



ACROSS OUR COMMUNITY

Visiting with the Locals

Exploring innovations in agricultural production, water usage and conservation across OTEC's service territory

By Lisa Jacoby

Dr. Pat Hayes sweeps a hand toward the stalks of grain around him, the field of barley swaying gently in the breeze of a hot summer day. This isn't an ordinary crop — in this Summerville field, various varieties of barley are planted in blocks and marked with signs designating a specific type on trial by Oregon State University.

Pat heads up the Barley World project at OSU. He is assisted by Laura Helgerson, who manages the greenhouse, and Scott Fisk, who is in charge of the malt house. Both Laura and Scott grew up in Baker City.

On July 31, Pat led a barley tour of the experimental field, along with Darrin Walenta, OSU Extension agronomist for Baker, Union and Wallowa counties.

"We live in an area well suited for the production of spring grains," Darrin said. This particular field, located in the north end of the Grande Ronde valley, tends to be wetter than other areas, so the barley seed wasn't planted until late May — about a month later than usual. The varieties are mostly malt barley, which is used to make beer.

"The opportunities are here (for malt barley). We just need the markets," Pat said.



On July 31, Dr. Pat Hayes led a tour of OSU's experimental "Barley World" project.

"Full Pint" barley is a variety developed by OSU 15 years ago. Rows of this are growing at the trial fields in Summerville. It is, Pat explains, a dwarf variety and the first suggested name was "Half Pint."

"But nobody wants a half pint — everyone wants a full pint," he said, eliciting chuckles from the local farmers who came to learn more about growing barley. "Full Pint" is a two-row barley, which means the stalk has two rows of grains. It is resistant to stripe rust and leaf rust, and studies are showing that it contributes to the flavor of beer.

"It is a bit harder to malt than other types of barley," said Pat. "But

when people figure out how to manage it, it can stand up (to other malt barley)."

Currently, "Full Pint" barley is featured in three Eastern Oregon beers: "Copper and Gold" by Side A Brewing in La Grande; "Pallet Jack" by Barley Brown's in Baker City; and "A Beer Named

Sue" made by Prodigal Brewing in Pendleton. OSU is also test growing a new barley called "Oregon Promise" — a cross between "Full Pint" and "Golden Promise," which was released in Scotland in the 1960s.



"Full Pint" is a variety developed by OSU 15 years ago that is used by several Eastern Oregon breweries.

"Oregon Promise" is being tested to see if it contributes to beer flavor," said Pat. "The answer is yes." This particular variety includes taste attributes from both "Full Pint" (malty and toasty) and "Golden Promise"

(fruity and floral). "Sometimes you might get lucky — these could have interesting flavor properties," he said, sweeping a hand across the many trials contained in the

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barley field. OSU is also testing types that can be planted either in the fall or in the spring.

"It would give you, as a grower, greater flexibility," he told the farmers.

Another type is naked barley, which has no hull, unlike the "covered barley" variety. OSU currently has two naked varieties—Buck and Streaker, two names that bring more laughs from the crowd.

"It threshes clean, like a wheat," said Pat. "Generally, naked barley is used for food products and covered barley is preferred for the malting process."

OSU's Barley World isn't contained to the field—work on either end is completed at OSU in the greenhouse and the malt house. A mini malter was created about six years ago as a joint student project between the Barley Project, mechanical engineering and fermentation science departments.

"The Barley Project," Pat explained, "is focusing on 'grain to glass'—from a field of barley to a drinkable product." Malt barley is gaining traction as a profitable crop. "Historically, it's been hard to start with a crop of barley and think what to do with it."

Enter the current world of craft brewing.

Tom Hutchinson runs Gold Rush Malt in Baker City. He sources local barley in Eastern Oregon, which he malts and then sells to local craft brewers. He can process 4,000 pounds at a time. Right now, nearly all his stock is malted OSU "Full Pint" that was grown in North Powder and Enterprise. His malt is used in craft beers by

Barley Brown's in Baker City, Side A Brewing in La Grande, 1188 in John Day, Steens Mountain Brewing in Burns, and Prodigal Son in Pendleton.



