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Lawn Watering Guide for California

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The techniques described in this publication will help homeowners set up timed irrigation controllers for home lawns. The simple procedure involves identifying your home's climatic region, the type of turfgrass you have, and the output of your irrigation system. A set of tables provides a general guideline for scheduling lawn irrigation based on average weather data and turfgrass growth characteristics. Environmental conditions will vary somewhat from year to year and from location to location within a region, so your irrigation controller will continue to need minor adjustments from time to time in order to deliver optimum results. Ideally, you should plan to re-set your automatic irrigation system monthly during the growing seasons in response to changes in the weather.

HOW TO USE THE LAWN WATERING GUIDE

Step 1. Determine what type of lawn you have.

- Warm-season grasses include hybrid bermudagrass, common bermudagrass, zoysiagrass, St. Augustinegrass, and kikuyugrass. Dichondra is a broadleaf groundcover with water requirements similar to those of warm-season turfgrass.
- Cool-season grasses include tall fescue, Kentucky bluegrass, annual and perennial ryegrass, and bentgrass.

Step 2. Determine the output of your sprinklers.

- Set out six or more straight-sided containers of the same type, spaced evenly on your lawn. Empty tuna cans, cat food cans, or coffee mugs work well. Run the sprinklers for 20 minutes and use a ruler to measure (in inches) the depth of water in each can. To determine the average depth of water applied to the lawn, total the water depths for all of the containers and divide the total amount by the number of containers you used.
- Multiply the average depth by three to determine how many inches of water your sprinkler system applies per hour.

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Sample calculation:

Can #1	1/2 inch (0.500 inch)
Can #2	5/8 inch (0.625 inch)
Can #3	1/2 inch (0.500 inch)
Can #4	3/8 inch (0.375 inch)
Can #5	1/2 inch (0.500 inch)
Can #6	3/8 inch (0.375 inch)
TOTAL FOR 6 CANS	2 7/8 inches (2.875 inches)

2.875 inches = 0.479 inch/can (average depth per can)

