

Saluting Oregon Innovators



Eric Mortenson/Capital Press
Hiroshi Morihara believes briquettes made from woody biomass or crop residue can replace coal used to power electrical plants. His firm has developed technology to produce the briquettes.

Solution to a burning problem

By ERIC MORTENSON
Capital Press

GRESHAM, Ore. — Hiroshi Morihara jokes that his current project — finding a clean-fuel replacement for coal — was his wife's fault.

"Hiroshi," his wife, Mary McSwain, told him several years ago, "you look bored. Why don't you invent something again?"

On Oct. 18, Morihara's company announced it has refined a process for turning logging slash or other biomass into briquettes that can be burned in coal-fired electrical plants such as the one in Boardman, Ore. His company, HM3 Energy Inc., has built a \$4 million demonstration plant in Troutdale, Ore., just east of Portland. It plans to license the technology and sell it worldwide. A Japanese firm, New Energy Development Co., has invested \$2 million in HM3 and said it will build a production plant at an undisclosed location in Oregon.

The fuel is produced through a method called torrefaction, in which woody debris, crop residue or other plant material is essentially roasted in the absence of oxygen. The end product is a brittle, briquette-looking material that can be crushed and burned.

This story was first published Oct. 24, 2016.



Western Innovator

Hiroshi Morihara

Occupation: Founder, president and CEO of HM3 Energy Inc., Gresham, Ore.

Age: 79, but "Age is relative," he said.

Personal: Married to Mary McSwain. He's an expert skier and still teaches skiing at Mount Hood Meadow. He also runs, and has completed more than 50 marathons.

Ag connection: Invasive Western juniper trees could be a key feedstock for briquette plants. Ranchers, wildlife officials and land managers say removing junipers improves rangeland, restores watersheds and can improve habitat for sage grouse.

Nurseryman ventures into hemp

By MATEUSZ PERKOWSKI
Capital Press

Barry Cook doesn't want passersby to get too excited about the new crop he's got growing at his nursery in Boring, Ore.

The distinctive palm-like, serrated leaves that identify the plants as cannabis are bound to attract some unwanted attention, which is why Cook has posted his fields with signs that identify them as industrial hemp, marijuana's non-psychoactive relative.

The signs clarify that hemp contains zero THC, the psychoactive compound, and will produce no mind-altering effects if smoked, so stealing the plants is "not worth the headache."

"If we get robbed, we'll probably only get robbed once," Cook said.

The name of Cook's new venture — Boring Hemp Co. — is a double entendre referring to its physical location and the crop's lack of psychoactive properties.

While the legalization of marijuana in Oregon has spawned a multitude of new businesses seeking to capitalize on the crop, Cook believes hemp also presents big opportunities with fewer risks.

"I don't have the same security concerns as medical and recreational growers have," he said.

For now, the Boring Hemp Co. is focusing on producing hemp seeds, which have been



Mateusz Perkowski/Capital Press

Barry Cook, left, speaks with his son, Bo, in a field of hemp growing at his nursery in Boring, Ore. Cook, his wife and three sons are growing hemp as a way of diversifying the company.

in short supply as the nascent industry finds its legs in the state.

Next year, Cook plans to begin segregating male plants, allowing the females to produce seedless flowers from which one can extract cannabidiol, or CBD, a medicinal compound used to treat pain, seizures and inflammation.

The stems and stalks of the plant will be dried and stored until Oregon's hemp industry becomes more mature, in the hopes that processing facilities will be built to turn these byproducts into textiles, paper, rope, building materials or other goods.

"The plant has multiple income opportunities," said Cook.

At this point, Cook is taking a conservative approach by growing hemp on land that's

resting fallow between rotations of nursery stock.

This strategy will allow Boring Hemp Co. to get a sense of how much money can be earned from the crop and whether it's worth expanding.

"We're not quitting the nursery industry, but here is an annual crop that has a potential up side not only financially but environmentally," he said.

Research has shown that hemp's deep roots are valuable for soil structure and reduce the presence of undesirable nematodes and fungi. They're also used in "phytoremediation" of land by drawing heavy metals from the soil.

Hemp is already grown on a large scale in Canada for oilseed and fiber, but Cook thinks Oregon growers can establish a niche industry on a smaller scale because the plant's flow-

ers are the primary product. "We're doing it for different reasons," he said.

Boring Hemp Co. is starting as a family affair, with Cook's wife, Lee Ann, and three grown sons, Bo, Sam and Ty, involved in different aspects of the operation.

Bo is in charge of growing the plants, Sam will be developing a business plan and Ty will work with vendors and customers.

"They all communicate really well with each other," Cook said.

Venturing into hemp isn't the first time Cook has reinvented his agricultural enterprise.

In the early 1980s, upon buying his property, Cook raised raspberries, strawberries and blackberries but eventually grew tired of insufficient labor

Western Innovator
Barry Cook
Occupation: Business owner, nursery producer, hemp grower
Hometown: Boring, Ore.
Age: 58
Education: Attended the University of Montana
Family: Wife, Lee Ann, and three grown sons, Bo, Sam and Ty

and weather fluctuations that damaged the crops.

In 1996, he switched to growing various types of ornamental nursery stock while operating a hydro-seeding and erosion control company, Northwest Hydro-Mulchers, that continues to be the family's primary business.

Now, he's aiming to put his plant knowledge to use while exploring new territory by breeding hemp to maximize CBD while minimizing THC.

"We're hoping we can become more refined and accurate," Cook said.

This story was first published Sept. 26, 2016.

