

# California Small Grains Herbicide Mode of Action Chart

\* Herbicide labels may have geographic, buffer and crop restrictions. Reference to pesticide products in this publication are not an endorsement or criticism of one product over other similar products. You are responsible for using pesticides according to the manufacturer's **current** label directions. Failure to do so violates the law. Chart data adopted from Weed Science Society of America Herbicide Site of Action (WSSA) classification list, Wisconsin Herbicide Mode of Action Chart, and current product labels.

Mode of action	Group number & Herbicide site of action	Chemical family	Active ingredient	Product trade name@ example
Lipid Synthesis Inhibitors	<b>1</b> ACCase Inhibitors	Aryloxyphenoxy-propionates (FOPs)	fenoxaprop-P	Double check
		Phenylpyrazoline (DEMs)	pinoxaden	Axial XL
Amino Acid Synthesis Inhibitors	<b>2</b> ALS Inhibitors	Imidazolinone	imazamox	Beyond Clearfield
		Triazolinone	thiencarbazone	Component of Osprey Xtra
		Triazolopyrimidine - Type 2	pyroxsulam	Simplicity
		Sulfonylureas (SUs)	chlorsulfuron	Glean XP
<b>9</b> EPSP Synthase Inhibitor		tribenuron		Express TotalSol
		Glycine	glyphosate **	Gly Star Plus, Mad Dog Plus, and others
Growth Regulators	<b>4</b> Synthetic Auxin	2,4-D Amine		Amine 4, Weedar 64, and others
		Phenoxy-carboxylic-acid	2,4-D Ester	Weedone LV4, D-638, Solve 2,4-D, and others
			2,4-D Choline	Embed Extra
			MCPA	MCPA 4 Amine and others
			Pyridine-carboxylates	clpyralid
<b>19</b> Auxin Transport		Benzoates	dicamba	Banvel, Clarity, Rifle, and others
				<b>No products currently registered</b>

Mode of action	Group number & Herbicide site of action	Chemical family	Active ingredient	Product trade name@ example
Photosynthesis Inhibitors	<b>5</b> PS II Inhibitor (different binding than 6 & 7)	Urea	diuron	Diuron 4L, Diuron 4SC, others
		Triazinone		<b>No products currently registered</b>
	<b>6</b> PS II Inhibitor	Nitriles	bromoxynil	Brox 2EC, Moxy 2E, and others
	<b>7</b> PS II Inhibitor			<b>No products currently registered</b>
Nitrogen Metabolism Inhibitor	<b>10</b> Glutamine Synthesis Inhibitor			<b>No products currently registered</b>
Pigment Inhibitors	<b>13</b> Diterpene Synthesis Inhibitor			<b>No products currently registered</b>
		<b>27</b> HPPD Inhibitors		<b>No products currently registered</b>
Cell Membrane Disruptors	<b>14</b> PPO Inhibitors	N-phenylphthalimide	carfentrazone	Shark EW
		Phenylpyrazoles	pyraflufen	ET Herbicide
		N-Phenyl-imides	saflufenacil	Sharpen
	<b>22</b> PS I Electron Diverter	Bipyridylum	paraquat	Gramoxone SL
Seedling Root Growth Inhibitors	<b>3</b> Microtubule Inhibitors	Dinitroaniline	pendimethalin	Prowl H2O, Pavilion H2O, Satellite Hydrocap, others
			trifluralin	Treflan HFP, Trifluralin HF, others
Seedling Shoot Growth Inhibitors	<b>8</b> Lipid Synthesis Inhibitors (not ACCase)			<b>No products currently registered</b>
		<b>15</b> Long-chain Fatty Acid Inhibitors		<b>No products currently registered</b>

\*\* Spot treatment, over-the-top wiper applications, prior emergence to the crop and preharvest label use. Follow manufacturer's label use directions.