



Dry Farming Collaborative



Amy Garrett
Small Farms Program
OSU Extension Service



What is dry farming?

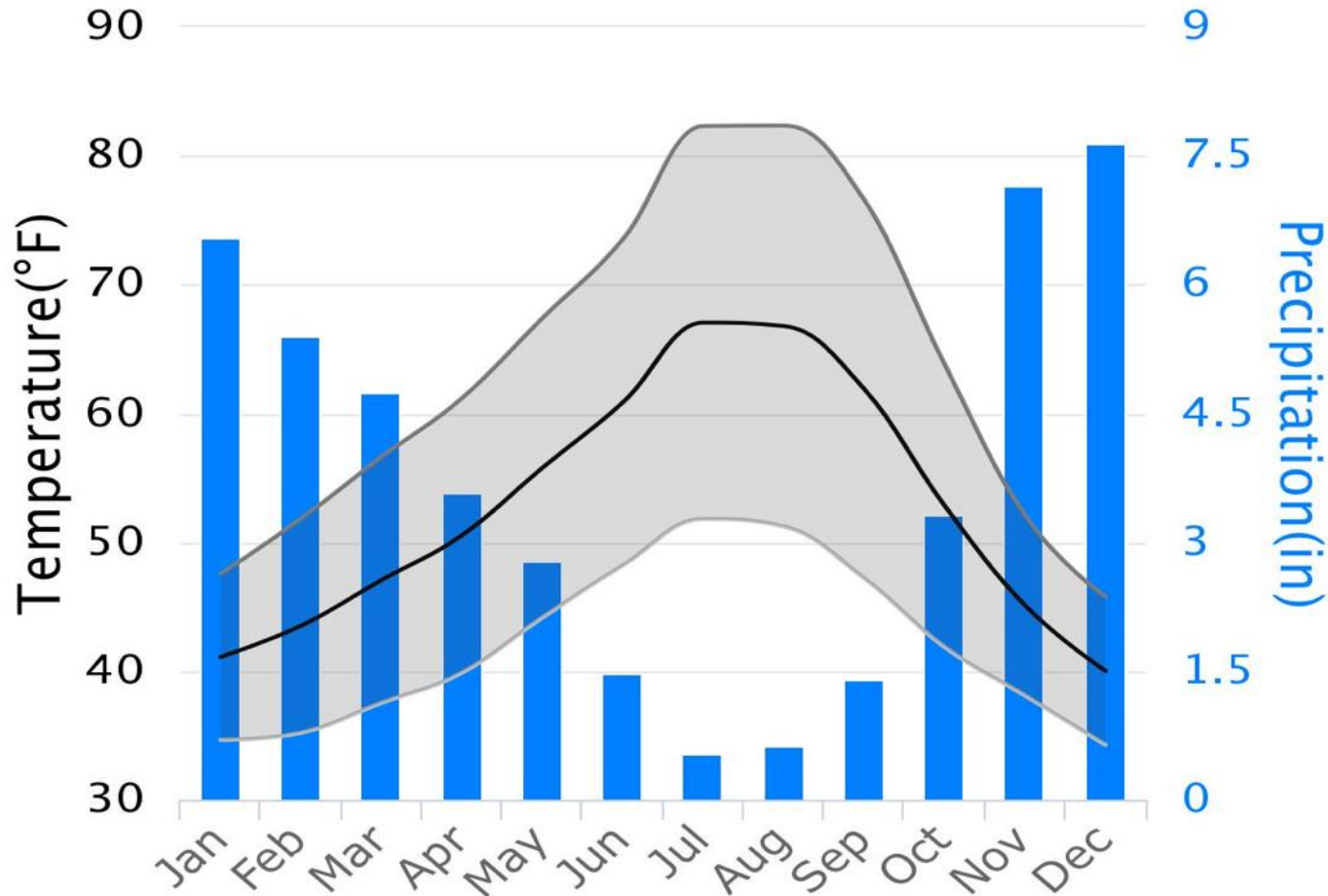
- Crop production during a dry season like summers in the Willamette Valley in Oregon and Northern California (20+ inches annual rainfall)
- Utilizes the residual moisture in the soil from the rainy season instead of depending on irrigation.