A glass of bubbly, Oregon-style: Davis adds sparkle to wine production

By ERIC MORTENSON
Capital Press

McMINNVILLE, Ore. — Oregon wine is already a big deal, especially the internationally acclaimed Pinot noir coming from the Willamette Valley and other regions, but the next big thing may be bubbling up.

Industry observers say sparkling wine is on the verge of breakout production and could become the American version of high-quality bubbly associated with the Champagne region of France. And if that happens, the industry will raise a glass to Andrew Davis, whose Radiant Sparkling Wine Co. is making it possible for even small wineries to produce what they've long known was possible but didn't pencil out.

Making sparkling wine takes more time, equipment and storage space than most wineries can afford. Davis, a veteran of Oregon's wine scene, provides a mobile unit that bottles on-site for the critical secondary fermentation period. He also prepares a yeast culture specific to his client's wine and provides consultation on the harvest.



Andrew Davis

Since starting in 2013, Radiant Sparkling Wine has grown its client list to 34 vineyards. Sparkling wine sits three to five years

before it's ready to drink, and much of what Davis and his clients have produced is just beginning to trickle out. Early reviews indicate the reception is "astounding," Davis said.

Davis previously worked 10 years at Argyle Winery in Dundee, which was an Oregon pioneer in making sparkling wine. Given that experience, "I knew the promise of sparkling in the Willamette Valley," he said.

He also knew the vintners interested in making sparkling wine would be shooting for the same quality — and spendy price range — as their Pinot noir. They wouldn't want to produce simple wine with big bubbles, "Big gushy wines that want to gush out of the glass," as Davis puts it. "We will never shoot for \$15 to \$20 for sparkling."

Making sparkling wine by

Western Innovator

Andrew Davis

Position: Founder of Radiant Sparkling Wine Co., McMinnville, Ore.

What he does: Provides consulting and a mobile bottling operation to produce sparkling wine using "methode champenoise."

Online: <http://radiantsparkling.com/>



what's called the "methode champenoise," or Champagne method, is a lengthy, complex process.

The wine, most often made

from slightly under-ripe Pinot noir or Chardonnay grapes, is fermented in a barrel first, then bottled for the secondary fermentation, which includes add-

ing the yeast and a bit of sugar. The bottle is sealed with a temporary "crown cap." Next is the "riddling" process, in which the bottles are set at an angle, neck down, so cloudy yeast particulates settle at the opening. The bottle necks are later frozen, turned upright and the cap removed. Pressure forces out the frozen bits of yeast in a process called "disgorging."

Last comes the cork, foil covering and the familiar wire halter that holds everything in place.

This story was first published April 10, 2017.

Agricultural Drone Analysis
Your Crop Is Talking To You.
Are You Listening?
FREE DEMO! **CALL NOW!**
OVERSPRAY **Water Leak**
SKY | SNAP **WEEDS**
208-514-7860
Serving Idaho, Oregon, Washington • www.skysnap.us

2017 PIONEER 700 M2

- 4X4 • 3-SPD. AUTO TRANSMISSION
- LIQUID COOLED • FUEL INJECTION
- 12 MONTH WARRANTY

MSRP \$10,499

TAYLOR honda sports
Serving Farms & Ranches for 53 Years - 1964-2017
YOUR AUTHORIZED FULL SERVICE DEALER

TONS OF ACCESSORIES • EASY FINANCING
• FULL SERVICE DEALERSHIP • COMPLETE LINE OF HONDA ATVS

2140 N. Pacific Hwy. 99E • Woodburn, OR • Open 8-6 Tues-Sat.
(503) 981-1813 • 800-981-1813 • www.taylormotorcycles.com

honda.com PIONEER IS ONLY FOR DRIVERS 16 YEARS AND OLDER. MULTI-PURPOSE UTILITY VEHICLES CAN BE HAZARDOUS TO OPERATE. FOR YOUR SAFETY, BE RESPONSIBLE. ALWAYS WEAR A HELMET, EYE PROTECTION AND APPROPRIATE CLOTHING. ALWAYS WEAR YOUR SEAT BELT, AND KEEP THE SIDE NETS AND DOORS CLOSED. AVOID EXCESSIVE SPEEDS AND BE CAREFUL ON DIFFICULT TERRAIN. ALL MUV DRIVERS SHOULD WATCH THE SAFETY VIDEO "MULTI-PURPOSE UTILITY VEHICLES: A GUIDE TO SAFE OPERATION" AND READ THE OWNER'S MANUAL BEFORE OPERATING THE VEHICLE. NEVER DRIVE UNDER THE INFLUENCE OF DRUGS OR ALCOHOL. ON PUBLIC ROADS OR WITH MORE THAN ONE PASSENGER, DRIVER AND PASSENGER MUST BE TALL ENOUGH FOR SEAT BELT TO FIT PROPERLY AND TO BRACE THEMSELVES WITH BOTH FEET FIRMLY ON THE FLOOR. PASSENGER MUST BE ABLE TO GRASP THE HAND HOLD WITH THE SEAT BELT ON AND BOTH FEET ON THE FLOOR. RESPECT THE ENVIRONMENT WHEN DRIVING. PIONEER is a registered trademark of Honda Motor Co., Ltd. 12/17 M.S.R.P. does not include \$690 in destination charges. Visit powersports.honda.com to view applicable destination charge amount. A117-2/#7

Your banker should own a pair of boots.

When you choose Banner Bank, you'll get 125+ years of agribusiness experience and the tailored solutions you deserve. All from a partner dedicated to building relationships that help your business and community thrive.

Let's create tomorrow, together.

bannerbank.com Member FDIC

A117-2/#6