Darrin Walenta, OSU Extension agronomist for Baker, Union and Wallowa counties, shares a model of the Nelson R-33LP (low pressure) sprinkler head.

Photo: Lana Reitzler-Stokes

Sprinklers

Crops rely on a water source, and Austin Hawks is quite impressed with a new sprinkler head that conserves energy by using fewer kilowatts. "That's a huge savings for us," he said.

Austin is an instructor for the OSU Ag and Natural Resources

we're seeing more show up," he said.

This sprinkler head, called a Nelson R-33LP, uses the same amount of water as a traditional sprinkler, but requires less pressure to operate. A lower pressure also means less fatigue on the infrastructure of the irrigation system.

"We have an old machine," he said. Prior to installing the new sprinklers, Austin said the system ran at 80 psi. Now that number is cut in half and has decreased the stress on the mainline.

The Nelson sprinkler uses a modified trajectory, which Austin said is good in windy conditions and allows

more water to reach the ground. "It looks funny," said Austin. "People think, 'we don't see the water coming out, so it's not working.'"

The OSU center program, which irrigates 600 acres, has not been entirely switched over to the new sprinklers. Austin still uses brass impact heads on the fields where cattle graze because the old-style type is a bit more sturdy. "Cows get curious, and these are plastic," he said of the low-pressure sprinklers. "We've seen pretty dang good results," he said of the Nelson R-33LP. "And they are unique—they look like R2-D2."

Sprinklers such as this one that conserve energy qualify for incentives from OTEC. Also, farmers can replace sprinkler heads separately, rather than having to revamp an entire line. "You don't have to replace your whole system—just replace what's broken," said Susie Snyder, OTEC energy program representative.

Incentive programs such as this are partially funded through OTEC member's electric bill payments and are offered through the



A grain in the hand. Tom Hutchinson's finished "Gold Rush" malt is shipped to several Eastern Oregon breweries.

Photo: Lisa Jacoby

program at Eastern Oregon University in La Grande. He's tested the new sprinklers on the OSU-Eastern Oregon Agriculture Research Center in Union and revamped the irrigation system with the new sprinklers three years ago.

"When we put these in, there weren't many in the valley. Now

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SAFETY FIRST



If you are inside farm machinery that makes contact with a downed power line, know what to do!

If you can drive safely away from the power source without bringing down the utility pole and lines, travel at least 40 ft. before exiting.

If you are unable to drive the machinery due to injury, obstacles or it is inoperable, do NOT exit. Call for help and warn anyone nearby NOT to approach.

Stay focused on safety during harvest

If the vehicle is on fire, or you must exit for other safety reasons, follow these steps:

1. Jump clear of the vehicle. Do not let any part of your body or clothes touch the ground and the machinery at the same time.
2. Land with feet together and hop away in small steps to minimize the path of electric current and avoid electric shock.
3. Keep going until you are at least 40 ft. away.
4. Call for help. Make sure no one gets within 40 ft. of the downed line.
5. Do not re-enter the area or vehicle until emergency responders and your electric co-op crews determine it is safe.



During harvest season, many farmers reap the benefits of advancement in agricultural technology. With the help of GPS auto-steer devices, farmers are able to decrease driver error and maximize productivity. Yet despite these advances, safety risks remain. To help farmers stay out of harm's way, we'd like to share some tips for a safe harvest.

GPS with auto-guidance provides farmers with real-time location data about a field, which can be used for crop planning, map making, navigation assistance and machinery guidance. During harvest, this technology allows drivers to have their hands off the steering wheel as the combine maneuvers itself through the field. Thanks to this technology, farmers can more easily and efficiently maintain accuracy even during low-light conditions, which enhances productivity.

One critical part of safety around electricity is awareness. It's important to remember that farm machinery is vulnerable to hitting power lines because of its large size, height and extensions. Being aware of the location of overhead power lines and planning a safe equipment route can help reduce accidents.

In equipment with auto-guidance systems, less focus is needed on

steering, which may lead some drivers to think that they do not need to be as aware of navigation issues. However, even while using a GPS with auto-steering, farm workers need to keep safety in mind and stay focused on their surroundings.

