



Oregon Small Farm News

Oregon State University Small Farms Program



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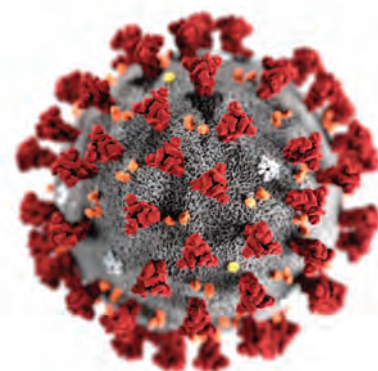
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Small Farms, Local Food, & COVID-19

What do you need to know?

By: Oregon State University Small Farms Program

Access to credible information is important during any public health crisis. Faculty in the OSU Center for Small Farms and Community Food systems are working with community partners to provide current information that is relevant for small farms and local food systems. As the pandemic progresses, we may update this information at <http://https://smallfarms.oregonstate.edu/smallfarms/covid-19>



Coronavirus. Photo provided by CDC.

How is COVID-19 spread?

COVID-19 is the disease caused by a novel coronavirus (SARS-CoV-2) that emerged in December, 2019. It is thought to spread mainly through person to person contact. The virus spreads in droplets or aerosols (fine spray) and can infect a new person through the eyes, nose and mouth. In addition to hygiene and sanitation, social distancing can reduce the likelihood that the virus is transmitted. Recent research shows that infected people with little to no symptoms may spread the virus, this accelerated the spread of the disease in China.

Scientists with the National Institute of Health, CDC, UCLA and Princeton found that the virus was detectable in aerosols for up to three hours, up to four hours on copper, up to 24 hours on cardboard and up to two to three days on plastic and stainless steel. The results provide key information about the stability of the virus, and suggests that people may acquire the virus through the air and after touching contaminated objects. Current guidelines are to maintain at least six feet between people to avoid contact with infected droplets.

Since this outbreak is during cold, flu and allergy season, it is helpful to differentiate symptoms of COVID-19 from other common illnesses. WebMD reports that “COVID-19 is a lower respiratory tract infection, which means that most of the symptoms are felt in the chest and lungs. That’s different from colds that bring on an upper respiratory tract infection, where you get a runny nose and sinus congestion. Those symptoms seem to be mostly absent for people with COVID-19, though they’re not unheard of.” According to Healthline, “the main symptoms of the novel coronavirus are fever, tiredness, dry cough, and shortness of breath.”

- WebMD: know the symptoms of COVID-19: <https://www.webmd.com/lung/news/20200310/know-the-symptoms-of-covid19>

- National Institute of Health: survival of the virus in aerosols and on surfaces: <https://www.nih.gov/news-events/news-releases/new-coronavirus-stable-hours-surfaces>
- Center for Disease Control: How COVID-19 spreads: <https://www.cdc.gov/coronavirus/2019-ncov/prepare/transmission.html>
- National Public Radio: It's time to get serious about social distancing. Here's how: <https://www.npr.org/sections/health-shots/2020/03/17/817251610/its-time-to-get-serious-about-social-distancing-here-s-how>
- 'Stealth transmission' fuels fast spread of coronavirus outbreak: https://www.eurekalert.org/pub_releases/2020-03/cums-tf031520.php
- World Health Organization: COVID-19 advice for the public: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public>

Am I likely to spread COVID-19 with the food I am selling?

COVID-19 is not considered a foodborne illness. It is always important to ensure that sick employees stay home from work, and that all employees practice good hygiene. The FDA, CDC, USDA, California Department of Public Health and European Food Safety Authority all report that there is no evidence that COVID-19 is spread through food.

- FDA: Food safety and the coronavirus disease: <https://www.fda.gov/food/food-safety-during-emergencies/food-safety-and-coronavirus-disease-2019-covid-19>
- USDA Coronavirus information: <https://www.usda.gov/coronavirus>
- California Department of Public Health: <https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/COVID-19/Coronavirus%20Disease%202019%20and%20Food%20Industry.pdf>
- European Food Safety Authority: <https://www.efsa.europa.eu/en/news/coronavirus-no-evidence-food-source-or-transmission-route>

What hygiene and food safety practices will help me prevent COVID-19 infection?

Sanitizers don't work on dirty hands or food contact surfaces: clean, rinse and then sanitize.

Farms should make handwashing stations and/or hand sanitizer available to all employees and customers. Employees should wash their hands whenever they may have become contaminated, such as after touching contaminated surfaces or touching their face. Hand washing and social distancing are some of the most important practices we can implement to reduce the spread of COVID-19.

Disposable gloves may be helpful in some circumstances, but only if they are used correctly.

Wash hands before and after putting on gloves, and change them if you touch a potentially contaminated surface. Detailed instructions for using gloves are provided in the link below.

Surface sanitizers are also an important tool for reducing the risk of spread. Disinfect food contact surfaces on a regular basis, including: reusable bins and buckets, railings, doorknobs, tables, etc. Identify shared equipment and other contact points, make a list and add to the cleaning regime. The World Health Organization has published instructions for small-scale production of hand sanitizers (see resources).

CDC recommends wearing cloth face coverings in public settings where other social distancing measures are difficult to maintain. The virus can spread between people interacting in close proximity—for example, speaking, coughing, or sneezing—even if those people are not exhibiting symptoms. Cloth face coverings fashioned from household items or made at home from common materials at low cost can be used as an additional, voluntary public health measure. The cloth face coverings recommended are not surgical masks or N-95 respirators, these are critical supplies that must continue to be reserved for healthcare workers and other medical first responders, as recommended by current CDC guidance

At markets, food sampling should be suspended to minimize touch points. Make sure that hand washing stations and sanitizers are available to your customers. Use disposable gloves when handling money or cards, and wash hands afterwards because they could be

contaminated with the virus. Designate separate people for handling money and handling produce and clean packaging. Consider pre-packaging food before going to the market to limit customer contact with the food.

At markets sampling is suspended to minimize touch points. Add a hand washing station. Vendors should practice good hand hygiene; use disposable gloves when handling money, when possible designate separate people for handling money/cards and handling products, and handle and package items for customers. If money is handled, hands should be washed or hand sanitizer should be used afterward. Consider pre-packaging food before going to the market to limit customer contact with the food. Each market vendor in Oregon must have a social distancing officer that enforces 6 foot spacing between people in the booth

Focus on hand-washing, social distancing, and surface sanitization.

