

**Yolo County Climate Action and Adaptation Plan
Carbon Storage and Emission Reduction Practices for Working Lands**



POTENTIAL PRACTICES					
Practice	NRCS CPS Code ¹	Where Practice Applies	Description	Producer Benefits	Funding / Incentives ²
<i>Carbon Storage Measures</i>					
A. Conservation Crop Rotation: Decrease Fallow Frequency or Add Perennial Crops to Rotations	328	This practice applies to all cropland where at least one annually planted crop is included in the crop rotation.	A planned sequence of crops grown on the same ground over a period of time. This practice results in an increase in soil carbon.	<ul style="list-style-type: none"> • Reduce sheet, rill, and wind erosion • Improve or maintain soil health • Improve or maintain soil organic matter • Reduce water quality degradation by utilizing excessive soil nutrients • Improve soil moisture retention • Reduce weed pressures and break pest cycles • Provide feed and forage for domestic livestock 	A, D
B. Cover Crops	340	All lands that require seasonal vegetative cover for natural resource protection or improvement.	Grasses, legumes, and other plants grown for seasonal vegetative cover. This practice helps to reduce erosion and maintain or increase organic matter content.	<ul style="list-style-type: none"> • Reduce sheet, rill, and wind erosion • Improve or maintain soil health • Improve or maintain soil organic matter • Reduce water quality degradation through metabolic uptake of excessive soil nutrients • Suppress excessive weed pressure and break pest cycles • Improve soil moisture retention • Minimize soil compaction 	D
C. Mulching	484	This practice applies to all lands where mulches are needed.	Applying plant residues or other suitable materials to the land surface. This practice improves plant productivity and health and maintains or increases organic matter content.	<ul style="list-style-type: none"> • Improve soil moisture retention • Potential to reduce energy use and irrigation cost • Reduce erosion along farm-edge water conveyance channels • Potential to protect groundwater • Reduce sheet, rill, and wind erosion • Reduce weed pressure 	A, D
D. Nutrient Management	590	All fields where plant nutrients and soil amendments are applied. Does not apply to one-time nutrient applications for the	Manage rate, source, placement, and timing of plant nutrients and soil amendments by developing a system to track soil nutrients. Amendments can include organic and inorganic	<ul style="list-style-type: none"> • Potential to reduce fertilizer costs • Improve plant health and productivity • Minimize excess nutrients that percolate into surface and groundwater 	A, D

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		establishment of permanent vegetation.	fertilizers, pulverized rock minerals, and biochar. This practice improves or maintains soil organic matter.	<ul style="list-style-type: none"> • Improve or maintain soil organic matter 	
E. Soil Carbon Amendments (SCA)	336	This practice applies to areas of Crop, Pasture, Range, Forest, Associated Agriculture Lands, Developed Land, and Farmsteads where organic carbon amendment applications will improve soil conditions.	<p>Soil carbon amendments (SCA) are materials derived from plants or animal byproducts that are applied to the soil to improve or maintain soil organic matter, sequester carbon and enhance carbon stocks, improve soil aggregate stability, and/or improve habitat for soil organisms. SCAs include compost, biochar, and other regionally-appropriate carbon-based materials (e.g., waste plant materials, wood chips, pulverized paper, bagasse, or distillation residue).</p> <p>Whole Orchard Recycling (WOR) is a type of SCA where orchard trees are chipped and incorporated into the field in which they were grown (i.e., wood chips not exported off-site).</p> <p>SCA can also include improving soil biology by using beneficial soil inoculants such as rhizobia and mycorrhizae.</p>	<ul style="list-style-type: none"> • Improve or maintain soil organic matter • Improve soil structure for water infiltration, moisture retention and nutrient availability • Improve soil health, boost crop yields, reduce the need for synthetic fertilizers, and sequester CO₂ 	A, C, D
F. Residue and Tillage Management: Reduced Till	345	This practice applies to all cropland.	Managing the amount, orientation, and distribution of crop and other plant residues on the soil surface year-round while limiting soil-disturbing activities used to grow and harvest crops in systems where the field surface is tilled prior to planting. This practice improves soil health and maintains or increases organic matter content.	<ul style="list-style-type: none"> • Improve or maintain soil health • Improve or maintain soil organic matter • Reduce energy use and associated costs 	A, B, D
G. Residue and Tillage Management: No Till	329	This practice applies to all cropland.	Limiting soil disturbance to manage the amount, orientation, and distribution of crop and plant residue on the soil surface year-	<ul style="list-style-type: none"> • Improve or maintain soil health • Improve or maintain soil organic matter • Increase plant-available moisture • Reduce energy use and associated costs 	A, B, D

