

DAKOTA AG 2023



Biden signs bill to study salt lakes in dry west

SALT LAKE CITY (AP) — Scientists will get \$25 million to study salt lake ecosystems in the drought-stricken U.S. West, as President Joe Biden signed legislation recently allocating the funds in the face of unprecedented existential threats caused by the lack of water.

The funding allows the United States Geological Survey to study the hydrology of the ecosystems in and around Utah's Great Salt Lake, California's Mono Lake, Oregon's Lake Albert and other saline lakes.

Amid a decadeslong drought, less snowmelt has flowed through the rivers that feed into the lakes, causing shorelines to recede and lake levels to plummet.

Dwindling lake levels jeopardize the people, animals and businesses that rely on maintaining the ecosystem.

The lakes often serve as critical habitats for migratory birds. Dust exposed by receding water levels can be blown into the air and have dangerous health effects on surrounding communities. And further depletion threatens the canals and infrastructure that a multi-million dollar mining industry needs to extract salts from the lakes.

In Utah, the Great Salt Lake shrunk to its lowest point in recorded history, posing threats to economic output,

snowpack, public health and wildlife. Ski resorts worry about a future without lake effect snow. State lawmakers and local water district officials have committed to funding and incentivizing conservation efforts, yet development, population growth and enduring agricultural demand continue to strain the water supply needed to maintain the lake.

In eastern California, state officials have dramatically curtailed the amount Los Angeles can divert from the creeks and tributaries that feed Mono Lake in the eastern Sierras. Diminishing lake levels have for years made the water saltier, jeopardizing bird, fish and brine shrimp habitats.

The legislation establishes what it calls a "Saline Lake Ecosystems in the Great Basin States Assessment and Monitoring Program" to examine variables such as water use and demand and "climatic stressors."

Marcelle Shoop, the Saline Lakes program director for the Audubon Society, said in a statement that the funding would complement existing conservation efforts. "The Great Salt Lake and the network of saline lake ecosystems in the arid West face very serious challenges with increasingly low water levels, placing local communities and millions of migratory birds at risk," she said.



Although the legislation's sponsors — senators and congressmen from throughout the West — lauded the effort and said they hoped the studies would inform solutions, the program does not mandate any conservation measures or institute new water management guidelines.

"These ecosystems must be protected, but we can't do that without sufficient

data," Oregon Sen. Jeff Merkley, the bill's sponsor, said in a statement.

The bill adds to \$40 million that Utah lawmakers allocated to the Great Salt Lake for watershed enhancement programs this year and supplements \$10 million in Army Corps of Engineers funding for the saline lakes passed as part of a defense spending bill.

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Feds spend \$930 million to curb fire crisis

BILLINGS, Mont. (AP) — The U.S. is directing \$930 million toward reducing wildfire dangers in 10 western states by clearing trees and underbrush from national forests, the Biden administration announced recently, as officials struggle to protect communities from destructive infernos being made worse by climate change.

Under a strategy now entering its second year, the U.S. Forest Service is trying to prevent out-of-control fires that start on public lands from raging through communities. But in an interview with The Associated Press, U.S. Agriculture Secretary Tom Vilsack acknowledged that the shortage of workers that has been plaguing other sectors of the economy is hindering the agency's wildfire efforts.

He warned that "draconian" budget cuts floated by some Republicans, who control the U.S. House, could also undermine the Democratic administration's plans. Its goal is to lower wildfire risks across almost 80,000 square miles of public and private lands over the next decade.

The work is projected to cost up to \$50 billion. Last year's climate and infrastructure bills combined directed about \$5 billion to the effort.

"There's one big 'if,'" Vilsack said.

"We need to have a good partner in Congress."

He added that fires on public lands will continue to threaten the West, after burning about 115,000 square miles over the past decade — an area larger than Arizona — and destroying about 80,000 houses, businesses and other structures, according to government statistics and the nonpartisan research group Headwaters Economics.

Almost 19,000 of those structures were torched in the 2018 Camp Fire that killed 85 people in Paradise, Calif.

"It's not a matter of whether or not these forests will burn," Vilsack said. "The crisis is upon us."

The sites targeted for spending in 2023 cover much of Southern California, home to 25 million people; the Klamath River Basin on the Oregon-California border; San Carlos Apache Reservation lands in Arizona; and the Wasatch area of northern Utah, a tourist draw with seven ski resorts. Other sites are in Idaho, Oregon, Nevada, Washington state, Colorado, New Mexico and Montana.

The idea is to remove many trees and other flammable material from hotspots that make up only a small portion of fire-prone areas but account for about 80% of risk to communities. Vilsack said officials will seek to restore "old-growth forest

conditions" — meaning fewer but larger trees that can be resilient against fires.

House Natural Resources Committee Chairman Bruce Westerman said he was glad to see the Biden administration taking "long-overdue action" and streamlining forest management rules. But Westerman questioned why more money will be spent this year even as new projects include fewer acres compared with last year, according to administration documents.

"The Forest Service is still recklessly spending valuable taxpayer dollars with little to no accountability," the Arkansas Republican said in a statement.