- For Organic farmers:
 - Oregon Tilth: Sanitizers: <https://tilth.org/help-center/sanitizer-materials-restrictions/>
 - USDA: allowed detergents and sanitizers for food contact surfaces and equipment in Organic operations: <https://www.ams.usda.gov/sites/default/files/media/8%20Cleaners%20and%20Sanitizers%20FINAL%20RGK%20V2.pdf>.
- Oregon Farmers Market Association COVID-19 Guide <https://docs.google.com/document/d/1JHZRWVO17vxC9BqLVupdLNzZ19TTT-ZLXlkSFo74koc/edit>
- Proper glove use fact sheet: https://dmna.ny.gov/foodservice/docs/toolbox/proper_gloveuse.pdf
- Clean and Disinfect Information from CDC: https://www.cdc.gov/coronavirus/2019-ncov/prepare/cleaning-disinfection.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fcommunity%2Fhome%2Fcleaning-disinfection.html
- Environmental Protection Agency List N: disinfectants for use against SARS-CoV-2: <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>
- World Health Organization: Guide to local

production: WHO recommended handrub formulations: https://www.who.int/gpsc/5may/Guide_to_Local_Production.pdf

- Oregon Department of Agriculture – approved disinfectants for emerging pathogens: <https://www.oregon.gov/ODA/shared/Documents/Publications/PesticidesPARC/DisinfectantsforEmergingPathogensCOVID-19.pdf> .
- Michigan State University: disinfecting with bleach: <https://www.canr.msu.edu/news/covid-19-disinfecting-with-bleach>
- Center for Disease Control posters: Keeping workplaces, schools, homes and commercial establishments safe: <https://www.cdc.gov/coronavirus/2019-ncov/downloads/workplace-school-and-home-guidance.pdf>
- World Health Organization COVID-19 advice for the public: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public> –
- World Health Organization COVID-19 advice on using face masks: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/when-and-how-to-use-masks>
- Food and Drug Administration Food Safety and the Coronavirus Disease 2019 (COVID-19): https://www.fda.gov/food/food-safety-during-emergencies/food-safety-and-coronavirus-disease-2019-covid-19?utm_campaign=FSMA_COVIDcall_03172020&utm_medium=email&utm_source=Eloqua

What should I be communicating to employees?

Talk with your employees about Coronavirus, how it spreads, and how to prevent getting infected. You should review your sick leave policy with all employees. The first advice for people who are sick is to stay home. Anyone that has a fever, cough, and shortness of breath should call a medical provider before visiting a care facility. Do you provide paid sick leave for your employees? If you do not, will employees feel financially obligated to come to work even if they are sick? Employees sometimes come to work believing they will face punishment or firing if they miss work. Be sure your employees understand that their health and that of their co-workers' comes first. Communicate and make a plan to cover for sick

employees. See Fact Sheets in links below, provided in both English and Spanish.

Provide guidance to help employees clean and disinfect employer-provided housing. Follow up with employees and manage the process to be sure that this happens. Set up a regular weekly and daily schedule for cleaning.

- CDC guidance for cleaning homes: <https://www.cdc.gov/coronavirus/2019-ncov/community/home/cleaning-disinfection.html>
- Oregon BOLI: COVID-10/Coronavirus in Oregon: Facts about Sick Time: <https://www.oregon.gov/boli/WHD/OST/Pages/Index.aspx>
- COVID-19 Related Business Layoffs, Closures, and Unemployment Insurance Benefits <https://www.oregon.gov/employ/Pages/COVID-19.aspx>
- Info Sheet - Worker Health and Hygiene: <https://extension.psu.edu/worker-health-and-hygiene>
- Info – Disinfecting with Bleach <https://www.canr.msu.edu/news/covid-19-disinfecting-with-bleach>
- Info Sheet: Homemade Hand Sanitizer – Small scale recipe from World Health Organization formulation https://www.who.int/gpsc/5may/Guide_to_Local_Production.pdf
- Link to a handwashing video from Produce Safety Alliance: https://www.youtube.com/watch?v=h8EpFWAmq3o&feature=emb_title
- World Health Organization: Getting your workplace ready for COVID-19: https://www.who.int/docs/default-source/coronaviruse/getting-workplace-ready-for-covid-19.pdf?sfvrsn=359a81e7_6
- Multilingual resources related to COVID-19 <https://switchboardta.org/a-round-up-of-multilingual-resources-on-covid-19/>
- For Organic operations check with your certifier if you are in doubt about the NOP compliance of any inputs. Allowed detergents and sanitizers for food contact surfaces and equipment in Organic operations can be found here: <https://www.ams.usda.gov/sites/default/files/media/8%20Cleaners%20and%20Sanitizers%20FINAL%20RGK%20V2.pdf>
- For Organic operations: Cl₂ concentration in sanitizer

effluent must be less than 4ppm. NOP Guidance: The Use of Chlorine Materials in Organic Production and Handling <https://www.ams.usda.gov/sites/default/files/media/5026.pdf>

What should I be communicating to customers?

“FDA is not aware of any reports at this time of human illnesses that suggest COVID-19 can be transmitted by food or food packaging. However, it is always important to follow good hygiene practices (i.e., wash hands and surfaces often, separate raw meat from other foods, cook to the right temperature, and refrigerate foods promptly) when handling or preparing foods.” <https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/COVID-19/Coronavirus%20Disease%202019%20and%20Food%20Industry.pdf>

Emphasize that protecting public health is paramount to your business and share your food safety protocols to prevent the spread of infection. Currently there is no evidence to support transmission of COVID-19 associated with food. You can communicate to employees and customers that before preparing or eating food it is important to always wash your hands with soap and water for 20 seconds for general food safety.

Now is the time to benefit from our vibrant local food system! CSA, farmers markets, online ordering, etc. are all ways to reduce the number of hands touching your food. Fresh vegetables and unprocessed food help to promote good immune system function. For customers who feel the need to stock up on food products, encourage them to do so through their local farms. Emphasize items that store well and prepare meals with fresh produce that can be frozen. Reinforce the health benefits of fruits and vegetables.

Share the positives through your list serves and on social media! During this stressful time, our local food system is already set up to offer increased food safety to eaters. CSA models allow eaters to avoid crowds and grocery stores, and online and delivery systems are quickly ramping up to get local food to local eaters in the safest possible way.

What resources are available for the changes I might need to make to my business?

Your customers need access to food in order to stay healthy, and well managed local farms and food systems can be consistent with social distancing efforts that are critical during this pandemic.

