Foods Conference is sponsored by a collaboration of partners including: SDSU Extension, South Dakota Specialty Producers Association, South Dakota USDA Rural Development, Dakota Rural Action, the South Dakota Small Business Administration and the South Dakota Department of Agriculture.

The conference is meant to continue the dialogue on local foods among producers, growers, consumers, school nutrition programs, grocers, restaurants and resource providers.

Registration information can be obtained by visiting <http://www.iGrow/events> or contact Chris Zdorovtsov at christina.zdorovtsov@sdstate.edu or at 605-782-3290 for more information. The deadline to register is Oct. 20.



The dung beetle (Photo: MU Cooperative Media Group)

An Unsung Player

The Role Of Dung Beetles in Pasture Management

BY RITA BRHEL
P&D Correspondent

Bees and butterflies garner a lot of attention for their role in agriculture as pollinators, but there are other beneficial insects just as important to various segments of crop and livestock production.

Among these is the humble dung beetle.

“They are not very sexy or attractive in any way, unless you’re an entomologist,” said Jeff Bradshaw, an entomologist with the University of Nebraska-Lincoln’s Panhandle Research and Extension Center in Scottsbluff, Neb. He gave a presentation on the dung beetle’s role in ecological pasture management on the UNL campus in Lincoln on Aug. 31.

As the name suggests, dung beetles — of which there are more than 50 species in the Midwest — eat dung.

“Dung beetles like fresh manure. Pretty much as soon as it hits the ground, they’re flying in,” Bradshaw said, adding that the beetles fly as far as 1 to 5 miles to new dung piles, guided by their excellent sense of smell.

It’s a service that’s not quite at the same level in popularity as flower-visiting insects, yet just as vital. The worldwide economic value of dung beetles totals more than \$380 million every year, Bradshaw said.

Their primary role is in the nutrient cycle, breaking down livestock manure to be incorporated into the soil and used by plants, which are then grazed by livestock, continuing a natural recycling process that eliminates the need for costly production inputs and increases profit potential.

“Profit is going to dictate what we engage in that environment,” Bradshaw said. “What we’re talking about is really leveraging our natural resources.”

Managing pastures to increase dung beetle activity is part of what he labels as an agroecosystem management approach, which includes similar concepts like Integrated Pest Management, Insect Resistance Management and other preventative practices that use proactive, natural biological systems in lieu of cure-oriented, chemical techniques to control pests.

“[Pesticides] should be second-line defense,” Bradshaw said, keeping environmental — and economic — sustainability in mind. “Generally speaking, curative processes can be expensive.”

Overall, dung beetles are a proactive way farmers can “try to capture as much

service, how can we manage cattle and rangelands in a way to maximize dung beetle occurrence, thereby increasing the profit to ranchers. They provide an ecosystem service benefitting not only plant communities but also livestock yield,” Whipple said, adding that dung beetle activity can improve cattle grazing by 5 to 10 percent in terms of acreage not covered by manure.

So the type of manure matters, but so does quality of the forage as — in this study — manure composed from high-quality smooth brome was preferred by dung beetles over low-quality smooth brome.

“Dung beetles can be pretty particular about the type of dung they can use,” Bradshaw said. “Some are more generalists with manure. Some are more specialists with manure.”

Dung beetles seek out manure from animals grazing specific plant materials. For example, in Australia, the native dung beetles prefer manure from marsupials versus cattle, which are not native to the continent. So when cattle were introduced to Australia, their manure required a controlled release of imported African dung beetles that preferred feeding on large mammal manure.

According to Whipple, dung beetles can break down manure in an average of 48 hours what other environmental effects, such as weathering and other insects like ants and earthworms, would only be able to do after a couple years.

Another UNL study found that type of pasture management made a difference in dung beetle populations, as well.

“Rotational grazing practices do yield higher dung beetle activity compared to continuous grazing,” Bradshaw said. And, “once they’re attracted to a general area, they’re more likely to stay in that general habitat area than to move out to another habitat unless the resources run out.”

Recent UNL research on dung beetles has uncovered ways of how producers can attract dung beetles to their properties. One study showed that there tends to be higher dung beetle activity in smooth brome pastures as well as cover crops.

“The whole idea of my research is since they provide such a good

function from natural systems as we can,” he said.

Beyond nutrient cycling, dung beetles have several secondary roles in pasture management, such as the suppression of dung-breeding insect pests like stable flies and increased soil aeration and moisture-holding capacity caused by the beetles’ digging behavior.

“Biodiversity is an indicator of success,” Bradshaw said. “Functional diversity is at least as important as biodiversity.”

“They provide a good service that not a lot of insects do, and they do it very efficiently,” said Sean Whipple, another UNL entomologist working with Bradshaw, in an UNL press release. “It’s a topic that can benefit research not only in the entomology community, but has the potential to benefit agriculture as a whole. If we can get to a point where we can manage dung beetles and figure out what they need, ... we have a way to improve our range management practices.”

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SEAN WHIPPLE

What Follows: Summertime Climate After An El Niño Winter

BROOKINGS — El Niño is here to stay ... at least through the winter season, explained Laura Edwards, SDSU Extension Climate Field Specialist.

“It is one of the primary drivers of our climate that affects us on a multi-year scale here in North America,” Edwards said. “In South Dakota, very strong El Niño conditions, like we have this year, usually mean warmer than average conditions in the winter season.”

But what happens in the growing season following an El Niño winter? “As fall harvest season is upon us, it will soon be time to make some early seed and chemical purchasing decisions for the 2016 crop year, and perhaps some information about those summer seasons will help inform those decisions,” Edwards said.

She explained that the current El Niño, as determined by sea surface temperatures in the Pacific

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Laura Edwards

Ocean, is ranked as number two or three among the strongest El Niños since 1950. The comparable years are 1982-83 and 1997-98.

Looking back at the May through September growing season following the 1982-83 and 1997-98 El Niño winters, Edwards said that in general, very strong El Niños tend to dissipate quickly.

“This limited size of just two growing seasons, combined with other variables creates some uncertainty in the summer season forecast,” she said. “In both summers of 1983 and 1998,

warmer than average conditions affected eastern South Dakota, with the largest temperature anomalies centered on Iowa.”

Differences arose in the precipitation for each season. Edwards said that in 1983, near average or wet conditions occurred statewide during the spring season. Then dry conditions prevailed most of the summer, during July, August and September. “At any given time during the 1983 growing season, there was some level of minor to moderate drought conditions some-

where in the state,” she said.

In 1998, June and July were notably wet in western/southwestern South Dakota, though the entire growing season ended up above average for rainfall in those areas. July 1998 had some short-term drought in the northern tier counties, and then September was exceptionally dry and warm.

“It is too early to tell for sure what summer 2016 will bring, but after looking at two recent summers following strong El Niños, it may be best to be prepared for some amount of warm and dry conditions,” Edwards said.

Edwards said East River counties tend to be more susceptible to drought dur-

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MORNING COFFEE

WEEKDAYS MONDAY-FRIDAY

Monday, October 12
7:40 am Yankton City Finance (Al Viereck)
8:20 am Yankton School Board (Matt Pietz)

Tuesday, October 13
7:40 am The Center (Christy Hauer)
8:20 am Hy-Vee Dietician (Kenny Tomek)
8:45 am Dakota Museum (Laura Beall)