A Vilsack aide said there were "no apples-to-apples comparisons" between costs among the landscapes, which differ in terrain, access and the state of the forest. Staffing and equipment issues also factor in, and the differences can make some areas more expensive and time-intensive, spokesperson Marissa Perry said.

"We work to treat not only the most acreage we can, but where it makes the most difference with the resources available," she said.

Some said the administration remained overly focused on stopping fires — a near-impossible goal — with not enough money and resources going

to communities and people at risk, including the elderly and people with medical conditions or disabilities.

"Given the scale of how much needs to be done, we are just skimming the surface," said Headwaters Economics researcher Kimiko Barrett. "Risks are increasing at a scale and magnitude that we haven't seen historically. You're seeing entire neighborhoods devastated."

Vilsack said the projects announced so far will help reduce wildfire risk to around 200 communities in the western U.S.

Warming temperatures have dried out the region's landscape and driven insect outbreaks that have killed millions of trees — ideal conditions for massive wildfires.

The impacts stretch across North America, with smoke plumes at the height of wildfire season in the U.S. and Canada sometimes causing unhealthy pollution thousands of miles away on the East Coast.

Last year's work by the Forest Service included tree thinning and controlled burns across 5,000 square miles of forest nationwide, Vilsack said.

"We're very targeted in saying, 'Here's where we need to go to reduce the risk,'" Forest Service Deputy Chief Chris French told the AP.

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Studies show more than half of children injured in farm-related accidents are not engaged in any farm work.

Playing in grain: A deadly risk for kids

Always potential for tragic results

From UNMC, Central States Center for Agricultural Safety and Health, Omaha, NE

Even those who grew up on the farm might not realize how dangerous it is to allow children to play in grain in any setting or for any reason.

Jana Davidson, program manager at Progressive Agriculture Foundation (www.progressiveag.org), had not fully realized until she began working with the foundation the hidden and deadly dangers associated with grain storage.

"Several years ago, I participated in a mock grain entrapment rescue a few years ago," Davidson said. "It was so eye opening. Even though everyone involved knew it was a controlled and safe situation, we all felt the solemn impact of realizing the consequences of grain entrapment. Even the person being rescued was somewhat traumatized afterward by the event."

Davidson points out that parents are the first teachers their child will encounter, which makes serving as a role model and placing safety first in every agricultural setting so important.

"Parents should always role model safe behavior,"

she said. "Sometimes our children experience ag safety training and come home to serve as our trainers and safety advocates. Even though we've done something hundreds of times without incident, we must understand tragic incidents can happen if we aren't working in a safe manner."

Often, the public believes that victims of injury and accidents on the farm involve youth who are working there. However, 60% of farm-related accidents involve children who were in an agricultural setting but not engaged in any farm work.

"Some children are in the wrong place at the wrong time," Davidson said. "There are times when a child's perception of the dangers is skewed because at some time they may have had a fun experience without realizing the inherent danger of activities such as petting a calf, playing in grain, or being close to a farm animal or equipment."

Children should be taught that petting a calf at a fair or agritourism event in a controlled setting is far different than attempting to pet a calf while it's in a pasture or pen with the mother cow or other cattle. It's important for them to recognize the dangers of encountering farm animals outside a controlled situation.

"If you see things involving children in a farm setting or at events such as a festival or ag tourism

activity that concern you, it can be addressed without a confrontation," Davidson said. "Approach the person in charge of the event and explain your concerns. Have some options and alternative suggestions to share. We want to avoid being just negative, but also try to offer one or more solutions to the issue."

Corn boxes which children can play in like a sandbox are popular at many agritourism and farm festival events. However, inherent dangers associated with this type of activity include choking hazards if a child attempts to swallow corn kernels, allergic or asthmatic reactions to the grain or chemicals used to grow it, kernels of corn stuck in a child's ear or nose, etc. Animals may be attracted to the grain and leave behind feces. Playing in corn may be seen by the child as appropriate, leading children to enter grain bins and other grain storage units, sometimes with tragic consequences.

An alternative to a corn box is a sand box or a water table, which have become very popular with children.

Davidson and her colleagues have also witnessed safe play areas for children being added at various farm shows to not only provide a safe space for the children to play, but to educate both parents and attendees on how these can be replicated on the farm to ensure the play area is separate from the busy, working farm.

Wyoming Gov: 'Make hay' and save surplus

CHEYENNE, Wyo. (AP) — Booming oil and gas revenue has put Wyoming back among states with big budget surpluses but Republican Gov. Mark Gordon cautioned lawmakers Wednesday to save, not splurge, out of concern that tough times will eventually return.

"As a Wyoming rancher, I know the value of a good hay year. Because they do not always come around, it is important that we make hay when the conditions are right," Gordon told a joint session of the Wyoming Legislature in his annual state of the state speech.

Gordon often sprinkles his speeches with cowboy references. When Wyoming a year ago was still clawing back from a deficit that threatened to top \$1 billion, he compared the state's struggles with low oil prices and the COVID-19 pandemic to a hard cattle drive.