- Wholesale markets: stay in touch with your buyer so that you know how they are responding to the outbreak.
- Direct to retail: Explore online sale platforms, see question below regarding options.
- Community Supported Agriculture: if pick up locations are sanitized and customers practice social distancing, CSA's may reduce the risk of spreading the virus.
- Farmers markets: stay in regular communication with your market manager. The Farmers Market Coalition in California is sharing information about COVID-19 response: <https://farmersmarketcoalition.org/farmers-markets-covid19/>. Limit market volume by promoting pre-ordering, alternate pickup locations, or delivery.
- Restaurant sales: Emphasize other direct-market channels because restaurant sales are plummeting in many cities during the pandemic: <https://civileats.com/2020/03/17/small-farms-also-struggle-as-restaurants-shut-down-due-to-coronavirus/>
- This guide from Purdue University can help you navigate these uncertain times by offering ideas on:
 - Changing your business model
 - Meeting the needs of the market
 - Reaching your customer base without increasing potential exposure to COVID-19
 - Continuing to generate income during this difficult period - <https://www.purdue.edu/newsroom/releases/2020/Q1/a-guide-for-local-producers-to-navigate-the-covid-19-outbreak.html>

What online sales systems can I use if farmers markets are closed or I close my farm stand?

Here are a few online sales platforms to check out, this is not a comprehensive list, nor are we endorsing any of these. We recommend reaching out to your farmer networks to get recommendations on platforms currently used:

- Barn2Door <https://www.barn2door.com/>
- Farmigo <https://www.farmigo.com/>
- Harvie <https://www.harvie.farm/>
- Local Food Marketplace <https://home.localfoodmarketplace.com/>
- Local Line <https://site.localline.ca/>
- Shopify <https://www.shopify.com/>
- Food 4 All <https://www.food4all.com/sell-food-online-csa-software/>
- Cropolis <https://cropolis.co/>

Here are a few pointers on marketing during the COVID-19 pandemic from businesses that offer online sales platform:

- Tactics for Your Farm to Succeed in The Light of Coronavirus Impact <https://www.barn2door.com/blog/3-tactics-for-your-farm-to-succeed-in-light-of-coronavirus-impact>
- The Direct Farmers Market Guide to COVID-19: <https://go.localline.ca/covid-19>

Here are some questions to ask when you're choosing which service to work with:

- How long has your online sales platform been in use?
- How many farmers are you currently working with?
- What will it cost my farm to use your platform? What is your fee structure?
- I'm ready to start selling products right now. What does it take to get started? Is there a wait because of the current increase in demand for online sales platform services?
- How will your online sales platform integrate with my current website?
- What is the process for entering the products that I have to sell?
- How do I update my product list and pricing?
- Will I be able to set inventory limits so that I don't oversell products?
- How does the customer interface work? Is your

platform easy to use on a Smartphone?

- How do customers pay for products?
 - Are credit and debit card fees charged to customers?
 - Can customers pay by check or cash on delivery?
 - Can customers pay with EBT?
 - Is there a way for me offer customers discounts, coupons, and promotions?
- How long does it take for customer payments to deposit into my farm's bank account?
- How is sales tax handled on your platform?
- Is it possible to integrate your platform with my accounting software?
- Is it possible to create pack lists directly from your sales platform? How about labels?
- Does your platform offer any suggestions for delivery routes based on orders?
- What kind of IT support does your company provide?
- How is my farm's sales data used and/or shared?
- What happens to my farm's sales data if I stop using your platform?
- What other features does your platform offer that I should know about?

Where can I go for financial assistance due to COVID-19 business hardship?

It is possible that financial assistance will evolve in response to COVID-19 and the associated recession. Funds could become available from federal, state or local governments to help pay for some costs associated with the pandemic.

The Small Business Administration is planning to provide Disaster Assistance Loans for small businesses impacted by coronavirus (COVID-19): <https://www.sba.gov/about-sba/sba-newsroom/press-releases-media-advisories/sba-provide-disaster-assistance-loans-small-businesses-impacted-coronavirus-covid-19>


Where can I find reliable information about COVID-19 directives?

The State of Oregon, Oregon Health Authority and national Center for Disease Control are all providing information and policies to help manage the pandemic. Restrictions to reduce the spread of the virus can come from Federal, State and local government, so stay up to date on policies in your area.

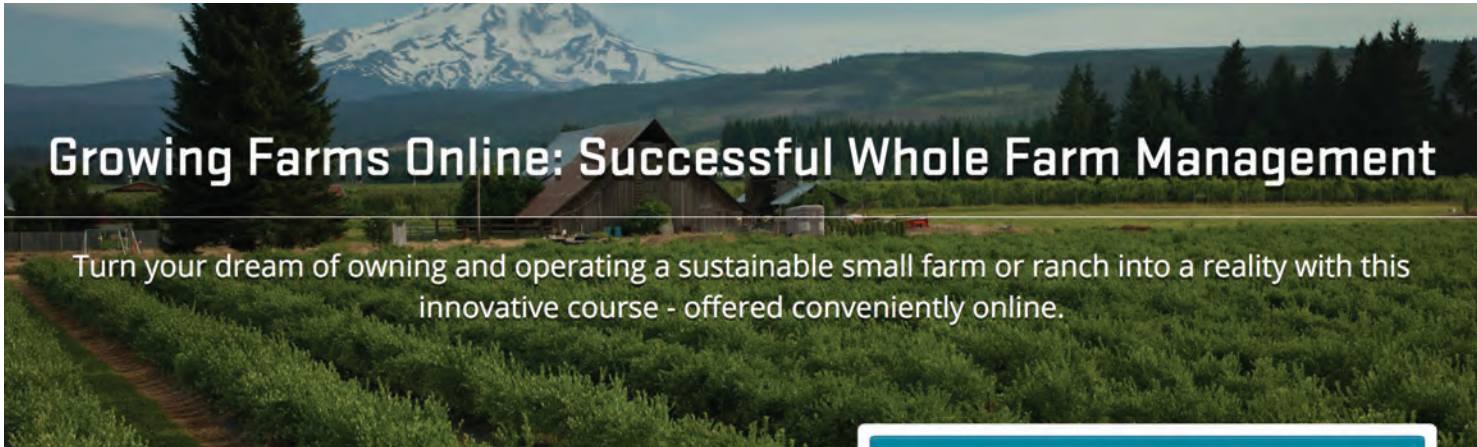
The following social distancing orders are currently in place in Oregon, effective March 17 for at least until April 28th (it does look to be longer):

- A statewide cancellation of all events and gatherings larger than 25 people — exempting essential locations like workplaces, grocery stores, pharmacies, and retail stores. It is additionally recommended that Oregonians avoid gatherings of 10 people or more.
- Restaurants, bars, and other establishments that offer food or beverages for sale are restricted to carry-out and delivery only with no on-site consumption permitted.
- Food service at health care facilities, workplaces, and other essential facilities will continue.
- All other businesses are urged to assess their practices, implement strong social distancing measures, and close their doors temporarily if they cannot put the new guidance in place.

