

Proposed VCAILG Nitrogen Removal Crop Coefficients

Submitted May 1, 2024

Crop	VC Acreage [*]	N Coefficient	Units	Source	Notes
Fruit and Nuts					
Avocado	16,995	4.4	lbs/ton	Ag Order 4.0 Approved Coefficient ³	
Blackberry	700	4.46	lbs/ton of fruits	CDFA FREP Project ²	
Blueberries	767	1.56	lbs/ton of fruits	CDFA FREP Project ²	
Lemons	19,961	3.49	lbs/ton of fruits	Geisseler Report ¹	Updated in 2024
Mandarins & Tangelos	1,612	4.31	lbs/ton of fruits	Geisseler Report ¹	Updated in 2024
Oranges					
Navel	2,905	3.61	lbs/ton of fruits	Geisseler Report ¹	Updated in 2024
Valencia		4.66	lbs/ton of fruits	Geisseler Report ¹	Updated in 2024
Raspberries	2,181	3.60	lbs/ton	CDFA FREP Project ²	
Strawberries	10,263	2.8	lbs/ton	Hartz UC ANR Strawberry Publication ⁴	
Vegetables					
Artichokes	485	7.64	lbs /ton	CDFA FREP Project ²	
Arugula		11.6	lbs /ton	CDFA FREP Project (2021) ²	
Beans (Green Snap)	918	5.78	lbs/ton of fresh weight	Geisseler Report ¹ /Ag Order 4.0 Approved Coefficient ³	
Beets	807	6.1	lbs /ton	CDFA FREP Project ²	
Broccoli	316	9.26	lbs/ton	CDFA FREP Project ²	
Brussels Sprouts	1,676	12.56	lbs /ton	CDFA FREP Project ²	
Cabbage					
Cabbage (Fresh Market - Red)	2,642	4.02	lbs /ton	CDFA FREP Project ²	
Cabbage (Fresh Market - Green)		4.42	lbs /ton	CDFA FREP Project ²	
Carrots	303	2.8	lbs/ton of fresh weight	Geisseler Report ¹	Updated in 2021
Cauliflower		5.66	lbs /ton	CDFA FREP Project (2021) ²	
Celery (Fresh Market)	12,470	2.12	lbs/ton	CDFA FREP Project ²	
Cilantro (Bunch)	4,064	8.26	lbs/ton	CDFA FREP Project ²	
Cucumbers	106	2.28	lbs/ton	CDFA FREP Project ²	
Endive		5.48	lbs /ton	CDFA FREP Project (2021) ²	
Kale	886	10.96	lbs /ton	CDFA FREP Project ²	
Leeks		4.62	lbs /ton	CDFA FREP Project (2021) ²	
Lettuce (Baby)		6.76	lbs/ton	CDFA FREP Project (2021) ²	
Lettuce (head)		2.56	lbs /ton	CDFA FREP Project (2021) ²	
Lettuce (Leaf)	383	4.14	lbs/ton	CDFA FREP Project ²	
Lettuce (Romaine)	1,287	3.00	lbs /ton	CDFA FREP Project ²	
Mizuna/Spring mix/Mixed greens	578	8.1	lbs/ton	Ag Order 4.0 Approved Coefficient ³	
Onions (Dry yellow)		3.28	lbs /ton	CDFA FREP Project (2021) ²	
Parsley	1,182	8.76	lbs /ton	CDFA FREP Project ²	
Peas		9.44	lbs /ton	CDFA FREP Project (2021) ²	
Peppers (Bell & Chili)					
Bell Pepper	2,026	3.88	lbs/ton	CDFA FREP Project ²	
Pumpkin	505	7.36	lbs/ton of fresh weight	Geisseler Report ¹ /Ag Order 4.0 Approved Coefficient ³	
Radicchio		4.66	lbs /ton	CDFA FREP Project (2021) ²	
Radishes	708	4.96	lbs /ton	CDFA FREP Project ²	
Spinach					
Spinach (Bunch)	807	7.42	lbs/ton	Ag Order 4.0 Approved Coefficient ³	
Spinach (clip)		9.68	lbs/ton	CDFA FREP Project ²	
Tomatoes					
Tomatoes, fresh market	336	2.61	lbs/ton of fresh weight	Geisseler Report ¹ /Ag Order 4.0 Approved Coefficient ³	
Tomatoes, processing		2.92	lbs/ton of fresh weight	Geisseler Report ¹	Updated in 2021

Irrigated Acreage Totals/N Coefficient percent coverage	
TOTAL County Irrigated Acreage (including Crop Report misc. categories)*	95,785
Acreage with Proposed Coefficient Available	87,869
% of Irrigated Acreage Covered	92%

Footnotes:
^{*} Unless otherwise noted, acreage based on 2022 VC Crop Report (published July 25, 2023).

Reference Sources

- ¹ Geisseler "Nitrogen concentrations in harvested plant parts – Update 02/2024" (http://geisseler.ucdavis.edu/Geisseler_Report_U2_2024_02_28.pdf)
- ² CDFA FREP Project (2021) "Assessment of Nitrogen Content of the Harvested Portion of Specialty Crops to Estimate Crop Nitrogen Removal and Improve Nitrogen Management in Crops" Richard Smith, Michael Cahn – University of California Cooperative Extension, Monterey County
- ³ Ag Order 4.0 Approved Coefficient
- ⁴ Hartz, Cahn, Bolda, and Biscaro "Efficient Nitrogen Fertility and Irrigation Management in California Strawberry Production"