



ORGANIC FARMING RESEARCH FOUNDATION

Fostering the improvement and widespread adoption of organic farming.

303 Potrero Street, Suite 29-203
Santa Cruz, CA 95060
April 8, 2021

Mr. Clarence Prestwich
National Agricultural Engineer
Conservation Engineering Division, NRCS, USDA
1400 Independence Avenue, South Building, Room 4636
Washington, DC 20250.

Dear Mr. Prestwich:

Thank you for the opportunity to review proposed revisions to NRCS Conservation Practice Standards, docket ID NRCS-2020-0008. On behalf of the Organic Farming Research Foundation (OFRF, <https://ofrf.org>), we would like to submit the following comments and recommendations.

OFRF works nationwide to foster the improvement and widespread adoption of organic farming systems through research, education, and federal policies that bring more farmers and acreage into organic production. The organic method, codified in 2002 in the USDA National Organic Program (NOP) Standards, takes a systems-based approach to crop and livestock production, and requires certified growers to conserve, protect and improve soil, water, and other natural resources. Many of the NRCS Conservation Practices offered through EQIP and CSP can play a vital role in helping certified organic and transitioning-organic producers attain their conservation and sustainability goals and meet NOP requirements for conservation within the producer's Organic System Plan (OSP). In addition the nation's organic farming and ranching sector shares NRCS's commitment to resource conservation, and thereby can help the agency attain its conservation goals nationwide.

Addressing the mounting climate crisis has emerged as an urgent top priority throughout the agricultural sector, including OFRF and the organic farmers and ranchers with whom we work. With its emphasis on building soil organic matter (SOM) and soil health, and optimizing farming system biodiversity, the organic method can make unique contributions toward mitigating the climate crisis by enhancing agricultural resilience to weather extremes and by sequestering carbon and reducing net greenhouse (GHG) emissions. Organic livestock producers emphasize pasture-based systems and are required by NOP to provide a minimum of 30% of ruminant dry matter intake through grazing. Advanced rotational grazing management can be highly effective in enhancing both carbon sequestration and resilience.

A number of Conservation Practices, including Cover Crop (Code 340), Contour Orchard and Other Perennial Crops (Code 331), and Windbreak/Shelterbelt Establishment and Renovation (Code 380) build climate resilience and sequester carbon. Practices such as Energy Efficient Agricultural Operation (Code 374) can help reduce the GHG emissions “footprint” of an agricultural operation, while optimum use of practices such as Fence (Code 382) and Grazing Land Mechanical Treatment (Code 548) can support implementation of advanced grazing management systems.

Because healthy, living soils, biodiversity, and agro-ecological balance comprise the foundation for successful organic production, organic farmers have always sought to avoid the use of synthetic fertilizers and crop protection chemicals, genetically engineered organisms, and other environmentally risky technologies. Therefore, organic producers must implement NRCS Conservation Practices using materials and methods that comply with NOP standards codifying the exclusion of these substances and methods. Beginning and transitioning organic producers in particular require technical assistance from NRCS field staff well versed in organic methods.

We appreciate that NRCS has developed a body of information resources for conservation implementation in organic operations, and that NRCS is currently working with OFRF to update and expand these resources (Agreement No. NR213A750008C002 between NRCS and OFRF, signed in 2020). We believe that, with certain modifications, the Practice Standards can become even more effective in helping organic producers meet their conservation goals.

It is from this perspective that OFRF offers the following comments on the Practice Standards revisions that were posted on the Federal Register on March 9, 2021.

General comments

- 1. We endorse the comments and recommendations submitted by the National Sustainable Agriculture Coalition (NSAC) on Practice Standards 331 Contour Orchard, 340 Cover Crop, 374 Energy Efficient Ag Operation, and 382 Fence.**

NSAC has recommended substantive changes that will make these four Practice Standards more effective in helping all farmers and ranchers to protect and improve soil, water, and other resources; to make their operations more resilient to weather extremes and other stresses; and to mitigate the greenhouse gas (GHG) emissions that drive climate change. In addition, NSAC offers several wordsmithing suggestions that would make the Standard clearer and easier for field staff and program participants to understand and apply.