OSU Extension is following the public health guidance of our local county health departments, the Oregon Health Authority, and the national Center for Disease Control (CDC).

- Oregon State government announcements about COVID -19 responses are available in the Oregon.gov newsroom: <https://www.oregon.gov/newsroom/Pages/NewsDetail.aspx?newsid=36192>
- Oregon Health Authority's COVID-19 page: <https://www.oregon.gov/oha/PH/DISEASESCONDITIONS/DISEASESAZ/Pages/emerging-respiratory-infections.aspx>
- CDC FAQ COVID 19 <https://www.cdc.gov/coronavirus/2019-ncov/faq.html#protect>
- USDA Coronavirus information: <https://www.usda.gov/coronavirus> 

Updates are available at
<https://smallfarms.oregonstate.edu>



Growing Farms Online: Successful Whole Farm Management

Turn your dream of owning and operating a sustainable small farm or ranch into a reality with this innovative course - offered conveniently online.



Introduction



Featured Farmers



Creative Team



FAQ Items

Register Now

Offered Fully Online

Growing Farms Online: Successful Whole Farm Management

Growing Farms: Successful Whole Farm Management provides farmers with the tools and knowledge needed to develop and manage a successful farm business. This course is intended for people who are considering starting a farm business, those within their first five years of farming and others who may be considering major changes to farm business.

The core Growing Farms course is a series of six online modules that lead you through the basics of managing a successful farm business: Dream It, Do It, Grow It, Sell It, Manage It, and Keep It.

Modules include more than four hours of video developed specifically for the Growing Farms course. These videos feature six farmers, representing a diversity of environments and production systems in Oregon, who share their experiences and insights about starting and managing a small farm business.

In the online Growing Farms course, you work through the six online modules at your own pace, on your own schedule. There is no “instructor”, but you may contact the course coordinator if you have questions. You will have access to the modules for a five-month period from the date you register. The cost for fall 2019 is \$150.

For more information, to view videos, or to register, go here:

<https://pace.oregonstate.edu/catalog/growing-farms-online-successful-whole-farm-management>

A New Meat School Coming to a Town or Computer Near You!

By: Rebecca Thistlethwaite, Director of the Niche Meat Processor Assistance Network (NMPAN)

In October of last year, 50 farmers and ranchers attended the first ever Meat School, hosted in person and online by Colorado State University and the Niche Meat Processor Assistance Network. The school included 6 classes, covering marketing, production, and processing topics considered critical for direct marketing high-quality meat. Inspired by the format and topics of the OSU Grassfed Meat School held in Central Point, OR in 2018, NMPAN and CSU adapted the school to serve a wider audience and be available online. Three different regional class sites were coordinated by CSU Extension staff for those that wanted to attend in person and for folks that lived further they could attend from the comfort of their homes with a good internet connection.

Response to this pilot educational course was overwhelmingly positive. Producers really appreciated the opportunity to network at the in-person locations or to have the flexibility to still learn the course content from home. One Colorado grassfed beef producer had this to say about the school, *“Outstanding use of my time, rich learning experience, very targeted to the pressing questions and needs of my small, growing grass-fed beef finishing and direct marketing operation.”*

NMPAN's next goal is to take the Meat School to a much larger audience and start to offer it every year in winter when producers have more time. With support from the Globetrotter Foundation and the Western Extension Risk Management Center, NMPAN and project partners will be expanding the school to class sites in Oregon, Montana, Wyoming, Colorado, and New Mexico. They will also allow producers in other western states to take the course online as well.



Nathan Parker, Manager of the OSU Clark Meat Science Center. Photo credit: Rebecca Thistlethwaite


Locations in Oregon have not been confirmed yet, but will likely include a central Willamette Valley, Southwestern Oregon, and a Central Oregon location. Please check the NMPAN website (www.nichemeatprocessing.org) and the Center for Small Farms website this summer for full details and registration. The Western Meat School will also include a live beef animal evaluation and yield analysis demonstration with Nathan Parker of

the OSU Clark Meat Science Center.

As farmers and ranchers become better educated in how to produce consistent, high-quality, regeneratively-raised meats; how to get those animals processed; and how to identify and secure good markets, the availability of regeneratively-raised meats will increase. Consumers will have more access. More land can be managed holistically and regeneratively. More dollars will flow into rural economies, and more farm families will be able to thrive.

The Western Meat School is a modern, accessible, affordable, and time-efficient way for producers to learn the most practical aspects of producing and marketing meat while deepening their understanding the full niche meat supply chain.

A deep thank you goes to the Western Extension Risk Management Center (a program of USDA NIFA) and the Globetrotter Foundation for supporting the expansion of the Western Meat School.

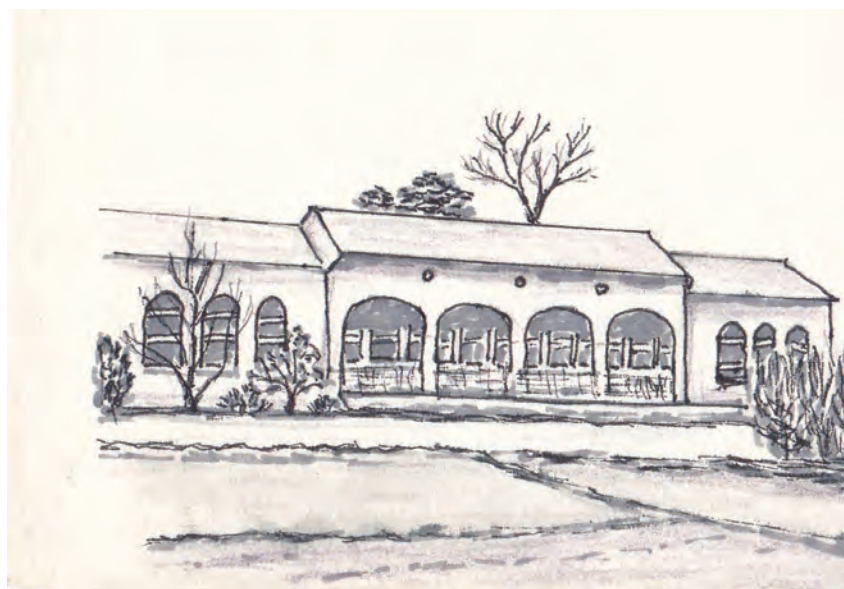
For more information, please contact NMPAN Director Rebecca Thistlethwaite at thistler@oregonstate.edu 

Takeo Sakata's Double Flowering Petunia

By: Dr. Toshihiko Nishio

Translated and edited by: Shinji Kawai and Abigail Hunter, Department of Horticulture, Oregon State University

Improvements in agricultural technology and breeding helped struggling Japanese farming communities in the early 20th century. Since the 1990s, Dr. Toshihiko Nishio, a Japanese rice farming system researcher, published over 150 stories about these innovations. By showing how these discoveries derived from careful observation, patience, and in some cases, serendipity, we hope that farmers will realize how ordinary people can contribute to the advancement of their local agricultural communities and beyond.



