

# Oregon

## Biochar project seeks to demonstrate its application to ag

By ERIC MORTENSON  
Capital Press

An ongoing biochar project in Southern Oregon might clarify the agricultural role of a product and technology that has been talked about for years and has fervent backers, but hasn't yet broken through to commercial success.

Coordinated by the Umpqua Biochar Education Team (UBET) and funded with a two-year, \$75,000 grant from USDA's Natural Resources Conservation Service, 10 farmers have spent the past year learning to make biochar and combine it with compost for application on pastures.

"The idea was to work with farmers who have livestock and take two waste streams — manure and woody debris — and combine them to make a really valuable soil amend-



Courtesy of Marcus Kauffman, Oregon Department of Forestry Consultant Kelpie Wilson, right, helps unload a farm-scale biochar kiln during a recent conference at Oregon State University in Corvallis. Welding students at Umpqua Community College have built kilns for a group of farmers experimenting with making and applying biochar.

ment," said Kelpie Wilson, a biochar consultant who helps coordinate the work.

The farms involved range from a century farm of almost

1,000 acres that raises grass-fed beef to a small hobby farm of perhaps five acres, and producers who raise dairy goats, pastured pork and sell eggs at

### Online

The project is online at <http://ubetbiochar.blogspot.com>

farmers markets. The farms are in Douglas, Jackson and Josephine counties.

The UBET team is documenting the work and at the end of the grant period will produce technical papers that can be shared by extension offices and followed up by NRCS.

The Umpqua work will increase understanding of biochar and its benefits, said Todd Peplin, Conservation Innovation Grant program manager for NRCS in Portland. Small farms may be the first avenue for its agricultural application, he said, and the conservation grant program is well-matched to support that work.

Biochar is essentially char-

coal produced by burning material such as logging slash or field straw in the presence of little oxygen. The resulting material retains moisture and nutrients, sequesters carbon and has shown great promise to improve soil, boost crop yields, cleanup old mining sites, capture pollutants from stormwater runoff, absorb odor and other uses.

However, the technology's advance has been stop and go.

To some degree, the diversity of biochar sources and potential applications works against it. "It's too spread out, so it doesn't have a sector that's really a champion for it," said Tom Miles, who chaired an Aug. 22-25 biochar conference hosted by Oregon State University's College of Forestry. About 300 people attended the conference, including researchers, educators and producers.

Wilson, the consultant, said biochar production could be a natural for small farms that have burn piles and manure they need to deal with.

The project has resulted in spinoff activity at Umpqua Community College, where welding students are making farm-sized steel kilns that provide the controlled burning necessary to produce biochar. Students also participate in the kiln design process, Wilson said.

"That was part of our goal in the (NRCS) grant," she said. "We wanted to see if this could stimulate a new small industry in the area.

"I think a lot of rural landowners would like to have one of these," she said. Farmers "spend a lot of time burning things, and with this they can do it with very little smoke and get something for their effort."



Photos by George Plaven/EO Media Group  
Jeff Lorton, manager of the Oregon UAS Future Farm in Pendleton, discusses the Yamaha RMAX Type II agriculture drone Monday at the Columbia Basin Agricultural Research Center.

## 'Digital agriculture' on display at experiment station

By GEORGE PLAVEN  
EO Media Group

PENDLETON, Ore. — The Yamaha RMAX Type II drone growled like a motorcycle just before takeoff Monday at the Columbia Basin Agricultural Research Center.

Members of the Oregon Board of Agriculture watched from a safe distance as the unmanned helicopter hovered over a small plot of wheat stubble, carrying water to spray for imaginary weeds. Gust winds cut the demonstration short after a few minutes, but it was enough to prove how the technology is capable of helping farmers better manage their fields.

Specifically, agriculture drones like the RMAX are built with equipment that allows growers to spray crops more precisely, which not only saves money on herbicides and pesticides but also helps the environment by placing fewer chemicals into the soil. Other types of drones — like the experiment station's own "Octocopter" —



The Yamaha RMAX Type II agricultural drone took flight during a demonstration Monday at the Columbia Basin Agricultural Research Center north of Pendleton.

can fly different types of cameras and remote sensors over fields to determine where there might be a problem, or predict yields even before harvest.

Young Kim, CEO of a Virginia-based company called Digital Harvest, coined the term "digital agriculture" to describe this convergence of technology in the world of farming. Kim is now one of the leaders behind the Oregon Unmanned Aerial Systems Future Farm in Pendleton, a real-world testing ground

for how drones can be used to help farmers across the country grow more food, cheaper.