- 2. We strongly urge NRCS to include succinct language under General Criteria for each Practice Standard regarding implementation of the Practice on USDA certified organic and transitioning-organic operations, and to add a link to the NRCS Organic Resource Page to the References at the end of the Standard.**

Implementation of Conservation Practices on non-organic farms often entails the use of materials such as conventional fertilizers and herbicides, genetically modified crop seeds, and treated lumber, which can make the practices seem less relevant and accessible to organic and transitioning-organic producers. In order to facilitate effective implementation of NRCS Conservation Practices on organic farming and ranching operations, each Standard should include the following information for NRCS field staff and program participants.

Under General Criteria for each Standard, add the following statement:

“For organic and transitioning-to-organic systems, all seeds, materials, and methods used in the implementation of this Practice must comply with the National Organic Program (NOP) Rules. See the NRCS Organic Farming Handbook and other resources for conservation in organic systems.”

Add the following to the list of References at the end of the Standard:

“NRCS Organic Farming Handbook and other Planning Resources
<https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/organic/>.”

For Practices that can play a central role in complying with NOP standards and meeting conservation requirements in the Organic System Plan, we urge NRCS to include additional language under Considerations related to organic operations. Specific examples are given below for Cover Crop (Code 340), Contour Orchard (Code 331), Windbreak/Shelterbelt (Code 380), and Fence (Code 382).

- 3. We highly recommend that NRCS elevate and emphasize the role that many Practices can play in reducing GHG emissions from agricultural operations, and in building agricultural resilience to the impacts of climate change. Specifically, we urge NRCS to reinstate and strengthen GHG- and climate-related language that has been deleted in the proposed revisions to several Practice Standards.**

Climate disruption impacts all producers and has reached a point of crisis that has effectively made the climate a Priority Resource Concern nationwide. The current list of Resource Concerns addressed by NRCS programs and practices includes “Air quality – emissions of greenhouse gases.” Practices whose implementation can enhance carbon sequestration in soil and/or biomass, or otherwise help mitigate the net GHG “footprint” of a farming or ranching operation should include this benefit as a Purpose for the practice. When appropriate, the Standard should provide Additional Criteria or Considerations for optimizing these climate mitigation benefits.

The current Resource Concerns also include a category of “Weather Resilience” that lists several concerns related to moisture management. As weather systems and precipitation patterns become more extreme and erratic, the climate resilience benefits of Practices become more and more important, and should be emphasized, either as Purposes and associated Criteria, or as Considerations that can inform best implementation of Practices.

Specific examples are given in the following discussions of individual Practice Standards currently under review.

Cover Crop (Code 340)

- 1. We would like to express our gratitude to NRCS for proposing a greatly improved Standard, especially its increased emphasis on soil health, and two new Purposes to “supply nitrogen to the subsequent crop” and to “improve habitat for pollinators, beneficial organisms, and natural enemies of crop pests.”**

Cover cropping is a central Practice for organic producers and are specifically required by NOP standards for soil fertility and crop nutrient management, and for crop rotation. Organic producers commonly use cover crops to provide and manage nutrients especially nitrogen, and to host pollinators, pest predators and parasitoids, and other beneficial organisms. Thus we are especially grateful that NRCS has added these two purposes along with robust Criteria for optimizing the provision of nitrogen to the following crop, and for providing beneficial habitat.

- 2. We appreciate NRCS for allowing the grazing of cover crops provided that conservation objectives are met, and we recommend that NRCS also allow cover crop harvest for seed or forage, again with the requirement that cover crop conservation objectives are met.**

One of the greatest challenges that organic producers face in meeting NOP standards is obtaining organically grown seed for both cover and production crops. Thus, allowing the on-farm production of organically-grown cover crop seed for on-farm use will help producers meet the NOP requirement for organic seed, and thereby greatly facilitate implementation of the cover cropping practice in organic operations. Removal of the seed does reduce nitrogen return to the soil, but has relatively little impact on total organic carbon input through root exudates and crop residue return. Furthermore, on-farm use of the seed means that nutrients in the seed do not leave the farm.