Chigasaki Farm
Illustration by Eiko Goto.

From Chigasaki Farm to the World Market

A long time ago when the author was a college student, he visited Chigasaki Farm of Sakata Nursery (currently Sakata Seeds). The farm is located between Fujisawa and Chigasaki Japan Rail Stations along the Sagami River. The buildings on the farm were modern for that time, including multiple glass houses.

It was on this visit when the author encountered petunias for the first time. The impression of the flowers has faded away, but to this day he remembers the story of 'All Double' petunia. The double flowering 'All Double' petunias from Sakata, which astonished the world in the years before World War II, were from Chigasaki Farm.

Petunias are native to South America. They became a horticultural crop in the 1930s as hybrids were made in England. Various colors and shapes of the flowers were then created in Europe and the U.S. and became increasingly popular. Double flowering petunias were hard to come by; however, in spite of the fact that they were discovered in Europe as early as 1849. Double flowering petunias do not produce seeds. Despite much effort to find a reliable method to breed

them, prior to 1930 the occurrence of the double flowering trait in petunia seed was 50% at best. Takeo Sakata, the founder of Sakata Seeds, was the one who came up with a method to produce seeds of 100% large wavy double petunias.

On a side note, petunias were first introduced to Japan when the delegates to the United States led by Niimi, the Provincial Governor of the Fukuoka Region, came back in 1860. In Japan, petunia was called 'Tsukubane Morning Glory' (Tsukubane: Japanese badminton shuttlecock with five wings).

The Discovery of Nagaharu Woo* that Stunned the World

Here is the hidden story on how 'All Double' petunia came out. It started in 1927 when Dr. Nagaharu Woo conducted genetic tests on seeds offered by Sakata. The tests were done at the Agricultural Experiment Station of the Ministry of Agriculture and Forestry in Konosu, Saitama Prefecture. Woo hypothesized that the double flowering trait was controlled by a single dominant gene. It took about a year to prove

his hypothesis correct. He used the study for his Ph.D. thesis. The night before he was going to turn in his thesis; however, there was a fire at the Agricultural Experiment Station and part of his study was burned. In 1930 he published a one page paper for the Journal of Genetic Study (of Japan) with a footnote saying that all the data was lost in a fire, but he mentioned that the results could be repeated. If this thesis had been published in English, 'All Double' would have never been exclusively Sakata's.



Various double flowering petunia.
Illustration by Eiko Goto.

At that time the only "double flowering" petunia seeds available were sold by the German company Benary. They were mixtures of double and single petunias sorted by color. In double flowers the stamens become petals; therefore, no seeds can be obtained. In some cases, the double petunias have anthers attached at the end of the double petals, and only some of them produce pollen. In his research, Woo created genetically homozygous double flowering plants to serve as a male parent. These were propagated vegetatively to increase their numbers. When the pollen from these is dabbed on to large single flowering line's pistils, the resulting F1 generation will be all large and double flowering, according to Mendel's Law. This phenomenon is nothing special now, but at that time it was an extraordinary finding that nobody else in the world had discovered. The materials he began with were obtained from the "double flowering" petunia of Benary.

As soon as Sakata learned how to create double flowering petunias from Woo in 1929 he was determined to bring it into commercial production. Of course, no new cultivar would come out simply

because the knowledge existed. In order to tap in to the international flower market, a breeder's skill and an entrepreneur's courage had to come together. Fortunately, Sakata spent four years exploring the United States and Europe when he was young, and he understood the horticulture industry well. If he had not had this experience, he could have not effectively commercialized 'All Double'.

The Power of Sakata Magic

When the Sakata Company exported 'All Double' petunia to the United States and Europe in the 1930s, nobody knew the secret Sakata had found. The large wavy 100% double flowering petunia was a sheer surprise, and it sold like hotcakes. People

called it 'Sakata Magic'. A newspaper reported, "Believe it or not, petunia seeds from Sakata are worth 10 times more than gold". In fact, at that time the price of 'All Double' seeds was over \$10,000 per pound while the fixed price of gold was \$550 per pound. They were traded at almost 20 times the price of gold, to show just how hot the item was.

Sakata's domination of the market with 'All Double' vanished overnight as World War II broke out in 1941. As many farms in Japan turned into sweet potato fields, young overseas researchers like Charlie Weddle, who later started PanAmerican Seeds, figured out the secret of double flowering petunia. Soon many superior cultivars started to appear in the market.

Though Sakata Company's business was devastated by the war, it made a dramatic postwar comeback. Around the 1960s Sakata developed a small red and white bicolor F1 petunia called 'Gritters'. He was able



Gritters
Illustration by Eiko Goto.

to sell it at 16 times more than his production cost, and regained his reputation in the overseas market. With the help of financial gains from F1 hybrids of melon, sweet corn, spinach, etc. released in Japan, the company's stake in the world market was once again solidified. It should be noted that this quick recovery would not have been possible if Sakata's rather bold request of business assistance to GHQ (Supreme Commander for the Allied Powers) had not been granted. It is said that one of the officers who was aware of his double flowering petunia assisted him in obtaining the glass and coal the farm needed to recover.

Recognition For His "Flower Work"


In the horticultural world, the All-American Selection's general meeting is known as the most prestigious event to recognize excellent flower and vegetable cultivars. In 1965 the president of Sakata Seed, Takeo Sakata, received the AAS's ultimate prize, the Silver Medallion, in recognition of his work as a breeder who produced superior cultivars. He was the first non-American to be awarded the prize. The award was given to Sakata for his years of dedication to the production of excellent flowers and vegetables. Prior to receiving the Silver Medallion, the company received several other AAS awards for plants in the Sakata line: 'Victorious Mixed' in 1934, 'Gaiety' and

'Orchid Beauty' in 1938, 'Apple Blossom' in 1939 and 'Blue Brocade' in 1941. However, the best work of all had to be the creation of double flowering petunia, 'All Double'.