Now, Wyoming's looking at a surplus approaching \$1 billion, thanks to higher energy prices. Wyoming is a leading producer of oil and gas and the top U.S. producer of coal, an industry with fewer gyrations but in steady decline nonetheless.

While the biggest state, California, has turned from surplus to deficit, the least-populated state, Wyoming, joins several now flush. They include New Mexico, a major oil and gas producer

looking at a \$3.6 billion surplus.

North Dakota's revenue outlook also has improved thanks to oil revenue, while others with stronger-than-expected revenue and lower spending have surpluses in the billions: South Carolina, \$3.8 billion; Hawaii, \$1.9 billion; Wisconsin, \$6.6 billion; Massachusetts, \$2.6 billion; Minnesota, \$17.6 billion; and Texas, as much as \$30 billion.

Some states including Massachusetts plan to give money back to taxpayers. In New Mexico, Democratic Gov. Michelle Lujan Grisham proposes to tap surplus money to provide \$750 individual rebates.

Grisham also proposes to hire more local police, pay for free meals at all public schools, expand tuition-free college, create a new medical school endowment at the University of New Mexico and make new investments in affordable housing.

While Gordon cautioned against big spending, he's asking legislators who kicked off a two-month session recently to set aside half of Wyoming's surplus in state savings accounts. Wyoming has a two-year budget; he made the suggestion in a supplemental budget released in November.

But he also outlined a few spending priorities in his state of the state speech. They include more raises for state employees including snowplow drivers, troopers,



nurses and social workers; maintaining funding for the state economic development agency, the Wyoming Business Council; and store water amid pressure to send more down the Colorado River drainage.

Even if Gordon wanted, the state's overwhelmingly Republican statehouse would be unlikely to bulk up a budget he

described as the leanest in a decade, with an eye toward the state's boom-and-bust economy eventually sliding back to bust.

"And leaner times appear likely. Supply chains, inflation, tight labor markets and other economic uncertainties may conspire against us," Gordon said. "The actions we take today have meaning."



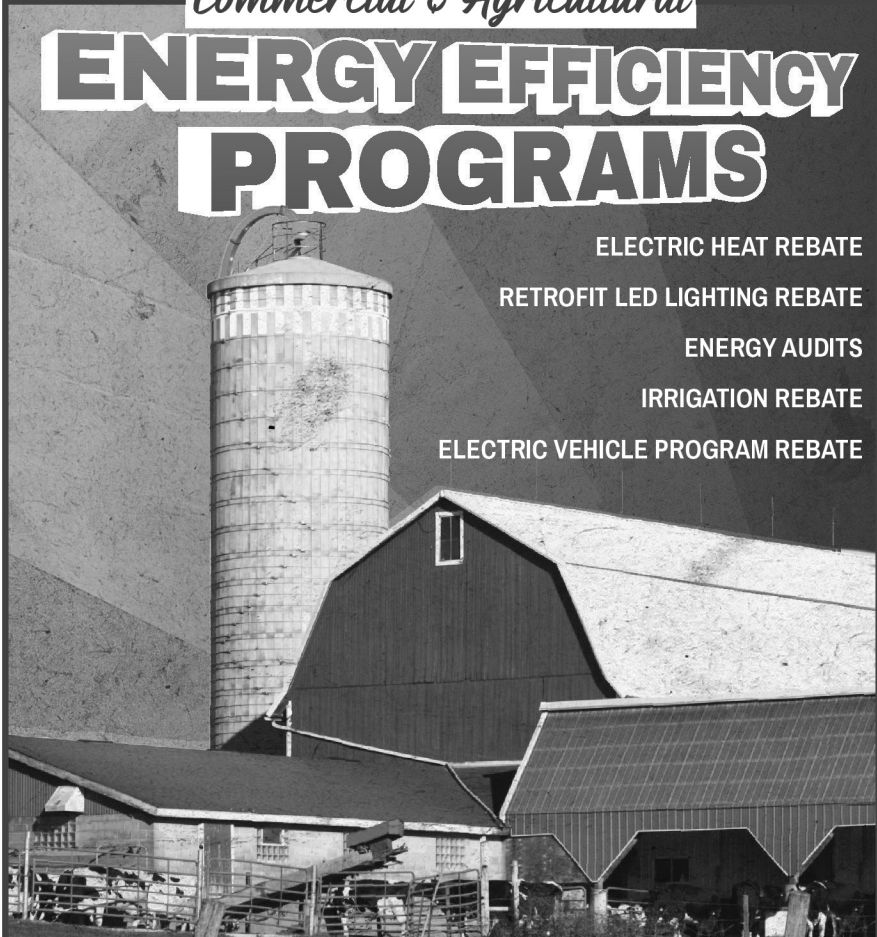
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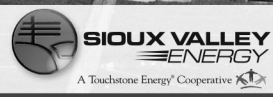
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School lunch goes farm-to-table



Associated Press

Chef Josh Gjersand prepares a sandwich for Mount Diablo High School students to try during a taste test in Concord, California. The school district in suburban San Francisco has been part of a national “farm-to-school” movement for years, where schools try to buy as much locally as possible.

n For some kids, nuggets are a thing of the past

Associated Press

CONCORD, Calif. — As the fine-dining chef at her high school served samples of his newest recipes, Anahi Nava Flores gave her critique of a baguette sandwich with Toscano salami, organic Monterey Jack, arugula and a scratch-made basil spread: “This pesto aioli is good!”