Putting safety first requires alertness, focus and knowledge of potential hazards and safety steps. Varying pass-to-pass accuracy levels and potential issues, such as power poles not being correctly plotted in the system, reinforce the need for drivers to stay focused on the location of the farm equipment while in the field and to be ready to take action if necessary.

Regardless the technology used on the farm, keep the following electrical safety guidelines in mind:

- **Use a spotter when operating large machinery near power lines.**
- **Keep equipment at least 10 feet from power lines—at all times, in all directions.**
- **Look up and use care when moving any equipment such as extending augers or raising the bed of grain trucks around power lines.**
- **Inspect the height of farm equipment to determine clearance.**

- **Always set extensions to the lowest setting when moving loads to prevent contact with overhead power lines. Grain augers should always be positioned horizontally before being moved.**
- **Never attempt to move a power line out of the way or raise it for clearance.**
- **If a power line is sagging or low, contact your local OTEC office and let us know.**

If your equipment does make contact with a power line, do not leave the cab. Immediately call 911, warn others to stay away and wait for the utility crew to cut the power.

The only reason to exit equipment that has come into contact with overhead lines is if the equipment is on fire, which is rare. However, if this is the case, jump off the equipment with your feet together and without touching the ground and machinery at the same time. Then, still keeping your feet together, hop to safety as you leave the area.

For more information on electrical safety, visit www.otecc.com. ●

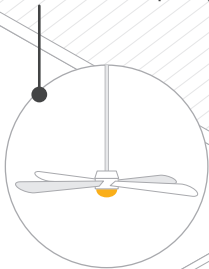
SAVING ENERGY AND SAVING MONEY

Heating and Cooling Tips for Manufactured Homes

If you own a manufactured home, take measures to ensure you have an efficient heating and cooling system. You can also make simple improvements that save energy and make your home more comfortable.

\$ Install ceiling fans

Install ceiling fans throughout your manufactured home. Ceiling fans are energy efficient and can be used to keep warm or cool air moving throughout your home. Be sure to turn them off when you're away. Remember, ceiling fans cool people, not rooms.

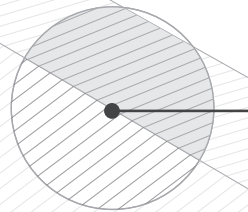


\$ Option for smaller budgets

\$\$ Option for flexible budgets

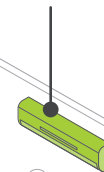
\$\$ Efficient roof color

Choose a light-colored roof if you live in the southern part of the U.S. and a dark-colored roof if you live in the northern U.S.



\$\$ Install a mini-split system

Eliminate unnecessary heating and cooling by installing a single zone strategy throughout your manufactured home. A zone system allows you to save energy by only heating or cooling rooms that are occupied.