Photo by: Lynn Ketchum

Average Temperature & Precipitation

1981-2010 Averages near Eugene, OR

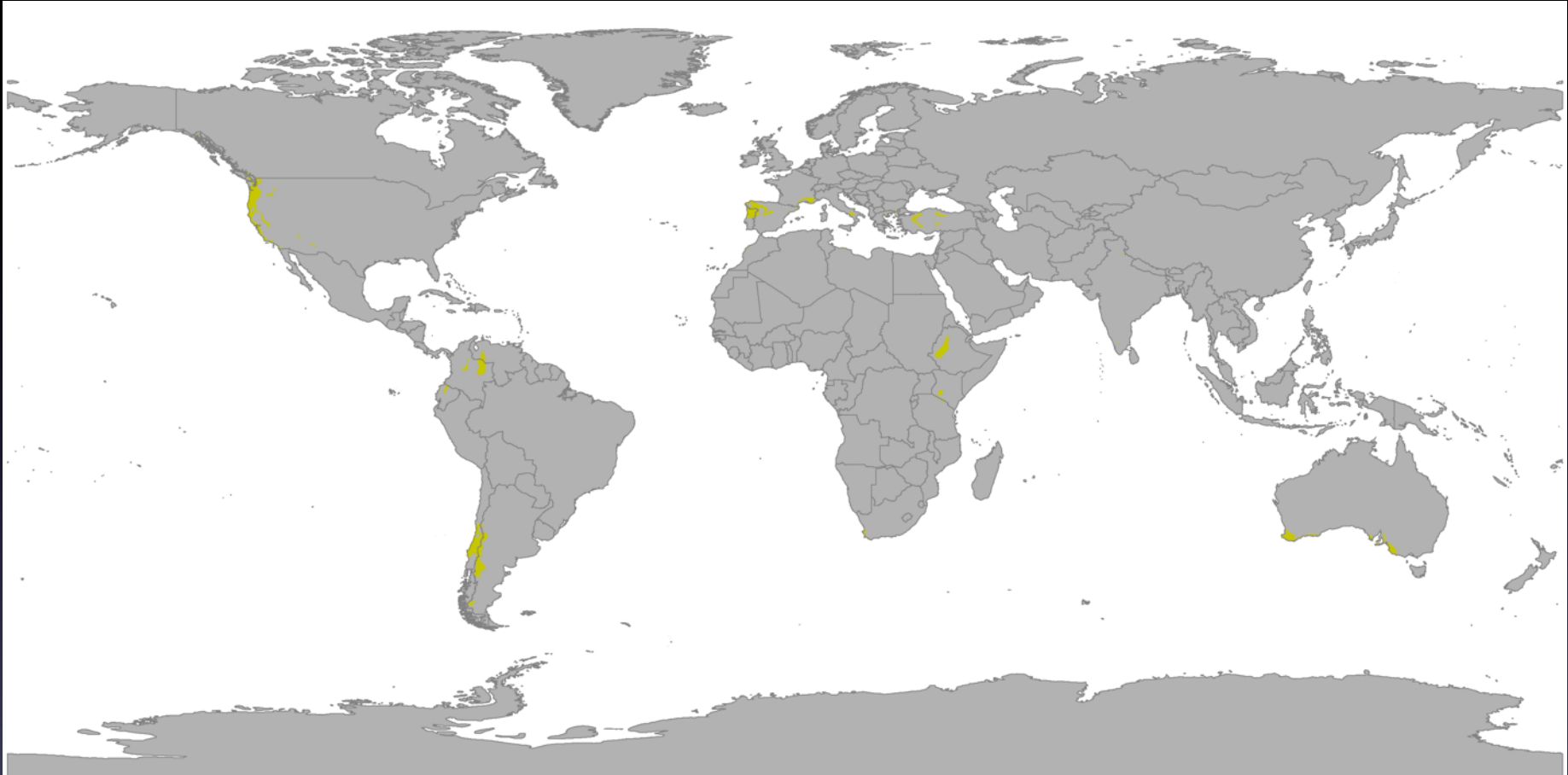


● Precipitation — Max Temperature
— Mean Temperature — Min Temperature

NW Climate Toolbox, Data: gridMET

<https://climatetoolbox.org/tool/climate-normals>

Warm-summer Mediterranean Climate



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Why dry farm?