Many organic producers manage crop-livestock integrated systems to promote biodiversity and agroecological balance, and cover crops can play a vital role in such systems. While cover crops can usually be grazed, there may be circumstances in which harvesting the above-ground portion of cover crops for hay or silage may be warranted, especially in colder climates in which winters are too severe to allow year-round pasture access. For example, vigorous warm season grasses like sorghum-sudan or pearl millet can be cut for hay to be fed the following winter, and these crops respond to mowing with vigorous regrowth and development of a deeper, denser root system that can enhance conservation benefits such as improved soil structure and moisture infiltration, as well as recovery of leached nitrogen.

3. We urge NRCS to add specific language in General Criteria, Considerations, and References to facilitate implementation of this Practice in organic operations.

Given the central role of cover cropping as a multi-purpose practice in organic farming systems, we highly recommend adding the paragraph to General Criteria and the NRCS organic resources to the References as detailed in General Comment #2 above. In addition, we urge NRCS to add the following paragraph to the Considerations to further inform the application of CPS 340 Cover Crop in organic operations:

“This Practice can play a central role in helping USDA certified organic and transitioning-to-organic producers meet NOP requirements for resource conservation and soil improvement, and to comply with NOP soil fertility, nutrient management, and crop rotations practice standards. It may be implemented as part of the NOP applicant’s Organic Systems Plan, as described in Cover Crop Implementation Guides for organic producers, available at the web page for NRCS Organic Farming Handbook and other planning resources.”

4. We appreciate the wealth of pertinent information provided in the expanded Considerations, and we urge NRCS to adopt NSAC recommendations for reorganizing this section.

Reorganizing the individual Considerations statements under the four headings of cover crop selection, planting, management for nitrogen, and other management tips would greatly facilitate understanding and optimum implementation of this Practice by NRCS field staff and program participants.

Contour Orchard and Other Perennial Crops (Code 331)

1. We thank NRCS for revising the General Criteria to allow implementation of the Practice on slopes that exceed the critical slope length, provided that terraces, diversions, or other structures are installed to subdivide the slope into segments that do not exceed the maximum.

Many organic operations include orchards or other perennial crops on their steeper land or more erodible soils, and producers located in hilly or mountainous regions must often grow these high value crops on hillsides that exceed the critical slope length. In addition, hillsides often provide better microclimates for fruit production than more level bottomland sites which are often fog- and frost-pockets that make perennial fruit crop more prone to disease and spring freezes. Proper implementation of this Practice can help organic producers protect and improve the soil resource while making the best use of hillsides for high-value agricultural production.

2. We urge NRCS to strengthen criteria for CPS 331 for more effective soil and water conservation, including a clear requirement for vegetative ground cover, and better

criteria for maximum row grade and inward-sloping benches to prevent erosion, minimize runoff, and enhance moisture infiltration.

The contour orchard practice can stop erosion, reduce runoff, and enhance moisture infiltration only if at least 50% of the ground is covered year round, either by perennial sod managed by periodic mowing or grazing, or by a succession of annual cover crops. In semiarid or Mediterranean climates, coverage by vegetative residues or organic mulch during dry seasons may suffice.

In addition, a 10% row grade would largely defeat the purpose of the practice unless most of the orchard floor is protected by vegetative cover. In situations where 50% living cover is not feasible, an inward sloping bench for each crop row becomes especially critical for the purposes of this Practice. Therefore, we strongly recommend that NRCS strengthen the General Criteria as detailed in comments submitted by the National Sustainable Agriculture Coalition (NSAC).

As climate change brings more extreme rainfall events as well as longer dry spells or droughts in many parts of the US, this Practice will play an increasingly critical role in protecting both natural resources and farm productivity and resilience in the face of extreme weather events. However, strengthened criteria regarding soil coverage and row grade are urgently needed to prevent extreme weather events from causing severe erosion and defeating the purpose of the Practice.