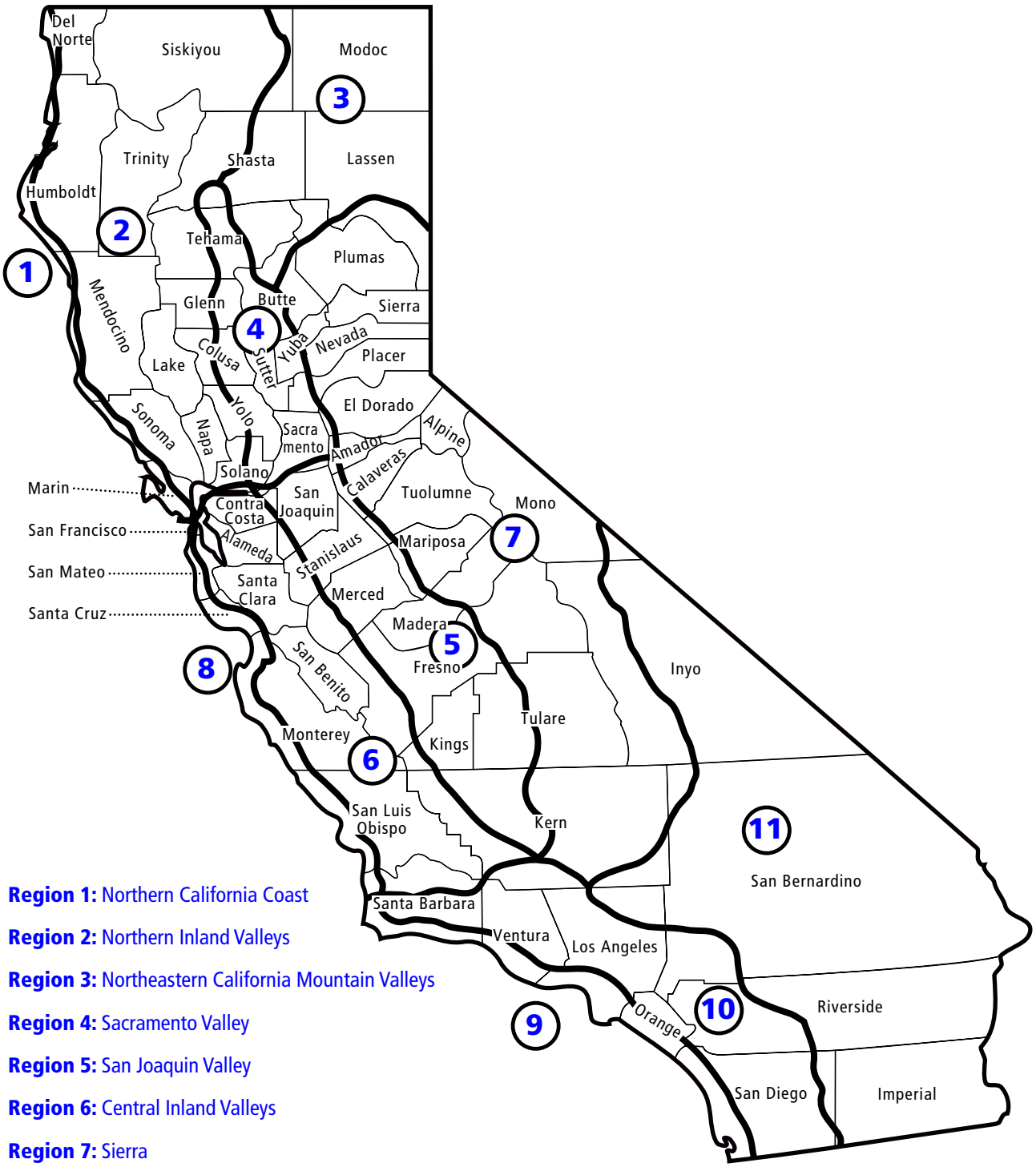
6 cans

0.479 inch x 3 = 1.437 inches (nearly 1 1/2 inches) per hour

Step 3. Determine how many minutes you need to water your lawn each week.

- Locate your geographic region on the map in this publication and then find the table that matches that region. Identify your predominant lawn type (warm-season or cool-season) and the current month on the table, and match that information to the sprinkler output that you calculated in Step 2. The resulting value is the total number of minutes that you should run your sprinklers per week to provide adequate irrigation for your lawn during the current month.
- Deeper, less frequent irrigations are best for most lawns as they promote deep root growth. If you notice excessive runoff or brown spots in the lawn with once-a-week watering, however, or if your controller can't accommodate such large blocks of time, divide the total minutes per week by 2, 3, or 4 and spread the weekly water application over the week. Desert areas, slopes, or areas with shallow soils usually need several shorter watering times instead of a single weekly irrigation. Cool-season grasses have shallow roots, and often require more frequent irrigations that warm-season grasses.
- If brown spots continue to occur despite more frequent irrigations, you may need to check your sprinkler system's coverage for uniformity. Look for and replace broken, clogged, or malfunctioning sprinkler heads that deprive lawn areas of sufficient water. After you upgrade, repair, or significantly change your system, your will need to repeat Steps 2 and 3 to make sure you're applying the right amount of water each week.
- During periods of unseasonably high rainfall, you should shut your irrigation system off temporarily to conserve groundwater and take advantage of the unexpected moisture. Be sure to restart your system after the rainy weather has passed. Extremely hot, dry, or windy conditions may require extra irrigation to compensate for excessive water loss from the lawn.