In recent years the agricultural industry has become increasingly globalized, and international competitiveness is required for its products. Almost a century after it happened, Sakata's work of introducing the large double flowering petunia to the international flower industry shines through. This was not just a story of exporting agricultural commodities, but also is noteworthy for his strategic use of cutting-edge scientific knowledge. The birth of the astonishing 'All Double' petunia was only possible because the knowledge of the geneticist, Nagaharu Woo, and excellent breeding skills and entrepreneurial spirit of Sakata came together. In modern terms it would be called the result of a research collaboration between industry and academic entities.

After the war, Nagaharu Woo went back to his father's home country, Korea, where he contributed to various vegetable breeding projects including Chinese cabbage. He passed away in 1959 and is called the Father of Agriculture in Korea. His life is detailed in the book, 'My Home Country', by Fusako Sumita, published by Shincho-sha publishing.

"There is no end to the work on flowers," was often repeated phrase of Sakata. Beyond no end, the work to breed flowers must be ever flourishing.

*Jang-Choon Woo (Nagaharu in Japanese) is known for Triangle of U; genetic relationships among six species of the genus Brassica. He also led Takii Seed Co. to establish the F1 breeding system of Brassicaceae crops right after the war. 

Livestock Farmers, Are You Ready For Tighter Restrictions on Antibiotics?

By: Lauren Gwin, Oregon State University Small Farms Program with Laura Sage, Red Bird Acres

Laura Sage, a pastured poultry and pig farmer in Corvallis, Oregon, is part of a national project, an initiative of the Pew Charitable Trusts, to reduce the use of antibiotics in animal agriculture. In February, she went to Washington, D.C., for the annual “Stand Up to Superbugs” event. In this interview with Oregon Small Farm News, she told us what she learned.

Tell us a bit about your farm.

Red Bird Acres was founded in 2013 by Robin and Laura Sage. We consider our farm to be first and foremost mission driven. We believe in the importance of aligning our thoughts and actions: we began farming on the belief that it is necessary for environmental and human health to transition our agricultural system back to being based on small, local economies where promoting human and animal health are at the forefront.

Our current focus is on pastured poultry and pigs. We operate our farm on 85 acres of leased pasture located in Philomath Oregon.

How do you keep your animals healthy?

We practice farming methods that go beyond organic and take a holistic approach that respects and fosters the health of the land, the animals we care for, and the people who eat our food. Our livestock are raised using high-welfare, low-stress animal husbandry practices. We utilize a pasture-based, rotational grazing system for our animals and are certified Animal Welfare Approved.

Our husbandry methods are an integral component of allowing us to practice antibiotic stewardship. Our animals are raised exclusively on pasture and we use all available techniques to limit stress on them. Animals who have low stress, are able to exhibit all their natural behaviors, and are provided high quality nutrition are less likely to get sick.



All photos used in this article are from Oregon State University Extension Experiment Communications Catalog

How do you use antibiotics on your farm today?

Even with the best husbandry practices in place, occasionally an animal will get sick and might need antibiotic treatment. We never give antibiotics prophylactically, but rather will treat individual sick animals if the situation warrants. We use antibiotics, both over the counter and prescription under the guidance of our veterinarians. This ensures that we are giving the correct medication at the correct dose and for the correct duration. That is absolutely a critical component of practicing antibiotic stewardship on the farm.

How has your use of antibiotics changed in recent years?

Establishing a relationship with veterinarians familiar with our farm and livestock has enabled us to have access to medications that are oftentimes more effective than the over the counter options. It has also given us the ability to access medications that can be supplied in water if the need were to arise (this is very important for poultry producers).

When the U.S. Food and Drug Administration began implementing the Veterinary Feed Directive (VFD),



starting in 2017, all medically important antibiotics administered through either feed or water came under veterinary oversight.

What did you learn during your recent trip to D.C.? Describe the event.

This February, I participated for the third time in The Pew Charitable Trusts' "Stand Up to Superbugs" advocacy event. Stand Up to Superbugs is a diverse group of people from across the U.S. who are working to combat antibiotic-resistant bacteria and prevent a return to the pre-antibiotic era when simple infections accounted for at least one third of all deaths (estimates are that 35,000 people die each year from antibiotic resistant infections).

Stand Up to Superbugs does this by supporting three things: (1) innovation to reinvigorate the pipeline of antibiotics in development, (2) the responsible use of existing antibiotics in veterinary and human medicine, and (3) increased federal funding needed to confront one of the greatest public health threats of our time.

Stand Up to Superbugs ambassadors – and I am one of them – include health care professionals, public health officials, scientists, farmers, veterinarians, superbug survivors, and individuals who have lost loved ones to these infections.

Each year, we Stand Up to Superbugs ambassadors travel to Washington, DC, to meet with our representatives and other policymakers to share their stories and expertise. Outside of DC, ambassadors

help raise awareness and advance the fight against superbugs in our own communities.

As an ambassador, I had the opportunity to meet with staffers from both Senator Merkley and Senator Wyden's office to talk about how Oregon farmers such as myself are working to practice antibiotic stewardship and advocate for continued funding for the government agencies that help us to do this work. That includes Oregon State University, our land grant university, and the important work being done by OSU Extension and the OSU veterinary diagnostic lab, both of which receive federal funding.

What are the new restrictions on using antibiotics in livestock production? Does this include growth-promoting antibiotics in feed?

Part of the FDA's Five Year Plan for Supporting Antimicrobial Stewardship is to bring all medically important veterinary antibiotics under veterinary oversight. They began with the VFD (which was implemented in 2017) and will now be expanding to include medically important antimicrobials, such as injectables, that can currently be found on farm store shelves.

This is a very important step when we approach antimicrobial stewardship from the One Health perspective. We must look at any use of antibiotics as a potential to create resistance and that resistance can be found in both our livestock and in human bacterial infections.

What we do on the farm has consequences for our ability to treat human disease and vice versa. If we create resistance to important antimicrobials, over the counter access would cease to be of any use, and our ability to treat infections in our animals, ourselves and families would be lost. Veterinarians, along with diagnostic laboratories, are best equipped with the expertise to advise producers and provide oversight of these critical drugs.

What is your advice for small-scale livestock farmers? How can they prepare for the new restrictions?

My advice is to try to establish a relationship with a veterinarian if they have not done so already. This can be challenging in many rural areas of the state where large animal veterinarians may be in short supply. There are federal programs that help encourage veterinary students to choose large animal practice, but that program is in need of expansion.

Producers should be aware that these increased restrictions on antibiotics do not mean that anytime an animal gets sick you will need to have a vet out. However, if you have established a relationship with a vet that knows you and your farm, they may be willing to write you prescriptions and provide standing orders should an animal get sick and need treatment.