3. We urge NRCS to add language specific to implementation of CPS 331 in organic systems.

We recommend adding the General Criteria and Reference language as detailed in General Comment 2 above. In addition, we recommend the following language under Considerations:

“This Practice can help USDA certified-organic and transitioning-to-organic producers meet NOP requirements for soil and water resource conservation improvement in orchard and other perennial crops, and it may be implemented as part of the NOP applicant’s Organic Systems Plan. For more information, see the NRCS Organic Farming Handbook and other planning resources.”

Tree fruit and nuts and other perennial crops offer important high-value enterprise opportunities for organic farms, especially those located in hilly terrain or highly erodible soils not suited to annual crops. Information should be made available to NRCS field staff and program participants to facilitate successful implementation of this Practice by organic producers.

4. We recommend that NRCS add a paragraph in the Considerations section highlighting the importance of this Practice in building resilience to climate change through better stewardship of soil and water resources.

As climate changes intensify both deluge and drought, Contour Orchard and Other Perennial Crops will play an increasingly vital role in minimizing runoff and erosion and maximizing the storage of soil moisture to sustain crops through prolonged dry spells. We recommend adding the following statement to the Considerations:

“Implementation of this Practice can enhance the resilience of orchards and other perennial plantings to the impacts of climate change, both by minimizing soil erosion during high-intensity rainfall events or windstorms, and by augmenting the quantity of plant-available soil moisture to sustain crops through drought. Maximize year-round vegetative ground coverage and living root to protect the soil surface and optimize moisture infiltration into the soil profile. In lower-rainfall regions, leave cover crop residues on the surface and root residues undisturbed in the soil profile to protect soil health during dry seasons.”

CPS 382 Fence

- 1. We urge NRCS to elaborate on “conservation objectives” in the Purpose, Criteria, and considerations for CPS 382 Fence. Conservation objectives including improved grazing management for soil, forage, and livestock health; protection of water resources from the impacts of livestock; and protection of wildlife.**

Fencing can be used to exclude livestock from streams and other surface waters, thereby protecting water quality. This Practice also plays a vital role in Prescribed Grazing (CPS 528), and Advanced Rotational Grazing Management (CSP Enhancement E528R). Another CSP Enhancement (E382B) provides electrical offsets to facilitate installation and removal of temporary electrical fencing for management intensive rotational grazing.

Organic livestock producers must provide at least 30% of their ruminant livestock’s dry matter intake from pasture, and advanced grazing management methods can help them meet NOP requirements to improve and protect the soil resource. In addition, research has shown that advanced grazing management can help combat climate change by sequestering at least one ton of carbon per acre annually, as well as enhancing the resilience of forage and livestock to the stresses of weather extremes. Therefore, since fencing plays a key role in protecting streams and optimizing grazing management, we strongly recommend that NRCS expand the Purpose as follows:

“Provide a means to control the movement of animals, people and vehicles to improve grazing management, protect water and soil resources, provide wildlife habitat, or accomplish other conservation objectives.”

In parallel with the expanded Purpose, we recommend that NRCS modify and expand the third paragraph of General Criteria as follows:

“Position fences to facilitate changes in management strategies or access requirements. To protect surface waters, position fence to provide the required offset distance from

the stream or water body. To improve grazing management, position fencing to facilitate movement of livestock into and out of pastures or paddocks to optimize grazing and rest periods. The fence design and installation shall include height, size, spacing, type of materials, and location of features such as gates and cattle guards.”

Finally, we recommend expanding the second paragraph under Considerations as follows:

“Consider livestock management and adaptive grazing strategies, trailing, access to water facilities, wildlife deterrence or passage. Design and locate fencing to facilitate implementation of Prescribed Grazing (Code 528) and Advanced Grazing Management (CSP enhancement E528R), which can greatly improve soil, forage, and livestock health and stress resilience, and help combat climate change by sequestering substantial amounts of carbon in grazing land soils.”

- 2. We urge NRCS to add language specific to implementation of CPS 382 in organic systems.**

Because some fencing materials are treated with substances prohibited under the NOP standards, we strongly recommend adding the General Criteria and Reference language for organic systems detailed in General Comment 2 above. In addition, we suggest adding the following statement under Considerations:

“This Practice can help USDA certified-organic and transitioning-to-organic producers meet NOP requirements for livestock access to pasture, 30% of dry matter from grazing for ruminants, and protection of soil and water resources.”