With the governor-appointed Board of Agriculture in town for its quarterly meeting, Kim said Monday's test flight at the experiment station north of Pendleton is part of the ongoing research and discussion of how drones will ultimately fit in agriculture, and what exactly they're capable of doing.

"Those are the kinds of things we want to test right here in Pendleton," Kim said. "We're in the market to learn."

Pendleton is now home to two RMAX drones, one of which is operated by Digital Harvest on the Future Farm and the other by Yamaha, which has opened a local office at the Eastern Oregon Regional Airport. Working as strategic partners, the two companies are trying to figure out how the vehicles can be used to safely and reliably spray crops at night, when there's less heat and wind that could cause some applications to go to waste.

## Poll: Support for Measure 97 erodes when voters hear pros/cons

By PARIS ACHEN  
Capital Bureau

An overwhelming majority of Oregon voters support a corporate sales tax measure on the November ballot, according to a new poll by icitizen, a nonpartisan survey firm.

It's the second poll in less than a week to show Measure 97 with a big lead, but the icitizen survey included several follow-up questions, which indicate that voters' opinions change when they learn more about arguments for how the gross receipts tax would work.

"This suggests messaging about the effect on an Oregonian's pocketbook can make for a tighter race in November, depending on either camp's ability to market the measure in their favor," said icitizen polling analyst Cynthia Villacis.

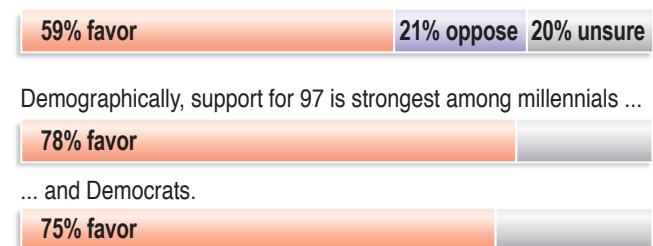
The measure, backed by a coalition of public employee unions, would levy a 2.5 percent tax on certain corporations' Oregon annual sales exceeding \$25 million.

The poll, taken from Sept. 2-7, found that 59 percent of 610 respondents favor the tax and 21 percent oppose it. After voters heard arguments against the measure, that support dwindled to 40 percent while opposition spiked to 31 percent. The poll has a 4 point margin of error.

For instance, 65 percent of respondents said they would be less likely to support the measure if they had to pay \$600 per year in the form of higher prices and lost job growth resulting from the tax. That figure is based on a May estimate by the nonpartisan Legislative Revenue Office.

### Support for Measure 97

The Oregon Business Tax Increase Initiative, also known as Measure 97, would increase the gross receipts tax from 0.1 percent to 2.5 percent on businesses with in-state sales over \$25 million. Nearly 6-in-10 Oregon registered voters support the initiative:



Source: icitizen/Pamplin Media Group poll Alan Kenaga/EO Media Group

Similarly, 59 percent of respondents were more likely to vote for the measure if the revenue were to fill a \$2 billion annual gap in funding needed for quality education in the state. That figure comes from the nonpartisan Quality Education Commission.

When asked how the money should be spent, the most common response — from nearly a quarter of those polled — was education spending.

The icitizen poll mirrors another independent survey, this one by DHM Research taken from Sept. 1-6, which found 60 percent of respondents support Measure 97, while 30 percent opposes it.

"At 60 percent (support) in back-to-back polls, Oregonians are clear they want corporations to pay their fair share," said Katherine Driessen, a spokeswoman for Our Oregon, the nonprofit advocacy group backing the measure. "When we share with voters that large and out-of-state corporations pay little or no taxes, they're eager to hold them accountable. They support 97 because Oregon voters know great schools and quality care for

our seniors makes Oregon strong."

So far, the campaigns for and against the measure have played out mostly on social media and in front of editorial boards and civic groups.

"Generally speaking, the numbers in the polls we're seeing is consistent with polling we've seen since last fall," said Pat McCormick, a spokesman for the Defeat the Tax on Oregon Sales. "The numbers haven't changed much because there hasn't been much robust campaign dialogue."

McCormick said campaigning usually heats up after Labor Day. The opposition campaign plans to debut its first television ad sometime this month, he said.

The debate between the campaigns centers largely on who will pay for the tax.

Opponents contend that consumers will pay for the majority of the cost of the tax, while supporters argue that many of the large corporations affected by the tax will absorb most of the extra cost into their national pricing scheme.

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