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			round. This practice improves soil health and maintains or increases organic matter content.		
H. Prescribed Grazing	528	This practice applies to all lands where grazing and/or browsing animals are managed.	Managing the harvest of vegetation with grazing and/or browsing animals with the intent to achieve specific ecological, economic, and management objectives. This practice reduces soil erosion and maintains or improves soil health.	<ul style="list-style-type: none"> • Improve or maintain quantity and/or quality of forage for grazing and browsing animals' health and productivity • Improve or maintain desired species composition, structure, and/or vigor of plant communities • Improve or maintain surface and/or subsurface water quality and/or quantity • Reduce soil erosion • Improve or maintain soil health • Reduce wildfire hazards from biomass accumulation 	B
I. Prescribed Burning	338	All lands as appropriate.	Planned fire applied to a predetermined area to manage undesirable vegetation, improve plant community structure and composition, reduce wildfire hazards, improve and maintain habitat for soil organisms, and enhance soil health.	<ul style="list-style-type: none"> • Manage undesirable vegetation to improve plant community structure and composition • Reduce noxious invasive weed species • Reduce wildfire hazards from biomass accumulation • Improve forage production 	
J. Range Planting	550	All range lands as appropriate. This practice is applied where desirable vegetation is below the acceptable level for natural reseeding to occur or where the potential for enhancement of the vegetation by management of herbivory is unsatisfactory.	The seeding and establishment of herbaceous and woody species for the improvement of vegetation composition and productivity of the plant community to meet management goals. This practice increases and/or stabilizes carbon balance and sequestration.	<ul style="list-style-type: none"> • Provide or improve forages for livestock • Restore hydrologic function through increased water infiltration and soil moisture retention 	B, D
K. Silvopasture	381	This practice may be applied on any area that is suitable for the desired forages, trees, and livestock.	Deliberate integration of trees and grazing livestock operations on the same land unit, intensively managed for both forest products and forage. This practice improves soil quality and increases carbon storage.	<ul style="list-style-type: none"> • Provide forage, shade, and/or shelter for livestock • Improve water quality • Improve soil health 	B, D

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				<ul style="list-style-type: none"> • Provide both short- and long-term income sources 	
L. Hedgerows	422	All lands as appropriate.	Establishment of dense vegetation (e.g., trees, shrubs, perennial grasses, forbs, rushes, sedges) in a linear design surrounding a farm field. This practice increases carbon storage in biomass and soils.	<ul style="list-style-type: none"> • Integrated pest management by providing habitat to beneficial insects • Enhance crop pollination • Reduce chemical drift • Visual screens and barriers to dust • Enhance pollen, nectar, and breeding habitat for pollinators • Enhance cover, nesting, and food sources for birds, mammals, and other native wildlife 	B, D
M. Windbreak-Shelterbelt Establishment and Renovation	380	This practice may be applied in any area where linear plantings of woody plants are desired and suited for controlling wind and visual resources. Use other tree/shrub practices when wind and visual problems are not concerns.	Establishment, enhancement, or renovation of windbreaks, also known as shelterbelts, which are single or multiple rows of trees and/or shrubs in linear or curvilinear configurations. This practice increases carbon storage in biomass and soils.	<ul style="list-style-type: none"> • Reduce soil erosion from wind • Protect plants from wind-related damage • Provide visual screens • Delineate property and field boundaries • Enhance cover, nesting and food sources for birds, mammals, and other native wildlife 	B, D
N. Riparian Forest Buffer	391	Apply riparian forest buffers on areas adjacent to permanent or intermittent streams, lakes, ponds, and wetlands where channels and streambanks are sufficiently stable.	An area predominantly covered by trees and/or shrubs located adjacent to and up-gradient from a watercourse or water body.	<ul style="list-style-type: none"> • Reduce transport of sediment to surface water, and reduce transport of pathogens, chemicals, pesticides, and nutrients to surface and groundwater. • Enhance cover, nesting and food sources for birds, pollinators, mammals, and other native wildlife 	B
O. Riparian Herbaceous Cover	390	This practice applies to land adjacent to water courses, water bodies, and wetlands where natural riparian vegetation has been altered and bank stability is adequate to support the practice.	Grasses, sedges, rushes, ferns, legumes, and forbs tolerant of intermittent flooding or saturated soils, established or managed as the dominant vegetation in the transitional zone between upland and aquatic habitats.	<ul style="list-style-type: none"> • Reduce transport of sediment to surface water, and reduce transport of pathogens, chemicals, pesticides, and nutrients to surface and groundwater 	B