CPS 374 Energy Efficient Agricultural Operation

- 1. We strongly urge NRCS to include mitigation of net GHG emissions as a Purpose for this practice, and to include Criteria and Considerations for the use of on-farm or locally generated, low-carbon, renewable energy including solar and wind to meet the HVAC&R, irrigation water pumping, on-farm food processing, and other energy needs of the operation.**

With climate change reaching crisis proportions, it is absolutely vital to maximize the GHG mitigation and resilience potential of all Conservation Practice standards, and especially this one that addresses the energy efficiency of the operation. Specifically, we recommend adding the following second Purpose for CPS 374:

“Reduce net total greenhouse gas (GHG) emissions from the whole farm operation through energy efficiency and the use of low-carbon renewable energy generated on farm or locally.”

Provide Additional Criteria for this Purpose that include at least a 50% reduction in total CO₂ emissions related to those aspects of the farm operation covered by this Standard. This criterion may be met through utilization of on-farm or local solar, wind or other low-carbon energy sources, through a reduction in total energy consumption, or a combination of both.

CPS 380 Windbreak/Shelterbelt Establishment and Renovation

- 1. We thank NRCS for expanding the Definition and Conditions Where Practice Applies to include enhancement and renovation of windbreak / shelterbelt plantings as well as initial planting, and to include “curvilinear” as well as “linear” configurations.**

The added scope for the Practice will assist producers in essential renovation, maintenance and improvement of windbreaks, and the flexibility in windbreak configuration is especially valuable for farms and ranches located on complex or hilly topography.

- 2. We thank NRCS for expanding and clarifying Purposes related to management of snow and moisture through the climate modifications afforded by the windbreak.**

As climate change intensifies weather extremes, the snow-managing and microclimate-improving benefits of the windbreak will become even more vital to agricultural resilience and soil and water conservation.

- 3. We urge NRCS to reinstate the Purpose, “Increase carbon storage in biomass and soils.”**

All agroforestry practices including Windbreak/ Shelterbelt (Code 380) can sequester large amounts of carbon, from one to two tons elemental C per acre annually. In addition, leaf litter deposition has been found to enhance stable SOC levels in adjacent parts of the field in a strip as wide as the height of the windbreak itself. We appreciate the Considerations for Carbon Capture and Storage; however, with climate change emerging as an urgent nationwide crisis, and with both Soil Organic Matter Quantity and Air Quality Greenhouse Gas Emissions currently listed as NRCS resource concerns, we believe that it is highly appropriate to list carbon sequestration and net GHG reduction as a Purpose for the Windbreak / Shelterbelt practice, and not limit it to Considerations only.

- 4. We urge NRCS to reinstate the wildlife habitat purpose and expand it as follows: “Provide habitat for wildlife, pollinators, natural enemies of insect pests, and other beneficial organisms.”**

Many conservation-minded producers, especially organic farmers and ranchers, utilize practices for multiple purposes, and windbreak plantings can provide habitat for insectivorous

birds as well as predaceous and parasitoid insects that help organic producers to implement effective, NOP compliant IPM programs.

- 5. We recommend the language for Practice implementation on organic operations under General Criteria and References outlined in General Comment #2 above, and suggest the following language for Considerations:**

“This Practice can help USDA certified-organic and transitioning-to-organic producers meet NOP requirements for suitable buffers or barriers between certified organic production areas and non-organic production areas on the same farm or neighboring farms that utilize NOP-prohibited substances. Windbreaks also contribute to biodiversity and beneficial habitat including natural enemies of insect pests. For more information, see the NRCS Organic Farming Handbook and other planning resources.”

CPS 548 Grazing Lands Mechanical Treatment

- 1. We thank NRCS for reducing the slope limit from 30 degrees to 20 degrees under Conditions where Practice Applies.**

Attempting these mechanical operations on slopes steeper than 20 degrees increases the risks of soil erosion and degradation after the operation, and also threatens the safety of farmers and farmworkers conducting these operations.