ZONE 2

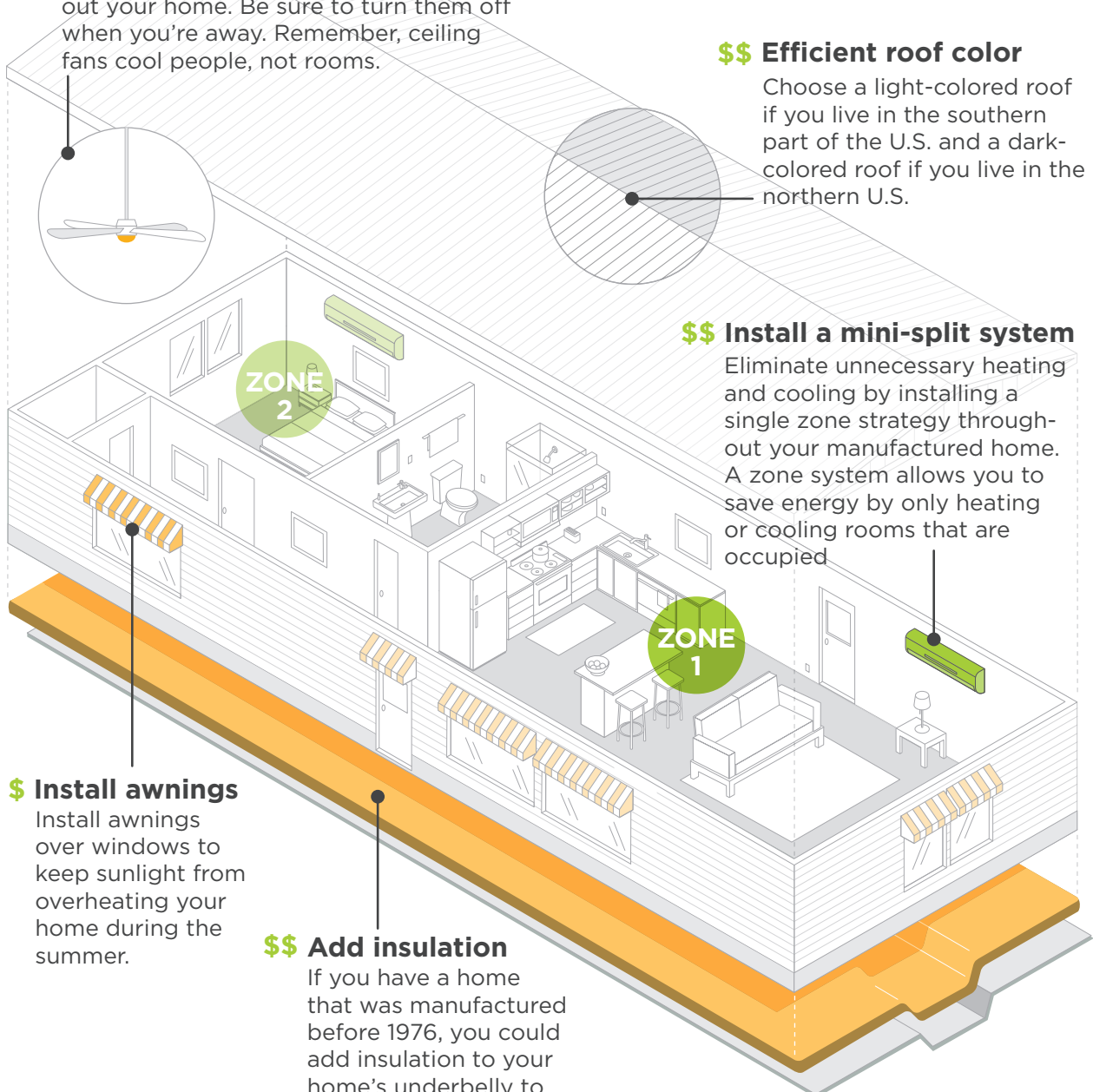
ZONE 1

\$ Install awnings

Install awnings over windows to keep sunlight from overheating your home during the summer.

\$\$ Add insulation

If you have a home that was manufactured before 1976, you could add insulation to your home's underbelly to reduce any heat loss.



Source: U.S. Dept. of Energy

FROM THE BOARDROOM



Have a question for the board?
 Email: BoardSupport@otecc.com

*Upcoming Board Meetings:
 September 26 October 24 November 14*
*Meeting dates, times and locations are
 subject to change. Please call 541-524-2831
 to confirm or for more information.*

Photo: Lara Peiffer-Stokes

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Bonneville Power Administration. OTEC purchases it wholesale power from BPA, which is mandated by the federal government to focus on energy conservation.

"We encourage utilities to implement the measures we have available," said Tom Osborn, energy engineer for BPA in Walla Walla, Washington. Those measures change with technology, and the current ones for irrigation help reduce horsepower and use new sprinklers that are more efficient at getting water to the soil.

"Sprinkler systems have progressively moved closer to the ground," said Tom. "Now it's 'how low can you go?'"

New strategies being reviewed are low-pressure in canopy (LPIC), low-elevation sprinkler application (LESA) and Mobile Drip Irrigation (MDI).

Turning wastewater into income

Water is a rare commodity across Eastern Oregon, and the city of John Day is working on a project to utilize treated wastewater in a hydroponics system to grow crops for the local area and beyond.

Nick Green, city manager of John Day, said the city's current mechanical treatment plant was built in the 1940s and upgraded in the 1970s. The city needs to replace the system and has proposed a Class A water treatment facility that will produce 80 million gallons a year of pathogen-free, nitrogen-rich water to grow leafy greens, herbs and fruit.