MAP OF CALIFORNIA



Region 1: Northern California Coast

Region 2: Northern Inland Valleys

Region 3: Northeastern California Mountain Valleys

Region 4: Sacramento Valley

Region 5: San Joaquin Valley

Region 6: Central Inland Valleys

Region 7: Sierra

Region 8: Central California Coast

Region 9: Southern California Coast

Region 10: Southern California Inland Valleys

Region 11: Southern California Deserts

Region 1: Northern California Coast

	Warm-Season Turfgrasses Minutes per week to irrigate if your hourly sprinkler output is:				Cool-Season Turfgrasses Minutes per week to irrigate if your hourly sprinkler output is:				
	0.5 in	1.0 in	1.5 in	2.0 in		0.5 in	1.0 in	1.5 in	2.0 in
JAN					JAN	15	07	05	04
FEB					FEB	36	18	12	09
MAR					MAR	55	27	18	14
APR	Warm-season				APR	67	34	22	17
MAY	turfgrasses are				MAY	88	44	29	22
JUN	not recommended				JUN	97	48	32	24
JUL	in this region.				JUL	95	47	32	24
AUG					AUG	90	45	30	23
SEP					SEP	76	38	25	19
OCT					OCT	48	24	16	12
NOV					NOV	32	16	11	08
DEC					DEC	21	11	07	05

Region 2: Northern Inland Valleys

	Warm-Season Turfgrasses Minutes per week to irrigate if your hourly sprinkler output is:				Cool-Season Turfgrasses Minutes per week to irrigate if your hourly sprinkler output is:				
	0.5 in	1.0 in	1.5 in	2.0 in		0.5 in	1.0 in	1.5 in	2.0 in
JAN	19	09	06	05	JAN	25	13	08	06
FEB	32	16	11	08	FEB	42	21	14	11
MAR	50	25	17	13	MAR	67	34	22	17
APR	69	35	23	17	APR	92	46	31	23
MAY	101	50	34	25	MAY	134	67	45	34
JUN	126	63	42	32	JUN	168	84	56	42
JUL	132	66	44	33	JUL	176	88	59	44
AUG	120	60	40	30	AUG	160	80	53	40
SEP	95	47	32	24	SEP	126	63	42	32
OCT	57	28	19	14	OCT	76	38	25	19
NOV	25	13	08	06	NOV	34	17	11	08
DEC	13	06	04	03	DEC	17	08	06	04

Region 3: Northeastern California Mountain Valleys

	Warm-Season Turfgrasses				Cool-Season Turfgrasses				
	Minutes per week to irrigate if your hourly sprinkler output is:					Minutes per week to irrigate if your hourly sprinkler output is:			
	0.5 in	1.0 in	1.5 in	2.0 in		0.5 in	1.0 in	1.5 in	2.0 in
JAN					JAN	17	08	06	04
FEB					FEB	34	17	11	08
MAR					MAR	59	29	20	15
APR	Warm-season				APR	101	50	34	25
MAY	turfgrasses are				MAY	134	67	45	34
JUN	not recommended				JUN	168	84	56	42
JUL	in this region.				JUL	210	105	70	53
AUG					AUG	176	88	59	44
SEP					SEP	126	63	42	32
OCT					OCT	76	38	25	19
NOV					NOV	25	13	09	06
DEC					DEC	17	09	06	04

Region 4: Sacramento Valley

	Warm-Season Turfgrasses				Cool-Season Turfgrasses				
	Minutes per week to irrigate if your hourly sprinkler output is:					Minutes per week to irrigate if your hourly sprinkler output is:			
	0.5 in	1.0 in	1.5 in	2.0 in		0.5 in	1.0 in	1.5 in	2.0 in
JAN	19	09	06	05	JAN	25	13	08	06
FEB	44	22	15	11	FEB	59	29	20	15
MAR	69	35	23	17	MAR	92	46	31	23
APR	101	50	34	25	APR	134	67	45	34
MAY	126	63	42	32	MAY	168	84	56	42
JUN	158	79	53	39	JUN	210	105	70	53
JUL	164	82	55	41	JUL	218	109	73	55
AUG	145	72	48	36	AUG	193	97	64	48
SEP	113	57	38	28	SEP	151	76	50	38
OCT	82	41	27	20	OCT	109	55	36	27
NOV	38	19	13	09	NOV	50	25	17	13
DEC	19	09	06	05	DEC	25	13	08	06