- Water challenge
- Reduced Inputs
- Improved Produce Quality



Action

- Case studies
- Demonstrations
- Participatory Research
- Website



OREGON STATE UNIVERSITY EXTENSION SERVICE



Photo by Lynn Ketchum, © Oregon State University

————— Dry Farming in the Maritime Pacific Northwest —————

Intro to Dry Farming Organic Vegetables

Amy Garrett

EM9229

<https://catalog.extension.oregonstate.edu/em9229>

Key Points

Dry Farming Vegetables

- Site that has deep soil with good water-holding characteristics
- Plants given adequate space
- Soil fully saturated to a considerable depth going in to the growing season
- Weeds - meticulously managed and eliminated
- Cultivation or protection of soil surface to prevent crusting and cracking
- Improve soil health over time with cover cropping, adding organic matter, and minimizing soil disturbance.
- Drought-tolerant, early-maturing, or dry-farmed vegetable varieties

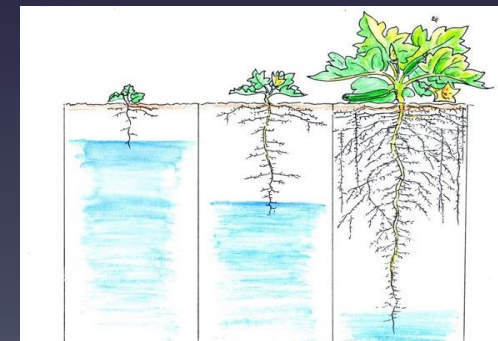


Illustration by Moria Peters

Crop Selection

- Tomatoes
- Potatoes
- Melon
- Winter squash
- Zucchini
- Dry Beans
- Corn
- Orchard crops
- Grapes





Dry Farming Collaborative (DFC)

We are a group of growers, extension educators, plant breeders, and agricultural professionals partnering to increase knowledge and awareness of dry farming management practices with a hands-on participatory approach.

DFC FaceBook group (900+ Members)

Email list for trial hosts (225+ subscribers)