Classmate Kentaro Turner devoured a deli-style pastrami melt on sourdough and moved on to free-range chicken simmered in chipotle broth with Spanish-style rice. “Everything is delicious!”

These are not words typically uttered in school cafeterias.

The food served at the suburban San Francisco school system, Mount Diablo Unified, reflects a trend away from mass-produced, reheated meals. Its lunch menus are filled with California-grown fruits and vegetables, grass-fed meats and recipes that defy the stereotype of inedible school food.

Among American schoolchildren, these students are in the lucky minority. Making fresh meals requires significant investment and, in many areas, an overhaul

of how school kitchens have operated for decades. Inflation and supply chain disruptions have only made it harder on school nutrition directors, widening gaps in access to affordable, high-quality food.

What’s more, federal money to boost lunch budgets has declined. The government last year ended a pandemic-era program offering free school meals to everyone. A few states, such as California, have been paying to keep meals free for all students, but most states went back to charging all but the neediest kids for meals.

Increases in money from California’s state government have made it possible for Mount Diablo to buy fresher local ingredients and hire the chef, Josh Gjersand, a veteran of Michelin-starred restaurants. Local farms, bakers, creameries and fishermen now supply most ingredients to the district, which serves 30,000 students from wealthy and low-income communities east of San Francisco.

On a recent January morning, student taste testers were sampling Gjersand’s latest creations. His daily specials have ranged from barbecue spare ribs to fresh red snapper on a whole-grain brioche bun.

“I love the idea of serving students better food,” said Gjersand, who quit restaurants during the pandemic, when serving a wagyu-beef-and-caviar crowd lost its luster. “School cafeterias should feel like

restaurants, and not fast food chains.”

School systems elsewhere can only dream of such offerings.

“Financially, we are dying right now,” said Patti Bilbrey, nutrition director for Arizona’s Scottsdale Unified School District. It charges students \$2.85 per lunch, but that no longer comes close to covering the district’s cost.

A staff shortage makes it impossible to cook more food from scratch, she said. The school relies on mass-produced food that is delivered, then reheated. The pizza: “It’s done; you just bake it.” The spicy chicken sandwich: “You heat it and put it on a bun.” The corn dogs: “You just have to wrap it,” she said.

Some students give the food positive reviews. “I eat spicy chicken every day. That’s my favorite,” said Hunter Kimble, a sixth grader at Tonalea Middle School, where almost 80% of students still qualify for free or reduced-price meals.

Eighth grader Araceli Canales is more critical. The school serves an orange chicken that she says makes her cringe. “The meat is like a different color,” she said. At a recent lunchtime, Araceli picked at a chicken Caesar salad, noting the croutons were bland and hard. “The chicken tastes OK, but I want them to cook it longer and add more seasoning.” When the bell

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rang, she tossed most of her salad in the garbage.

Not many schools can afford gourmet offerings like Mount Diablo's, which also benefits from California's year-round growing season. But school menus in several places have improved in the past decade, with fresher ingredients and more ethnic dishes, said School Nutrition Association spokesperson Diane Pratt-Heavner.

The pandemic, however, created new obstacles.

In a national survey of 1,230 school nutrition directors, nearly all said the rising costs of food and supplies were

their top challenges this year. More than 90% said they were facing supply chain and staffing shortages.

The survey by the nutrition association also found soaring levels of student lunch debt at schools that have returned to charging for meals. The association is urging Congress to resume free breakfast and lunch nationwide.

"This is the worst and fastest accumulation of debt I've seen in my 12 years in school nutrition," said Angela Richey, nutrition director for the Roseville and St Anthony-New Brighton school districts in Minnesota, which serve about 9,400 students.

They don't turn away a hungry child, but this year's school meal debt

has surpassed \$90,000, growing at a rate of over \$1,000 a day.

Making food from scratch isn't just healthier, it's cheaper, many school nutrition directors say.

But that's only possible when schools have kitchens. A national shift away from school kitchens began in the 1980s, which ushered in an era of mass-produced, processed school food. Pre-made meals delivered by food service companies meant schools could do away with full-time cafeteria staff and kitchens.

"If you don't have a kitchen to chop things up, there's not much you can do with fresh vegetables," said Nina Ichikawa, executive director of the Berkeley Food Institute, part of a team evaluating a California farm-to-school incubator grant. She describes California's investments as undoing past damage.

In 2021, California committed to spending \$650 million annually to supplement federal meal reimbursements — money for food, staff, new equipment and other upgrades.

Additionally, hundreds of millions of dollars are available for kitchen infrastructure and for schools that cook from scratch and buy from California farmers.

In California's rural Modoc Unified School District, near the Oregon border, lunch menus reflect what the state is trying to change: a rotation of hot dogs, chicken nuggets, pizza, burgers.