Region 5: San Joaquiin Valley

	Warm-Season Turfgrasses				Cool-Season Turfgrasses				
	Minutes per week to irrigate if your hourly sprinkler output is:					Minutes per week to irrigate if your hourly sprinkler output is:			
	0.5 in	1.0 in	1.5 in	2.0 in		0.5 in	1.0 in	1.5 in	2.0 in
JAN	19	09	06	05	JAN	25	13	08	06
FEB	38	19	13	09	FEB	50	25	17	13
MAR	69	35	23	17	MAR	92	46	31	23
APR	101	50	34	25	APR	134	67	45	34
MAY	132	66	44	33	MAY	176	88	59	44
JUN	164	82	55	41	JUN	218	109	73	55
JUL	170	85	57	43	JUL	227	113	76	57
AUG	145	72	48	36	AUG	193	97	64	48
SEP	113	57	38	28	SEP	151	76	50	38
OCT	69	35	23	17	OCT	92	46	31	23
NOV	32	16	11	08	NOV	42	21	14	11
DEC	13	06	04	03	DEC	17	08	06	04

Region 6: Central Inland Valleys

	Warm-Season Turfgrasses				Cool-Season Turfgrasses				
	Minutes per week to irrigate if your hourly sprinkler output is:					Minutes per week to irrigate if your hourly sprinkler output is:			
	0.5 in	1.0 in	1.5 in	2.0 in		0.5 in	1.0 in	1.5 in	2.0 in
JAN	32	16	11	08	JAN	42	21	14	11
FEB	44	22	15	11	FEB	59	29	20	15
MAR	69	35	23	17	MAR	92	46	31	23
APR	95	47	32	24	APR	126	63	42	32
MAY	113	57	38	28	MAY	151	76	50	38
JUN	113	57	38	28	JUN	151	76	50	38
JUL	132	66	44	33	JUL	176	88	59	44
AUG	126	63	42	32	AUG	168	84	56	42
SEP	107	54	36	27	SEP	143	71	48	36
OCT	76	38	25	19	OCT	101	50	34	25
NOV	44	22	15	11	NOV	59	29	20	15
DEC	32	16	11	08	DEC	42	21	14	11

Region 7: Sierra

Warm-Season Turfgrasses					Cool-Season Turfgrasses				
	Minutes per week to irrigate if your hourly sprinkler output is:					Minutes per week to irrigate if your hourly sprinkler output is:			
	0.5 in	1.0 in	1.5 in	2.0 in		0.5 in	1.0 in	1.5 in	2.0 in
JAN					JAN	31	15	10	8
FEB					FEB	43	22	14	11
MAR					MAR	79	39	26	20
APR	Warm-season				APR	124	62	41	31
MAY	turfgrasses are				MAY	164	82	55	41
JUN	not recommended				JUN	207	103	69	52
JUL	in this region.				JUL	231	115	77	58
AUG					AUG	198	99	66	50
SEP					SEP	141	70	47	35
OCT					OCT	96	48	32	24
NOV					NOV	40	20	13	10
DEC					DEC	20	10	7	5

Region 8: Central California Coast

Warm-Season Turfgrasses					Cool-Season Turfgrasses				
	Minutes per week to irrigate if your hourly sprinkler output is:					Minutes per week to irrigate if your hourly sprinkler output is:			
	0.5 in	1.0 in	1.5 in	2.0 in		0.5 in	1.0 in	1.5 in	2.0 in
JAN	38	19	13	09	JAN	50	25	17	13
FEB	50	25	17	13	FEB	67	34	22	17
MAR	63	32	21	16	MAR	84	42	28	21
APR	88	44	29	22	APR	118	59	39	29
MAY	101	50	34	25	MAY	134	67	45	34
JUN	113	57	38	28	JUN	151	76	50	38
JUL	95	47	32	24	JUL	126	63	42	32
AUG	113	57	38	28	AUG	151	76	50	38
SEP	95	47	32	24	SEP	126	63	42	32
OCT	69	35	23	17	OCT	92	46	31	23
NOV	50	25	17	13	NOV	67	34	22	17
DEC	38	19	13	09	DEC	50	25	17	13

