

# A Farmer and Rancher Guide to Climate-Smart Agriculture: Impact Worksheet

A companion calculator to the Field Guide

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# Rangeland and Pasture Worksheet

This worksheet was created to give you a general value for your carbon sequestration or avoidance impact from implementation of climate smart practices. These values will not be exact but will help you gain a general understanding of your influence on climate resilience. As you implement more practices, revisit this worksheet to monitor your progress to achieving your climate smart goals.

Values in this worksheet were derived from the California Air Resources Board and California Department of Food and Agriculture Healthy Soils Program COMET-Planner Tool. To read the quantification methodologies of these tools, visit: [ww2.arb.ca.gov/resources/documents/cci-quantification-benefits-and-reporting-materials](http://ww2.arb.ca.gov/resources/documents/cci-quantification-benefits-and-reporting-materials). (Section: Natural Resources and Waste Diversion; Agency: California Department of Food and Agriculture; Project Type: Healthy Soils)

## Using the Worksheet:

This worksheet is set up with a column of different climate smart practices and their corresponding sequestration impacts. Practice impacts may differ depending on the type of land use they are applied to, so some practices require you to differentiate where they are applied.

## Information to gather:

- Practices being implemented
- Type of land implemented on
  - Irrigated pasture
  - Non-irrigated pasture or rangeland
  - Cropland
  - Acres or linear feet implemented

## Inputting your information:

1. Locate each practice being implemented
2. Add acres or linear feet of the practice implemented to the column
3. Multiply added value by sequestration value to determine total per practice
4. Add each practice total together to determine total sequestration value

# Rangeland and Pasture Worksheet

Practices	Acres/Linear Feet		Total Reductions	
<b>Prescribed Grazing (acres)</b>				
Non-irrigated pasture or rangeland	_____	x 0.008	=	_____
Irrigated pasture	_____	x 0.105	=	_____
<b>Range Planting (acres)</b>				
Native species, non-native species, shrub plugs	_____	x 0.502	=	_____
<b>Compost Application (acres)</b>				
Grazing land, C:N>11, 6-8T/ac	_____	x 4.490	=	_____
Cropland, C:N≤11, 3-5T/ac	_____	x 2.073	=	_____
Irrigated pasture, C:N>11, 6-8T/ac	_____	x 4.428	=	_____
Cropland, C:N >11, 6-8T/ac	_____	x 4.350	=	_____
<b>Hedgerow planting (LF)</b>				
Grassland	_____	x 0.002	=	_____
Cropland	_____	x 0.002	=	_____
<b>Riparian Forest Buffer (acres)</b>				
Grazing land	_____	x 1.773	=	_____
Cropland	_____	x 1.979	=	_____
<b>Silvopasture (acres)</b>				
	_____	x 1.336	=	_____
<b>Tree/Shrub Establishment (acres)</b>				
Grassland	_____	x 18.890	=	_____
Cropland	_____	x 19.095	=	_____
<b>Windbreak/Shelterbelt Establishment (LF)</b>				
Grassland	_____	x 0.002	=	_____
Cropland	_____	0.002		_____
<b>Total Sequestration</b>				
				_____

# Sequestration Equivalents

Sequestration Equivalents	Total Sequestration		Equivalent Value	
<b>Sequestration Equivalent to GHG Emission from:</b>				
Gasoline-powered passenger vehicles driven for 1 year	_____	x	0.223	= _____
Miles driven by an average gasoline-powered passenger vehicle	_____	x	2,564	= _____
Number of smartphones charged	_____	x	121,643	= _____
<b>Sequestration Equivalent to GHG emission avoided by:</b>				
Wind turbines running for 1 year	_____	x	0.0003	= _____
Trash bags of waste recycled instead of landfilled	_____	x	43.4	= _____
<b>Sequestration Equivalent to carbon sequestered by:</b>				
Tree seedlings grown for 10 years	_____	x	16.5	= _____
Acres of US forests in one year	_____	x	1.2	= _____