There are vegetables, as required by federal guidelines, but usually not fresh. "I try not to do canned veggies more than twice a week," said Jessica Boal, nutrition director for the district of 840 students.

The district's five schools lack functional kitchens, so her staff spends half the day unpacking deliveries of processed, pre-made food. But Boal is excited about change on the horizon. The district recently applied for state grants to put new kitchens in every school and bring in more produce.

At Mount Diablo High School, there are still hot dogs and hamburgers, but the meats are grass-fed.

"I haven't served a chicken nugget here in two years. And the kids don't miss it," said Dominic Machi, who has reimaged meals for the district since he became nutrition director five years ago.

Students at the school, 96% of whom belong to a racial or ethnic minority group, say the attention to quality food sends a message of respect.

The school is in a neighborhood of fast-food strip malls. But inside its walls, "this food makes me feel more important. It makes you feel good to not eat trash food," said Kahlani Cravanas, 16.

Anahi Nava Flores, 17, said the meals instill a sense of self-worth. "When you go to a high-end restaurant, you go home feeling good about life. That's what this food does."



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Experimenting with compost

By **STAN WISE**
South Dakota Soil Health Coalition

PIERRE – Healthy soil requires healthy, active biology beneath the surface. This includes bacteria and fungi. While the five principles of soil health — soil cover, minimal disturbance, living roots, diversity, and livestock integration — all work to protect and promote these critical organisms, some researchers and producers are experimenting with methods to jumpstart the growth of soil biology to improve soil health.

One popular method is to grow fungi and bacteria in a compost pile and then use the compost to make a liquid extract that can be applied to fields using foliar sprays, in-furrow treatments, and seed coatings.

Creating the mix

“Composting is mixing the right materials in the right ratios,” South Dakota Corn Director of Sustainability Jim Ristau said. While there are several different methods, he said, “It’s a matter of mixing carbon and nitrogen and moisture and then managing the heat and oxygen.”

Ristau said that in an aerobic compost, “you’re trying to get about a 30-to-1 carbon-to-nitrogen ratio in the pile.” He said that dried out straw or hay could be a source of carbon in the pile while manure or alfalfa could be a source of nitrogen. Charts can be found online that indicate how much carbon and nitrogen are in common source materials, he added.

“You’re going to want about 30 percent green material that has some moisture to it,” Ristau said.

Another key ingredient, Ristau said, is some undisturbed soil rich with the native microbiology. This soil could come from an old shelterbelt, homestead, or

native grass prairie. “You’re inoculating a pile with that biology,” he said.

Jim Williams is a producer near Herrick who grows corn, soybeans, wheat, and cover crop. He started using no-till practices in 2004 and cover crops in 2008.

“I made my first compost in 1969,” Williams said. “I was only in seventh grade.”

At a young age, Williams mastered compost for his garden, but after attending a compost workshop led by Elaine Ingham in 2018, he decided to use compost extract to improve his farm, as well. “I knew the extract was going to work because I had enough compost experience from the past that I just instantly knew it was right,” he said.

Williams now sprays compost extract on his fields, uses it as an in-furrow treatment, and coats his seed with it, as well. He credits the practice with improving compaction in his fields. “The biology is what broke up my compaction,” he said. “It’s everything together. It’s not just biology — it’s biology and cover crops. Cover crops alone, I wasn’t able to do it, but as soon as I added the biology, it broke through my compaction layers.”

He said he also saw increased yields when he started the practice in 2018, but those have declined over the last two years of drought. Still, he is quick to point out that in his wheat, “the flag leaf stays green to the end with no fungicide,” and he hasn’t used a fungicide or insecticide since 2017.

Williams makes 50-foot windrow-style piles with a soaker hose on top for moisture. “I like straw, but it has to be straw that hasn’t had fungicide and insecticides,” he said. He also uses some immature grass hay, alfalfa hay, and some fresh-cut grass from his road ditches, which have a lot of medium red clover in them. “I like

to add some fresh grass to the piles because it’s got the live organisms,” he said.

Williams also uses hay off a native prairie, aged manure, compost from a previous pile, wood chips (which must be aged for six months before use in a compost pile), and undisturbed soil from a tree row, old homestead site, or native prairie — wherever is likely to have healthy fungal life. “That’s the whole purpose of the compost is to try to get fungi back in the farm fields,” he said.

Finally, Williams adds rock dust or soft rock phosphate, bone meal, blood meal, soybean meal and dried molasses.

Managing the pile

Once the materials are added to the compost pile, it will begin to heat up, even in cold temperatures.

“It works just fine in the dead of winter,” Ristau said. “It’s amazing.”

The pile needs to reach an internal temperature of 131 degrees Fahrenheit for three days, and then it’s ready to be turned. If the temperature goes higher than that, it will need to be turned sooner. “If it gets to 150 then you don’t want to go more than two days, and if it gets to 165 you want to turn it,” Williams said. “And that’s kind of the rule of thumb. I mean, it can be at 165 for a day, but then you want to turn it because if it gets hotter than that, it starts killing the good microorganisms.”