Reaching out to your local Extension agents is a great way to access advice on how to locate veterinary services. While accessing veterinary services can come at a considerable expense, we have found that in the long run our farm has increased profitability because of it. We have increased our own knowledge base and have a larger toolbox to pull from. Importantly, we also have the peace of mind that we are doing the absolute best by our animals and the community we serve.

Learn more about the Stand Up to Superbugs project here: <https://www.pewtrusts.org/en/research-and-analysis/articles/2019/03/05/stand-up-to-superbugs>

Learn more about Laura and Robin's farm, Red Bird Acres, here: <https://www.redbirdacresfarm.com/> 

Learn more about this issue:

“The Veterinary Feed Directive: Questions and Answers for Oregon Livestock Producers,” by Sergio Arispe, Charles Estill, and Troy Downing, Oregon State University Extension. <https://catalog.extension.oregonstate.edu/em9151/html>

Oregon Pork Producers Vaccination Recommendations, OSU Extension: <https://extension.oregonstate.edu/animals-livestock/swine/oregon-pork-producers-vaccination-recommendations>

Michigan State University Extension, 2012, “Antibiotic resistant bacteria issue demands action”: https://www.canr.msu.edu/news/antibiotic_resistant_bacteria_an_issue_demanding_action

Why Livestock Producers Should Care about Antibiotic Resistance, 2016, Kansas State University Extension: <https://www.ksu.edu/research-and-extension/antibiotics/MF3315.pdf>

Farmers: consider Individual Development Accounts to help you build your farm business

By Arielle Reid, Director of Policy & Advocacy, NeighborWorks Umpqua

Neighborworks Umpqua has just launched their own IDA program for Douglas, Jackson, Josephine, Coos, and Curry Counties in Oregon. For more info, contact Arielle at areid@nwumpqua.org.

Dreams and goals are powerful things to have. They allow us to act today in support of becoming our best and higher selves tomorrow. For many Oregonians, there is not clear and direct path to reaching their dreams or achieving future life goals. What if there were a program that could help create a plan, map out the steps and provide some financial support to get you closer to your goals?

The Individual Development Accounts, or IDAs is that program. IDAs are matched savings accounts that support qualifying Oregonians with lower incomes in gaining assets. This is done through increasing financial management skills while we save towards a defined goal. IDAs build pathways of opportunity and create models of economic success in Oregon communities, including rural communities. IDAs encourage us to dream big and provide us the support to achieve this.

As participants, we enroll in the IDA program through one of the many partners located in all corners of the state, set a goal and begin saving. Once we have reached our savings goal, and all parts of the savings plan are completed, every dollar we saved is matched by the program, typically three dollars for every one dollar saved. We can use our matched funds to help us become home owners, to fulfil an educational goal, to start or grow our small business, to restore a home to habitable condition, or to purchase equipment to support employment.


The requirements for the IDA program are pretty straightforward. You are eligible if

- You are an Oregon resident
- You are at least 12 years old
- Your household income is below the IDA Income

Limits set by county <https://oregonidainitiative.org/find-ida-provider/do-i-qualify-2/or-ida-program-income-limits-2019-final-04-30-19/>

- The net worth owned by your household is below \$20,000. (Net worth is the value of what you own minus what you have in debts. To calculate net worth for an IDA, you don't have to include the value or debt of one owned home and one owned car, and you don't have to include \$60,000 in retirement savings.)
- You can commit to setting aside money on a monthly basis
- You are willing to work with an IDA Provider to complete additional requirements included in a personal savings plan and financial education.

To find out more about how the IDA can support you in achieving your goals and to find a provider to get started, please click on the link below.

<https://oregonidainitiative.org/find-ida-provider/> 

Farm Succession Planning eBook Now Available for FREE

Getting Organized: Business Organization and Succession Planning for Oregon Farm and Ranch Families is a free online resource for creating business succession and estate plans. The book provides a starting point for considering alternatives around the future of family agricultural businesses.

The free eBook can be read online or downloaded and printed: <https://open.oregonstate.education/farm-succession-planning/>

Farm succession planning meets 4 fundamental goals for farm business owners: (1) preserving family relationships, (2) strengthening the farm business, (3) protecting the owners and operators from business disruptions, and (4) minimizing the complexity and expense of succession and estate plans. With some basic knowledge, you will be educated consumers of legal and financial services, which may save you time and money as you consult with the attorneys, accountants, and other professionals who are key to creating a successful plan. This guide also gives you a starting point as you consider your alternatives and begin family discussions about the roles that each family member or nonfamily member may play in the future of the farm as a business.

Developing Oregon's Winter Vegetable Market: North Willamette Research and Extension Center Field Day

Submitted by: Heidi Noordijk, Nick Andrews, and Lane Selman, Oregon State University Small Farms Program

Participants bundled up to walk through the North Willamette Research and Extension Center (NWREC) on February 13. The field day brought together over 90 farmers, breeders, seed company reps, researchers, wholesale distributors, and market managers. Crop by crop discussions provided an opportunity to view varieties still in the field and learn about production and marketing techniques to improve yield, efficiency, and marketability.

Varieties selected have been shown to be high performing (yield/quality/winter hardiness/storability) and have good market potential in past vegetable variety trial research projects. The Small Farms team at NWREC grew 7 crops and 52 varieties during the 2019/20 season for the project. The overarching goal of this project is to increase the production and consumption of locally-grown winter vegetables in Oregon, including eight crops: winter squash, celeriac, garlic, Brussels sprout, cabbage, cauliflower, purple sprouting broccoli and radicchio. Vegetables grown at the NWREC trials were used at the Winter Vegetable Sagra and Variety Showcase to connect farmers, seed growers, chefs, produce buyers and consumers in a fun and educational way.

cauliflower, purple sprouting broccoli and radicchio. Vegetables grown at the NWREC trials were used at the Winter Vegetable Sagra and Variety Showcase to connect farmers, seed growers, chefs, produce buyers and consumers in a fun and educational way.

continues on next page



Above: Discussion on purple sprouting broccoli production and maturity. Varieties displayed with leaves removed to show development.

Left: Planting Date and Spacing Information for vegetable trial vegetable varieties.

Photo and Tables provided by the authors.

Planting Date and Spacing Information for Winter Vegetable Trials			
Crop	In-row Spacing (inches)	Between row Spacing (inches)	2019 Planting Date
Celeriac	12	24	May 29
Winter Squash	24	120	June 18
Brussels Sprouts	24	30	June 30
Cabbage	18	24	August 7
Cauliflower	18	24	August 14
Purple Sprouting Broccoli	18	24	August 14
Radicchio	12	12	August 14



Above: Tastings of cabbage and purple sprouting broccoli were prepared by Kelly Streit, OSU Extension Clackamas County Family and Community Health Program.