"We want to take that 80 million gallons and turn it into cash crops," Nick said. "We have received commitments from our local grocers to purchase 100 percent of what we produce up to their annual buying quotas and they will buy from us at their wholesale prices, so we already have a market for our product before we have a product."

Income from the greenhouses will go into the city's sewer fund, which in turn will reduce the cost to residents. The system, in addition to addressing food security, will also provide jobs.

"By next August, the facility will employ at

least two full-time employees — the agribusiness project manager and a head grower with a background in horticulture and greenhouse operations," Nick said.

The goal is to harvest by October 2018. Initially, volunteers will work on seed propagation and harvest, and additional staff will be added as revenue increases. The city owns 80 acres in town, which will provide land for the project to grow.

The projected yield is 31 tons per year, and Nick said they could eventually try specialty crops, such as hops.

"This is us trying to reinvent ourselves," Nick said. ●

Resources:
 OSU's Barley World
www.barleyworld.org
 John Day Wastewater Treatment Plant
www.cityofjohnday.com
 Gold Rush Malt
www.facebook.com/goldrushmalt/
 OTEC's Conservation Programs
www.otecc.com

RECIPE OF THE MONTH

Tammy's Huckleberry Vinaigrette



3/4 cup huckleberries **1 tbs.** red wine vinegar
2 tbs. honey **pinch** of salt
3/4 to 1 cup olive oil

A Call for Recipes

The window to pick fresh huckleberries is short. But, if you are lucky enough to get out there into the mountains and find them, the savory rewards are endless. Here is a new, unique recipe to use those precious purple treasures that is certain to please during the spectacular huckleberry season this year.

If you have a favorite summertime recipe to share, submit it along with a photo of your creation, your name and address to newsletter@otecc.com or mail to Newsletter, PO Box 226, Baker City, OR 97814. If your recipe is selected for our next issue, you'll get a \$10 bill credit. Happy Hunting!



Photo: Tara Pettifer-Stokes

Directions:

1. Clean fresh huckleberries, remove stems and leaves.
2. Combine all ingredients into a dressing bottle or bowl and mix well.
3. Drizzle over fresh cooked poultry, rice, salad greens, pasta, etc. If you like, sprinkle on some additional black pepper. Enjoy!

MANAGER'S MESSAGE

Looking Forward

Over the last several months, as part of our strategic planning process, the OTEC staff and Board of Directors have been meeting with key industry partners, community leaders and associated entities that are important to the future success of our communities, and our cooperative.

We hosted strategic discussions with Cooperative Finance Corporation (CFC), our primary lender, focusing on long term investments and key areas of strategic value they are seeing utilities invest in across the country. We sat down with Bonneville Power representatives to discuss power supply and transmission, the changing markets related to renewables like solar and wind, and how they may impact our wholesale rates on the Hydro system. We continue to visit with city managers, commissioners, and economic development



LES PENNING
General Manager

entities across our territory. These meetings have been designed to support our strategic planning process as we seek to clearly understand how they see the future and the challenges they face, so as a member owned cooperative we can best position OTEC to support those challenges.

As part of our vision and planning process, the board has signaled they want to ensure the cooperative continues to drive increased member satisfaction. In tandem with this focus we must leverage our operations and overall capabilities to support our communities that are trying to ensure long-term viability and health through growth.

The cost that OTEC incurs to maintain our electrical system can only be spread across the members we serve. With that being said, any growth that occurs across the system helps spread those costs over more

members and larger energy sales. Growth, even modest growth, helps stabilize the rates we pay.

As you know from previous communications, we are finalizing the budget and our cost of service study that inform the board on what our final rate requirements are. Typically, we strive to set rates that meet our financial requirements for a two-year period.

Our industry is rapidly changing and regulations and the market conditions we operate in remain volatile. Regardless, we still must operate in a world that requires long term infrastructure investments to support our member's needs while considering and managing technology changes that are impacting the industry in real time. We will best serve our member-owners if we are engaged, knowledgeable, innovative and focused on our member's needs for the future and creating conditions for success. ●