Williams said his piles need to be turned four or five times before the temperature drops, and then he lets them sit for 10-11 months; though, Ristau said the pile could be ready for extraction in as few as 30-60 days.

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Photo courtesy of Jim Ristau
 This compost created by South Dakota Corn Director of Sustainability Jim Ristau reached temperatures as high 170 degrees and was still 140 degrees on its seventh day. It will be turned one more time and then be allowed to cool undisturbed for six to eight weeks before being used to create an extract.



Applying the extract

To create an extract, Williams and Ristau use similar methods. They place some of the compost in a 500-gallon conical tank of water and run forced air into the bottom of the tank. After that aeration process, some of the material sinks to the bottom of the tank and some floats to the top. Williams and Ristau harvest about 350 gallons from the middle of the tank, filter it, and put it in an 800-gallon sprayer. The sprayer is then topped off with water and a diluted food source for the microorganisms, which could include molasses or fish hydrolysate. Then it's ready for the field.

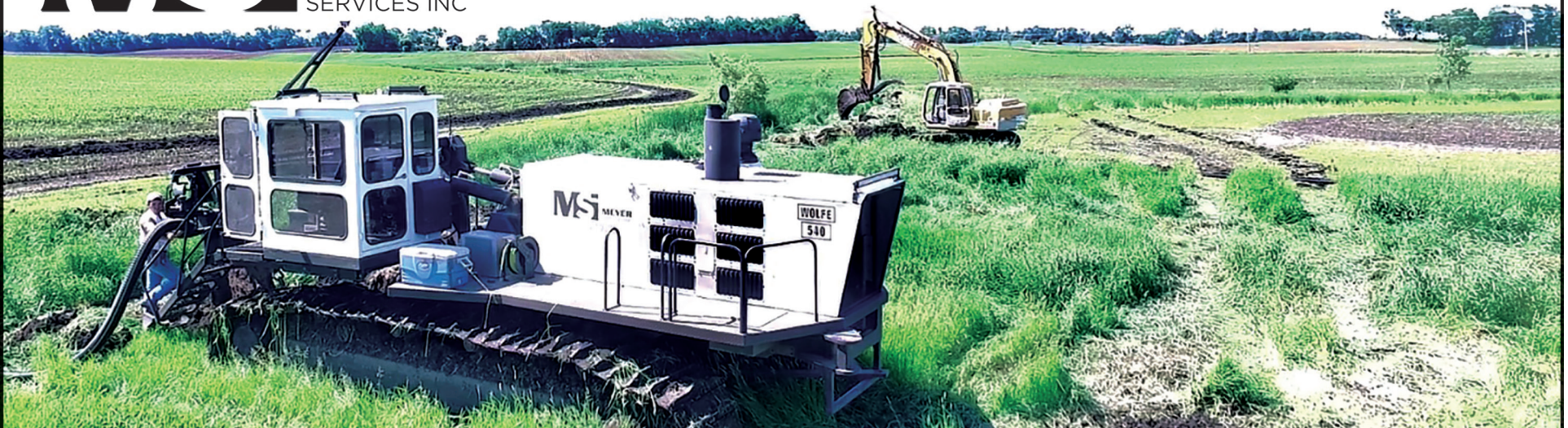
"I spray in the fall after harvest on the ground, and then I use it in-furrow when I plant," Williams said. "Corn I like to spray about 5-6 inches high and then for sure again before I can't get through it. Beans I like to spray at first trifoliolate then at first bloom, and wheat gets sprayed in the fall and then in the spring when it's maybe three- to five-leaf and then at first head when it's heading."

Researchers are still working to determine the value of compost and the best composting methods and applications. "Even though these practices are not what most farmers are doing to meet the fertility needs of the growing crop, we need to explore the potential for this to work," Ristau said. "The upside potential of reducing fertilizer input costs and improving nutrient efficiency would be a huge benefit to improving the sustainability of our farms and ranches."

For his part, Williams is pleased with the results on his farm. "I'm not going to stop doing it," he said.

To learn more about soil health management practices, visit www.sdsoilhealthcoalition.org.

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Electrocution threats exists near all high lines

From UNMC, Central States Center for Agricultural Safety and Health, Omaha, NE

It is difficult to protect yourself from a hazard you don't recognize. On the farm, electrocution claims the lives of approximately 62 agricultural workers each year, people die in fires caused by faulty electrical systems, people are injured through electrical shocks and burns, and property is damaged or destroyed due to incidents involving electricity.

Overhead power lines are a common source for on-farm electrocution fatalities. Lines may have been installed without insulation or the insulation may have worn off due to exposure from weather. The safest approach to working around overhead power lines is to assume that they are bare.

Unlike birds, that can sit on a power line without any consequence, when humans touch overhead lines, they are in contact with the ground at the same time. This gives the electricity a channel to flow through, which results in electrocution.

Other common electrocution hazards on the farm include degradation of electrical wire insulation from rodents, weathering, etc.; improper wiring, corrosion of electrical connections, moving irrigation pipes, using electricity in dusty conditions found inside agricultural buildings, and more.