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				<ul style="list-style-type: none"> Enhance cover, nesting and food sources for birds, pollinators, mammals, and other native wildlife Restore, improve, or maintain the desired plant communities 	
P. Grassed Waterway	412	This practice is applied in areas where added water conveyance capacity and vegetative protection are needed to prevent erosion and improve runoff water quality resulting from concentrated surface flow.	A shaped or graded channel that is established with suitable vegetation to convey surface water at a nonerosive velocity using a broad and shallow cross section to a stable outlet.	<ul style="list-style-type: none"> Reduce maintenance of farm edge waterways Convey runoff from terraces, diversions, or other water concentrations without causing erosion or flooding Prevent gully formation Protect/improve water quality 	B
Q. Filter Strip	393	Filter strips are established where environmentally sensitive areas need to be protected from sediment, other suspended solids, and dissolved contaminants in runoff.	A strip or area of herbaceous vegetation that removes contaminants from overland flow.	<ul style="list-style-type: none"> Reduce suspended solids and associated contaminants in runoff and excessive sediment in surface waters Reduce suspended solids and associated contaminants in irrigation tailwater 	B
GHG Emission Reducing Measures					
A. Energy Efficient Agricultural Operation	374	This practice applies to nonresidential structures, equipment, and other energy-using systems that support agricultural production and related enterprises except where another NRCS Conservation Practice Standard (CPS) is more appropriate.	On-farm facilities, equipment, and management strategies that provide increased energy efficiency.	<ul style="list-style-type: none"> Improve energy efficiency for facilities, equipment, and/or processes Reduce operational costs 	F, G, H, I
B. Reduce Fossil Fuel Consumption in Field Equipment	-	All lands where diesel offroad equipment is used.	<p>Reduce fossil fuel use through one or more of the following:</p> <ol style="list-style-type: none"> Routine maintenance of existing equipment, Efficient operation of existing equipment (<i>e.g., optimizing drawbar load</i>), Engine and equipment upgrades to more efficient models. 	<ul style="list-style-type: none"> Improve energy efficiency Reduce operational costs 	G, H, I

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C. Reduce Energy Use in Agricultural Irrigation Pumping	-	Croplands	Transition to more efficient irrigation systems which could include: 1. Solar Irrigation Return Pumps, 2. Maintenance of pump bowl components to increase efficiency.	<ul style="list-style-type: none"> • Improve energy efficiency • Reduce operational costs 	G, H
D. Increase Use of Biofuels or Low-Carbon Fuels in Field Equipment	-	All lands where diesel offroad equipment is used.	Replacing conventional gasoline and diesel fuels with biofuels or low-carbon fossil fuel alternatives.	<ul style="list-style-type: none"> • Improve energy efficiency • Reduce operational costs 	-

¹U.S. Department of Agriculture Natural Resources Conservation Service - Conservation Practice Standards, <https://www.nrcs.usda.gov/resources/guides-and-instructions/conservation-practice-standards>

²Potential funding sources and incentive programs are itemized here; however, Yolo County will also evaluate developing other funding sources or programs that could be used to incentivize actions at the County-wide scale. Therefore, although these existing incentives are currently available (although not all programs may currently be open or have available funding this cycle), additional funding sources may become available with implementation of the CAAP in order to meet the goals and priority strategies identified.

Specific funding sources and incentive programs:

- A – NRCS Environmental Quality Incentives Program (EQIP), Conservation Incentive Contract (CIC), California, <https://www.nrcs.usda.gov/conservation-basics/conservation-by-state/california/environmental-quality-incentives-program>
- B – NRCS Conservation Stewardship Program (CSP), <https://www.nrcs.usda.gov/programs-initiatives/csp-conservation-stewardship-program>
- C – Yolo-Solano Air Quality Management District, Agricultural Chipping Program, <https://www.ysaqmd.org/incentives/agricultural-chipping-program/>
- D – CDFA Healthy Soils Incentives Program, <https://www.cdfa.ca.gov/oefi/healthysoils/IncentivesProgram.html>
- E – NRCS Agricultural Land Easement Program (ALE), <https://www.nrcs.usda.gov/programs-initiatives/ale-agricultural-land-easements>
- F – NRCS EQIP On-Farm Energy Initiative, <https://www.nrcs.usda.gov/programs-initiatives/on-farm-energy-initiative>
- G – Yolo-Solano Air Quality Management District, Carl Moyer Program, <https://www.ysaqmd.org/incentives/moyer/>
- H – Yolo-Solano Air Quality Management District, Funding Agricultural Replacement Measures for Emission Reductions (FARMER) Program, <https://www.ysaqmd.org/incentives/farmer-program/>
- I – California Air Resources Board, California Clean Off-Road Equipment Voucher Incentive Project (CORE) <https://californiacore.org/resources/>