Below: Tables inside featured varieties of storage celeriac and Brussels sprouts that were no longer in the field.

Photos provided by the authors



Here are highlights from the NWREC Winter Vegetable Field Day.

Participants shared their ideas for future research needs in winter vegetable production, storage and marketing. These ideas will be key to developing new research projects and trials for future seasons. Visit the Winter Vegetable Project Webpage <https://www.eatwintervegetables.com/varieties>

For the list of varieties, seed sources, and recipes. Data from the trials  be shared in

NSAC Applauds First Step Toward Aid for Farmers in Senate Pandemic Package

Washington, DC, March 25, 2020 – Today, Senate leadership announced a bipartisan deal on a new comprehensive aid package responding to the expanding COVID-19 pandemic. The Senate package released today is the third emergency relief bill considered by Congress.

The bill provides \$9.5 billion in emergency funding to aid producers impacted by the ongoing crisis – including producers selling into local and regional markets.

“Congress has taken an important first step to helping farmers and local and regional food systems with this relief bill,” said Eric Deeble, Policy Director at NSAC. “As a result of the ongoing COVID-19 crisis and ‘social distancing’ restrictions, we expect farmers who have lost access to direct markets – like farmers markets, schools, and restaurants – stand to lose more than \$1 billion in sales this year. As the impact of the pandemic continues, their losses will mount and they will have to make hard choices about what to plant and whether they can stay in business at all. Keeping operations profitable during this crisis is an even greater challenge for farmers with fewer resources to draw on in times of economic stress or uncertainty, including beginning farmers, small and mid-sized farmers, and farmers already experiencing systemic inequity, including farmers of color.”

“Farmers are going to need more help and NSAC will be looking to USDA to make sure any funding Congress provides reaches the farmers who need it most. In the weeks and months ahead, Congress must: ensure that the most-impacted farmers get direct payments to make up for lost income, prioritize additional administrative flexibility and direct investments in the field, including emergency food purchases from food hubs and small processors to keep them up and running, and ensure that every farmer has access to the credit and resources they need to put a crop in the ground this spring to provide for us all,” said Deeble.

NSAC released a statement on COVID-19 on March 19, highlighting the impacts of the pandemic on the food and farm system. The statement includes policy recommendations that we hope Congress will consider as further aid efforts move forward.

About the National Sustainable Agriculture Coalition (NSAC)

The National Sustainable Agriculture Coalition is a grassroots alliance that advocates for federal policy reform supporting the long-term social, economic, and environmental sustainability of agriculture, natural resources, and rural communities. Learn more and get involved at: <http://sustainableagriculture.net>

New Plant Breeder's Guide Helps Preserve Biodiversity

A new guide outlines practices for plant breeders to keep genetic resources in the public domain. In partnership with Rural Advancement Foundation International-USA (RAFI-USA), Vermont Law School's Center for Agriculture and Food Systems (CAFS) has released a new free resource for plant breeders entitled *A Breed Apart: The Plant Breeder's Guide to Preventing Patents through Defensive Publication*.

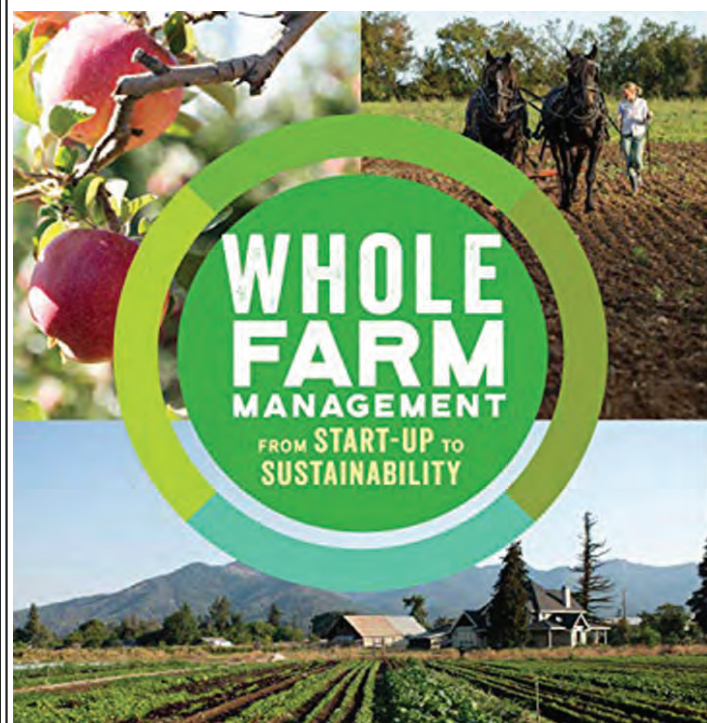
Biodiversity in crop species is essential to the future of farming, especially as climate change alters growing conditions but agricultural biodiversity has declined drastically during the past century. That loss has coincided with the consolidation of seed companies. Just four firms now control more than 60 percent of global seed sales. And these companies have been patenting the crops they develop so that they cannot be used without permission or payment.

To push back against these trends, some plant breeders are seeking ways to ensure the genetic traits they develop can never be locked into patents. One method is to create a printed publication that establishes a plant variety as "prior art," rendering it ineligible for a patent in the future. While documents like these—called "defensive publications"—are common in other industries such as software, the guide's authors argue that plant breeders interested in preserving biodiversity should be using them, too.

Defensive publication keeps genetic resources available without use restrictions or liability for infringement, and for a fraction of the cost of pursuing a patent. For plant breeders, the process can make genetic material more widely available for research. Ultimately, this could also make seeds more affordable and accessible for farmers.

"This guide is essential for anyone in the plant world trying to prevent plant genetic material from being co-opted—or simply trying to navigate the laws and regulations surrounding intellectual property," said James Myers, a plant breeder at Oregon State University. "The authors take a complex, arcane subject and distill it into an easy-to-follow publication. It's a thorough review of contemporary intellectual property protection and the issues at the forefront in plant breeding right now."

This material is based upon work supported by the National Agricultural Library, Agricultural Research Service, U.S. Department of Agriculture. Read it here: <https://vermontlaw.edu/sites/default/files/2020-01/Defensive-Publication-Guide.pdf>



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NEW BOOK from OSU Small Farms Program!

A book to help aspiring and beginner farmers make smart business decisions to ensure lasting success.

Learn from 16 farmers operating 9 different farms across the US.