Farm equipment that's often involved in overhead power line contact includes tractors with front-end loaders, portable grain augers and elevators, dump trucks, feed trucks, irrigation pipes, equipment with antennas, and folding implements.

When using dump trucks, the operator should be aware of the location of overhead power lines before raising the bed and should not move the truck or trailer while the bed is in the raised position. Areas with overhead lines should be clearly marked. Typically, if a raised bed contacts a power line, the operator will not be at risk as long as they remain inside the vehicle, because the tires provide insulation.

However, if anyone standing on the ground touches the dump truck or trailer while it's in contact with overhead lines, that person could be electrocuted.

A loader tractor or telescopic load may be used to handle hay. Because booms on these types of equipment may reach as high as overhead power lines, hay should not be stored under power lines.

Around grain bins, the National Electrical Safety Code (NESC) requires power lines to be at least 18 feet above the bin's highest point of any bin constructed since 1992. Whenever a new grain bin is installed, a licensed electrician should be consulted to assist with placing electrical

service lines. Lines may also be buried to reduce electrocution risk. Local utility officials can also help evaluate line height issues on the farm site.

When moving equipment beneath a power line, clearance should be at least 10 feet between the power line and the highest point on the equipment. Keep in mind that implements such as a fold-up planter will be taller when folded up than when they're used in the field.

Everyone involved in planting and harvest activities must be trained to recognize potential electrocution hazards. Clearly identify any area where there are electrocution hazards related to overhead power lines when equipment is used or moved.

Electrocution hazards related to standby generators include using the transfer switch to remove the farm's electrical system from the power company's utility lines. This switch prevents electricity generated by a farm operation's emergency power system from entering the power company's utility lines and protects from electrocution those power company workers who service lines during an outage. The switch also protects the generator when power is restored.

Always use the transfer switch when your standby generator is in operation. Make sure all workers know the location

of the transfer switch.

If your tractor contacts a power line, stay on the tractor. Immediately ask someone to contact the local utility company to resolve the danger. In the event that there's a need to leave the equipment (i.e. an electrical fire), jump as far away from the equipment as possible. Do not allow any part of your body to touch the equipment and the ground at the same time. Hop with your feet together to prevent electrical conduction through your legs.

Once you're away from the equipment, never attempt to get back on it or touch it. It's not unusual from an operator to dismount the equipment and, realizing that they're OK, to get back on the equipment and being electrocuted in the process.

Prevention is the best way to avoid emergencies. Respect electricity and take every precaution to avoid contact with overhead power lines.

Four important electrical safety devices and features to be aware of are fuses and circuit breakers, GFCIs, grounding, and polarization. Fuses and circuit breakers help protect an electrical system from current overload, but they don't protect people from electrical shock.

A ground wire provides an alternate path for electricity to flow back to ground potential if an electrical short occurs.

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New app creates soil social network



USDA-NRCS South Dakota photo

With the Growing Connections app, finding answers to soil health questions has never been more convenient. Experienced professionals and producers have volunteered to offer their advice as mentors on the app, making the process of finding trustworthy information quick and easy.

By JANELLE ATYEO
For the South Dakota Soil Health Coalition

PIERRE — South Dakota farmers, ranchers and gardeners are making strides in improving soil health, and they're willing to share what works and what doesn't. A new app from the South Dakota Soil Health Coalition aims to make it easier to reach out to fellow farmers and soil health experts.

Growing Connections, accessible as a smart phone app and from a web browser, is like a social network focused on soil health. Users can post questions about no-till practices and cover crops, for example, and get feedback from those with experience. They can participate in group discussions or reach out directly to a mentor who has expertise in a certain practice or knowledge of a particular region of the state.

"It seems like anyone involved in soil health is more than willing to share their experiences with anyone that will listen," said Darin Michalski, who runs a cow-calf operation west of Willow Lake.

It was helpful for him to reach out to a friend when he started transitioning to no-till, he said, especially when resisting the temptation to till again.

"Is there any AA for no-tillers?" he said.

That's where Growing Connections can help. With a network of farmers, gardeners, agronomists and soil health experts, there's sure to be someone with sug-

gestions for solving a problem. Growing Connections users can also post articles or learn about events related to soil health.

It's a time saver, as Caputa rancher Shawn Freeland sees it.

He and Michalski learned much of the soil health practices they use on their farms by attending tours and workshops, hearing talks by experts in the industry like Cronin Farms agronomy manager Dan Forgey from Gettysburg, and gathering opinions from others they met at conferences and events.

Not everyone can take time to get away, said Freeland, who serves as vice chairman of the South Dakota Soil Health Coalition board of directors.

Growing Connections can provide instant feedback.

"Our goal was to be able to connect producers in the palm of their hands," said Cindy Zenk, coordinator for the South Dakota Soil Health Coalition.

If farmers out in their corn field notice the crop isn't emerging, for example, they can take a photo or video, post it to Growing Connections and get a response immediately. They can connect with others and choose the best management decision to make their operation more sustainable, Zenk said. Professionals from South Dakota State University Extension, the Natural Resources Conservation Service and the South Dakota

Grassland Coalition can give feedback, as well as other farmers and ranchers.