- 2. We thank NRCS for clarifying and expanding Criteria and Considerations to better reflect both the benefits and the potential limitations and drawbacks of the targeted deep tillage or other soil disturbance that this Practice entails.**
- 3. We urge NRCS to reinstate the Criteria requiring use of Prescribed Grazing (Code 528) after the mechanical treatments conducted as part of this Practice.**

The existing Grazing Land Mechanical Treatment standard requires Prescribed Grazing to follow implementation of Practice 548. While the proposed revision includes Criteria requiring adequate rest from grazing to allow the desired vegetative response, and Considerations related to Prescribed Grazing and additional seasonal grazing deferments to prevent compaction after chiseling or rip treatment, we are concerned that an eventual return to unmanaged or continuous grazing could re-create the same resource problems that necessitated the mechanical treatment in the first place. In addition, the revised Standard includes under Operations and Maintenance: “A grazing schedule for the treated area developed using NRCS CPS Prescribed Grazing (Code 528).” Therefore, we recommend adding the following language at the end of the Criteria:

“Follow any grazing lands mechanical treatment with Prescribed Grazing (Code 528), taking into account any needs to defer grazing for a period of time to protect soil health and livestock safety.”

4. We recommend a modification to General Criteria that would expand the flexibility and applicability of the Practice, maximize its benefits, and reduce its soil erosion risks, as follows:

“Treatment areas must—

- Be relatively free of undesirable or noxious plants that will spread as a result of disturbance.**
- Contain sufficient quantities and distribution of desirable plants to take advantage of improved growing conditions as a result of the treatment, or be seeded with a suitable mix of desired forage plant species immediately after mechanical treatment.**
- Have adequate rest from grazing to ensure the desired plant response from the treatment, including establishment of any new seedings.”**

Like any practice that entails targeted soil disturbance to relieve compaction or other unfavorable physical soil conditions, CPS 548 Grazing Lands Mechanical Treatment can be a “double edged sword” and requires due care to ensure that its benefits outweigh the risks of erosion, re-compaction, or other damage to the soil resource. Rapid plant growth with deep root penetration is the only way to ensure that recently treated soil does not simply re-compact. While existing vegetation may accomplish this in many cases, severely overgrazed or degraded grazing lands may require prompt reseeded of vigorous forage crops (which may include cover crops like pearl millet, sorghum-sudangrass, cereal rye, or deep rooted legumes as well as perennial species) to ensure that the physical properties of mechanically-loosened soil continue to improve and do not “backslide” into the former condition.

5. Include organic language under Criteria and References as detailed in General Comment 2 above, and add the following paragraph to Considerations:

“This Practice, when used in conjunction with appropriate pasture or range planting and with prescribed grazing or advanced grazing management, can help USDA certified-organic and transitioning-to-organic producers restore degraded grazing lands in order to meet NOP requirements for livestock access to pasture.”

Organic livestock producers are often faced with degraded pasture or range conditions when they initiate grazing operations on newly acquired land with poor management history, and they need appropriate tools and practices to fully restore these lands. While seeding desirable species (Practices 512 and 550 for pasture and range planting) followed by advanced grazing management can sometimes accomplish this, badly compacted lands may need the initial mechanical treatments covered by this practice. Our recommended modifications for CPS 548

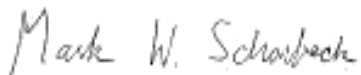
Grazing Lands Mechanical treatment (items 3, 4, and 5) can facilitate its utilization by organic producers for this purpose.

We thank NRCS for the opportunity to provide this input on practice standards from the viewpoint of organic producers committed to resource conservation, climate stabilization, and resilience.

Sincerely,

A handwritten signature in dark ink that reads "Brise Tencer". The signature is written in a cursive, flowing style.

Brise Tencer, Executive Director

A handwritten signature in dark ink that reads "Mark W. Schonbeck". The signature is written in a cursive, flowing style.

Mark Schonbeck, Research Associate