

Covering Your Assets

Cover Cropping on Organic Farms in the West

This factsheet provides an overview of cover crops, a list of the relevant National Organic Program standards, and tips and resources from fellow organic producers in the West. For more farmer-led organic resources, check out www.ofrf.org/resources.

What are Cover Crops?

- Plants grown to provide soil cover, sequester nutrients, smother weeds
- Grown between cash crop growing periods
- Grown in alleyways (between plastic mulch beds, orchard aisles)
- Some species can be harvested (hay, forage) or grazed by livestock
- Legumes, cereals, broadleaves, grasses, multi-species mixtures



Photo: Crimson clover cover crop.

Credit: [April Thatcher](#), [April Joy Farm, WA](#).

Why Use Them?

- Soil health and erosion control
- Fertility and nutrient management
- Pest and weed management
- Water infiltration and storage capacity
- Cropping system diversification
- Climate resiliency
- Support beneficial insect/pollinator populations

Farmer-to-Farmer Advice: Benefits of Cover Crops in the West

"Cover crops have really become a cornerstone of fertility at the farm. I have a saying that we live and die by the cover crop we have. One of our hopes is that (cover crops) will lessen our off-farm inputs. And so far, off our initial findings, we really have. It has taken the place a large amount of the fertilizing that we're doing, specifically pre-plant."

[Anthony Reyes](#), Agricultural Program Manager at Oxbow Farm & Conservation Center in Snoqualmie Valley, WA



"The biggest thing that cover crops are doing for us is that they have these live roots pumping carbon into the ground and building these aggregates year after year, time after time, and when we put that biomass back into the soil, that again is feeding the microbial community, so having that cover crop is a huge benefit. It is that soil-root microbial interaction that has such an influence. As we think about resilience and what a cover crop is doing for the system, we need to think about what is going on below ground."

[Dr. Shannon Cappellazzi](#), Soil Health Extension Specialist with Oregon State University

Cover Crops and the National Organic Program

Below are the statutes in the [National Organic Program \(NOP\) handbook](#) that emphasize the use of cover crops in organic production:

§ 205.203 Soil fertility and crop nutrient management practice standard.

The producer must manage crop nutrients and soil fertility through rotations, cover crops, and the application of plant and animal materials.

§ 205.203 Crop rotation practice standard.

Producer must implement a crop rotation including but not limited to sod, cover crops, green manure crops, and catch crops that provide the following functions: maintain or improve soil organic matter content, provide pest management, manage deficient or excess plant nutrients, provide erosion control.

Select Research Takeaways

- Winter cover crops (legumes, brassicas, cereals) in Central Oregon improved soil aggregation, soil C & N, and microbial biomass, and decreased compaction, compared to fallow (Sullivan & Kleber, 2024).
- Using a cover crop mix of hairy vetch (*Vicia villosa* Roth) plus cereal rye (*Secale cereale* L.) in Western Washington reduced winter weed biomass more than cover crop monocultures (Lawson et al., 2015).
- Summer flowering cover crops in California vineyards increased diversity and abundance of wild bees (Wilson et al., 2018).
- The multiple benefits often seen with cover crop mixes are most likely to be observed in high-fertility soils (Plumhoff et al., 2022).
- Grazing annual ryegrass (*Lolium multiflorum*) increased average daily gain in dairy heifers, and grazing cover crops in general can benefit farm income by reducing off-farm inputs (Kelly et al., 2021; Planisich et al., 2021).



*Photo: Clover and triticale strips.
Credit: [Catherine Nguyen, Mora Mora Farm, WA.](#)*

Farmer-to-Farmer Advice: Terminating Cover Crops



"Termination is kind of a tricky thing. We try not to plant too late in the season because one of the things we have challenges with is the cover crop residue getting in the way of a lot of our cultivation equipment. So if we are planting cash crops, next year we try to get it before the grasses reach the boot stage. After that point, it becomes much more difficult for the grasses to break down. We also mess around with our seed ratio. If we are growing a vegetable crop that year, we may only have 10% cereal grain and then 90% legume."

Anthony Reyes, Agricultural Program Manager at Oxbow Farm & Conservation Center in Snoqualmie Valley, WA

"A huge part of (planting and termination) decisions should be based on what the goals are for your cover crop. For some people, especially for people in organic production, we need it for the nutrients. There's others where weed suppression is going to be more important. So the timing, the cover crops that are selected, as well as the termination method, all have a big influence on whether you are focused on that nutrient cycling or weed suppression, and how to balance both of them is a fun task to consider." – Dr. Shannon Cappellazzi



Photo: Vetch, tillage radish and grass mix. Credit: April Thatcher, April Joy Farm, WA.



Hear more from Shannon, Anthony, and OFRF by listening or watching this Seeds of Success **webinar on YouTube**.

The Seeds of Success webinars are interactive, virtual farmer-to-farmer networking sessions for growers across the country. Check out OFRF's **entire farmer-to-farmer playlist** at www.youtube.com/@OfrfOrg.



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**Cover Cropping Strategies for
Organic Systems in the West**

Cover Cropping Resources:

[USDA AMS National Organic Program](#)

[OFRF: Organic Research Hub](#)

[OFRF: Cover Crops Selection and Management](#)

[SARE: Managing Cover Crops Profitably](#)

[Western Cover Crops Council](#)

[OSU: Function & Selection of Cover Crops](#)

[eOrganic: Cover Cropping in Organic Farming Systems](#)

References

Kelly et al. 2021. Dryland cover crop soil health benefits are maintained with grazing in the U.S. High and Central Plains. <https://doi.org/10.1016/j.agee.2021.107358>.

Lawson et al. 2015. Influence of Seeding Ratio, Planting Date, and Termination Date on Rye-Hairy Vetch Cover Crop Mixture Performance under Organic Management. <https://doi.org/10.1371/journal.pone.0129597>.

Planisich et al. 2021. Grazing of cover crops in integrated crop-livestock systems. <https://doi.org/10.1016/j.animal.2020.100054>.

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Wilson et al. 2018. Summer Flowering Cover Crops Support Wild Bees in Vineyards. <https://doi.org/10.1093/ee/nvx197>.

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NORTHWEST
TRANSITION TO ORGANIC
PARTNERSHIP PROGRAM