**OSU
Dry Farming
Project**

**Dry Farming
Collaborative**



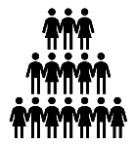
Case Studies

Demonstrations

DFC

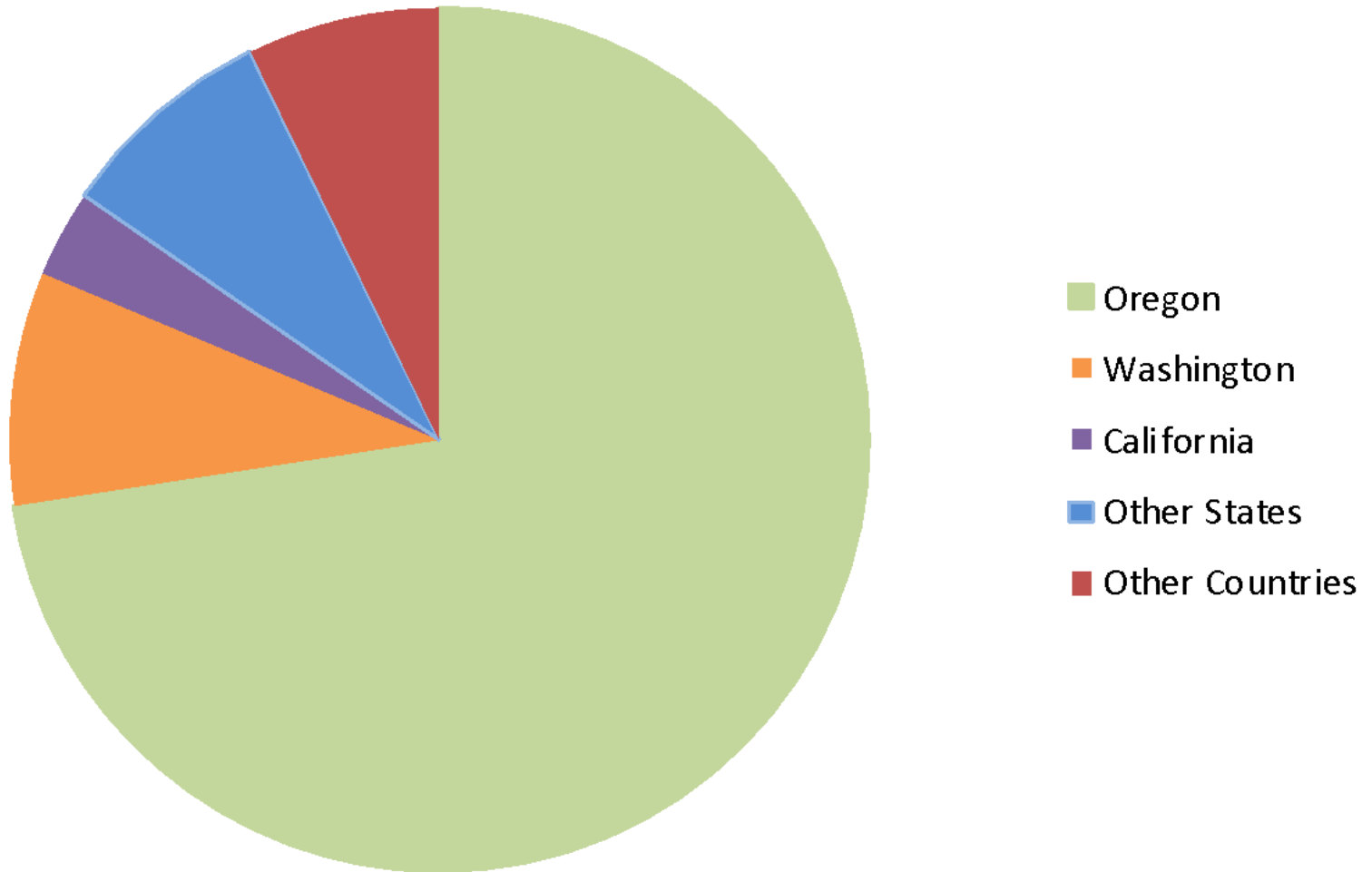
Participatory
Research

DFI



Dry Farming Collaborative

Beyond Oregon



DFC Participatory Research

50+ DFC trial hosts to date

- Variety Trials (ongoing since 2015)
- Site Suitability Study (2017-2019)
- Fungal Inoculant Study (2017-2019)
- In-Depth Interviews with DFC members (2018)
- Soil Management Study (2020)
- Corn Breeding Project (2020)
- Dry-Farmed vegetables & solar co-location (2019-2021)
- Dry-Farmed Tomato Project (2020-2023)
- *Independent experiments encouraged!*



Share results with DFC

Social Media, Field Days, Winter Meeting & Conferences



Get involved with the Dry Farming Collaborative (DFC)

- DFC Field Days (summer)
- Join DFC Facebook group
- Attend DFC Winter Meeting
- Consider experimenting and attending events!





Oregon State University
Extension Service

OSU Dry Farming Project Presents **2020 Virtual Field Tours**

**MARK YOUR CALENDARS FOR WEDNESDAYS
AT 10AM IN AUGUST AND SEPTEMBER!**

Nine tours featuring different elements of the five core research projects: ***Tomato, Corn Breeding, Soil Management, Solar Co-location with Dry-Farmed Vegetables, and Variety Trials***

For more information
and to view a final schedule once posted visit
<https://smallfarms.oregonstate.edu/dry-farming>

OSU Dry Farming Project website

Oregon State University COLLEGE OF AGRICULTURAL SCIENCES Small Farms Program

ABOUT CROPS & LIVESTOCK SOIL & WATER PROCESSING & MARKETING FARM BUSINESS MANAGEMENT

Dry Farming

RESOURCES DRY FARMING COLLABORATIVE

About Dry Farming Project...

It is important to note that dry farming is not a new way of farming, but knowledge sharing has been limited because practices have primarily been passed down from farmer to farmer. Compounded farmers that experiment with dry farming and an even smaller number have extensive experience in these farming practices, the OSU Extension Dry Farm Project plans to explore, revive, and expand

The Dry Farming Project began in 2013 with case studies of farms in Western Oregon and Northern California (coordinated by Community Alliance with Family Farmers) that dry farm a variety of fruit. A suite of management practices that support crop production without supplemental irrigation including: careful timing of tillage, keeping soil surface loose to conserve moisture in the root zone (also known as water retention with organic matter addition (cover crops, compost, rotational grazing), increased plant spacing, and use of drought-resistant varieties.