Region 9: Southern California Coast

	Warm-Season Turfgrasses				Cool-Season Turfgrasses				
	Minutes per week to irrigate if your hourly sprinkler output is:					Minutes per week to irrigate if your hourly sprinkler output is:			
	0.5 in	1.0 in	1.5 in	2.0 in		0.5 in	1.0 in	1.5 in	2.0 in
JAN	44	22	15	11	JAN	59	29	20	15
FEB	57	28	19	14	FEB	76	38	25	19
MAR	63	32	21	16	MAR	84	42	28	21
APR	76	38	25	19	APR	101	50	34	25
MAY	88	44	29	22	MAY	118	59	39	29
JUN	95	47	32	24	JUN	126	63	42	32
JUL	107	54	36	27	JUL	143	71	48	36
AUG	95	47	33	24	AUG	126	63	42	32
SEP	82	41	27	20	SEP	109	55	36	27
OCT	69	35	23	17	OCT	92	46	31	23
NOV	50	25	17	13	NOV	67	34	22	17
DEC	38	19	13	9	DEC	50	25	17	13

Region 10: Southern California Inland Valleys

	Warm-Season Turfgrasses				Cool-Season Turfgrasses				
	Minutes per week to irrigate if your hourly sprinkler output is:					Minutes per week to irrigate if your hourly sprinkler output is:			
	0.5 in	1.0 in	1.5 in	2.0 in		0.5 in	1.0 in	1.5 in	2.0 in
JAN	42	21	14	10	JAN	56	28	19	14
FEB	57	28	19	14	FEB	75	38	25	19
MAR	80	40	27	20	MAR	106	53	35	27
APR	96	48	32	24	APR	128	64	43	32
MAY	119	60	40	29	MAY	159	80	53	40
JUN	144	72	48	36	JUN	193	96	64	48
JUL	165	83	55	41	JUL	221	110	74	55
AUG	155	77	52	39	AUG	207	103	69	52
SEP	124	62	41	31	SEP	165	82	55	41
OCT	88	44	29	22	OCT	117	59	39	29
NOV	54	27	18	14	NOV	73	36	24	18
DEC	42	21	14	10	DEC	55	28	19	14

Region 11: Southern California Deserts

	Warm-Season Turfgrasses				Cool-Season Turfgrasses				
	Minutes per week to irrigate if your hourly sprinkler output is:					Minutes per week to irrigate if your hourly sprinkler output is:			
	0.5 in	1.0 in	1.5 in	2.0 in		0.5 in	1.0 in	1.5 in	2.0 in
JAN	54	27	18	14	JAN	65	32	22	17
FEB	75	38	25	19	FEB	90	46	30	23
MAR	121	61	40	30	MAR	145	73	48	36
APR	165	83	55	41	APR	198	100	66	49
MAY	211	106	70	53	MAY	253	127	84	64
JUN	243	121	81	61	JUN	292	145	97	73
JUL	251	126	84	63	JUL	301	151	101	76
AUG	218	109	73	54	AUG	262	131	88	65
SEP	180	90	60	45	SEP	216	108	72	54
OCT	121	61	40	30	OCT	145	73	48	36
NOV	69	35	23	17	NOV	83	42	28	20
DEC	43	22	14	11	DEC	52	26	17	13

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FOR MORE INFORMATION

You'll find detailed information on many aspects of vegetable production in these titles and in other publications, slide sets, and videos from UC ANR:

UC IPM Turfgrass Pest Management Guidelines, publication 3365-T

Evaluating Turfgrass Sprinkler Irrigation Systems, publication 21503

Healthy Turf: First Line of Defense Against Weeds, video v94-P

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