"It's an opportunity to connect," Zenk said.

Users can search for mentors by name, area or by project, such as cover crops, livestock, or no-till gardening. Questions can be posed to the entire group of registered mentors or users can interact one-on-one with a single mentor. Users can reach one another by messaging through the app or making a phone call.

Zenk hopes it will help people make connections more quickly and that those relationships will be long-lasting.

"The best people to learn from are the people who are doing it," she said.

Michalski, the Willow Lake farmer, likes the concept. "I like that everybody is available to talk," he said.

Freeland wishes he would have had a mentor readily available to answer questions as he started implementing soil health practices at his ranch on the edge of the Black Hills.

"It would have been a lot easier to get on and find someone to chat with," he said. "There might have been somebody closer."

Both men are more than willing to share what they've learned. They've hosted tours and regu-

See APP, page 13



USDA-NRCS South Dakota photo

The Growing Connections app will help users form connections with other producers, landowners, and gardeners with valuable insight about soil health management practices.

Continued from page 12

larly answer questions about rotational grazing and grazing cover crops, for example.

Freeland hopes that the app and the social network it creates will help speed the process of improving soil health across South Dakota.

“Soil health is bigger than just raising healthier crops or higher yielding crops,” he said. “It’s a lasting change for generations to come. If we can accelerate that process and get the word out quicker with this app, I think that’s what we’re after.”

The app is available for free in the Apple App Store and Google Play store, and the web version can be found at www.growingconnectionsapp.com. More information, including app usage instructions, can be found at www.sdsoilhealthcoalition.org/growing-connections-app.

More information about the Growing Connections app was presented in a session during the 2023 Soil Health Conference, Jan. 24-25 in Sioux Falls. Information about the conference can be found at www.sdsoilhealthcoalition.org/soil-health-conference.



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Joshua Michel photo

Recent drought conditions increase potential for combine fire during this year's harvest. Here are some tips to prevent that from happening.

Tips to prevent combine fires starting

From UNMC, Central States Center for Agricultural Safety and Health, Omaha, NE

No one wants equipment to go down during harvest, especially if it's due to a combine fire.

To help manage and prevent a combine fire, Joshua Michel, Iowa State University Extension and Outreach field agronomist, recommends practicing several safety principles before and during harvest season.

"Look at your local forecast," Michel says. "When dry conditions persist, windy conditions increase potential for combine and field fires. That's especially true when winds are strong and humidity is low. There's a lot of dry corn stalks and bean residue, things are dustier, and all it takes to start a fire is a spark from an engine, overheated bearing, or contact with the exhaust manifold."

As technology advances, today's combines are larger and more powerful, which means they generate more heat during operation. Fire needs two sources for combustion: heat and fuel.

"You can't get away from the heat a combine generates," Michel says. "That means we have to do a good job of removing the fuel source that's near the heat. Keep that combine clean, especially around the engine compartment. Use a high-pressure washer or compressed air to get rid of caked on oil and grease.

Get any crop residue and dust off. The cleaner you keep it, the less potential there is for fire."

Other maintenance tasks that help reduce fire risk include checking coolant and oil levels every day, especially if the combine features an engine turbo charger. During operation, there may be wear and tear on some areas which could lead to an oil or coolant leak.

"A good practice is to frequently blow off any leaves, chaff or plant material," Michel says.

"You could use a leaf blower if a pressure washer or compressed air isn't available. It's best to get that done at the end of the day. If you wait till morning, dew may make it more difficult to get the plant materials off the machine."

In addition to clearing the exterior of the combine, search for plant material that wrapped up on the machine near bearings, belts, or any place where friction occurs since friction is what produces heat.

"Check the exhaust system and make sure nothing is leaking, including fuel, oil, any hoses," Michel says. "Inspect and clean any recessed areas near fuel tanks and lines. I know I sound like a broken record but keeping the machine clean is the best way to prevent a fire."

When it's time to refuel, take 10 to 15 minutes to allow the combine to cool down. This reduces the

risk for gasoline or diesel fuel volatilization and igniting fumes.

"Research suggests that, if we have dry conditions, which we see this year across much of the Midwest, coupled with wind speeds in excess of 20 to 30 miles per hour, combine and field fires are nearly inevitable," Michel says. "As dry as the growing season has been, things dry out even more in fall. Producers may want to consider if they can delay harvest until we have some moisture on the ground."

Michel notes that even a shower that brings a tenth of an inch of rain can help significantly reduce fire risk.

"Obviously, producers still need to get into the field, but whatever can be done to reduce the risk of fire will be beneficial," Michel says.

Most farm equipment is covered by insurance, however, in today's economy, obtaining necessary repairs or equipment replacement could be challenging and take a significant amount of time.

"Do all you can to prevent a fire," Michel says. "Even if you think you smell something, it's better to call for help first, then inspect to see what's happening. No one will complain if they reach the field to find there's no fire to put out or you've managed to control it with your fire extinguisher."

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