There have been dry demonstrations in Western Oregon every year since 2015.

NEW! INTRO TO DRY FARMING ORGANIC VEGETABLES

Intro to Dry Farming Organic Vegetables

Screenshot

<http://smallfarms.oregonstate.edu/dry-farming>

Dry Farming Resources

Resources

Extension Publications

[Intro to Dry Farming Organic Vegetables \(EM 9229\)](#) - This publication provides an overview of dry farming, describes some of the management practices that support growing organic vegetable crops without supplemental irrigation in this region, and offers some additional resources.

[Dryland Farming in the Northwestern United States: A Non-technical Overview](#) - This publication discusses and describes the process of dryland grain farming, specifically in the Pacific Northwest.

[Advances in Dryland Farming in the Inland Pacific Northwest](#) - Farmers make tough decisions all the time—it comes with the territory. When that territory includes the dryland region of the inland Pacific Northwest, decisions can be even more challenging. Fluctuating weather, varying soils, and changing pest pressures are just a few of the ongoing challenges that farmers in this region face. However, university-driven research in these production areas can provide guidance. Packed with tools, resources, and the most current research, this book supports farmers as they make decisions relating to productivity, resilience, and their bottom lines.

Handouts

[Soil Survey Resources for Small Farms](#): Learning about the different types of soils on a farm is invaluable. Oregon alone has nearly 1,000 different kinds of soil, ranging from deep to shallow, clayey to sandy, nearly level to steeply sloping. These differences are important, because different soils require different kind of management practices.

['Want to Dry Farm' Handout](#) - This double-sided handout created by Alex Stone, Andy Gallagher, and Matt Davis lays out the basics of assessing and improving site suitability for dry farming.

[Dry Farm Tomato Handout](#) - This double-sided handout gives an overview of how dry farm tomato production is different than irrigated production, and some of the key considerations for planting and management, as well as a few frequently asked questions.

Reports

[2016 - 2018 Dry Farming Collaborative Variety Trial Report \(Draft\)](#) - See variety trial results compiled from more than 20 DFC sites. Multiple varieties of dry beans, flour corn, winter squash, tomato, melon, and zucchini were included.

[2015 Dry Farming Demonstration Report](#) - This report highlights what was done and the results for the first demonstration of dry farming vegetables in Corvallis at the OSU Oak Creek Center for Urban Horticulture.

[2016 Dry Farming Trial Report](#) - This report details the methods and results for the 2016 dry farming demonstration which included two irrigated plots and two dry farmed plots (tomatoes, potatoes, squash and melon). One of the dry farmed plots was amended with a bokashi biochar compost.

2017 Dry Farming Collaborative Trial Reports

- › [Oak Creek Center for Urban Horticulture](#) - Includes methods and results for a tomato trial that included both grafted and ungrafted tomatoes in irrigated and dry farmed treatments. Also, the beginnings of effort to do participatory plant breeding for dry farmed systems is documented with a dry bean variety called 'Beefy Resilient Grex' from plant breeder Carol Deppe of Fertile Seeds.
- › [Lewis Brown Farm](#) - The OSU Lewis Brown dry farm trial site is .69 acres and has multiple varieties of tomatoes, squash, melon, zucchini, dry beans, and flour corn. This is the first year this field has been dry farmed and intended to be the 'mother trial' for the 2017 replicated variety trials with the Dry Farming Collaborative (DFC). Thirty DFC farms throughout Western Oregon and Washington are growing some of the same crop varieties. *Note: This site had major issues with symphylans and cucumber beetles, so data in this reports reflects our results given those issues.*

Websites

[California Ag Water Stewardship Initiative](#) - The California Agricultural Water Stewardship Initiative (CAWSI) aims to raise awareness about approaches to agricultural water management that support the viability of agriculture, conserve water, and protect ecological integrity in California.



Questions?

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For more info visit:

<http://smallfarms.oregonstate.edu/dry-farming>

Join the **Dry Farming Collaborative** group on Facebook

Co-creating the future of how we manage water on our farms

