

CALIFORNIA LEMON PRODUCTION*		
COMMON TREATMENTS		
PEST DISEASE TARGET	PEST CONTROL OPTIONS	TREATMENT PERIOD
Plant Growth Regulator	gibberellic acid (GA ₃)	October-November
California Red Scale	<i>Aphytis melinus</i> Releases * *	February – September
	Oils, pyriproxyfen, spirotetramat (Movento)	May-August
Ants	chlorpyrifos (Lorsban) ground only	May – October
Citrus Thrips	Abamectin (Agri-Mek and others), spinosad (Success and Entrust), dimethoate, spinetoram (Delegate), cyantraniliprole (Exirel), Minecto Pro (mixture of cyantraniliprole and abamectin)	May – October
Mites (citrus bud mite, citrus rust mite, broad mite)	sulfur, abamectin, oil, fenbutatin-oxide (Vendex), spirotetramat (Movento), spiroadiclofen (Envidor), fenpyroximate (Fujimite)	February-November
Citrus Leafminer	Systemic imidacloprid, abamectin, spinetoram	June-October
Asian citrus psyllid	Fenpropathrin, beta cyfluthrin, cyfluthrin, zeta-cypermethrin (Mustang), imidacloprid thiamethoxam, spirotetramat, spinetoram, pyrethrins, spinosad, flupyradifurone	Sep-Mar
Alternaria rot (<i>Alternaria</i> spp.)	Synthetic fungicides (azoxystrobin, azoxystrobin-difenoconazole, boscalid-pyraclostrobin, fluopyram-trifloxystrobin, fosetyl-AI)	October - February
Anthracnose (<i>Colletotrichum</i> spp.)	azoxystrobin (Abound), azoxystrobin/difenoconazole (Quadris Top)	January
Brown Rot (<i>Phytophthora</i> spp.)	copper materials, oxathiapiprolin (Orondis), fosetyl-AI (Aliette), potassium phosphite (ProPhyt)	November-February
Clear Rot (<i>Penicillium</i> spp.)	azoxystrobin (Abound), azoxystrobin/difenoconazole (Quadris Top)	Preharvest
Botrytis infections (<i>Botrytis cinerea</i>)	cyprodonil/fludioxonil (Switch), pyrimethanil (Scala)	Blossom wet periods
POST-HARVEST TREATMENTS		
DISEASE TARGET	DISEASE CONTROL OPTIONS	TREATMENT PERIOD
Blue and Green Mold – (<i>Penicillium italicum</i> and <i>P. digitatum</i>)	Synthetic compounds (o-phenylphenol, thiabendazole, imazalil, fludioxonil, fludioxonil/azoxystrobin, pyrimethanil, propiconazole), natural compounds (carbonates, natamycin) and biocontrols (<i>Pseudomonas</i> spp.)	Pre-packaging of harvested fruit
Sour rot (<i>Geotrichum citri-aurantii</i>)	Synthetic fungicides (o-phenylphenol, propiconazole) and natural compounds (carbonates, natamycin)	Pre-packaging of harvested fruit (Seasonal)
Plant Growth Regulator	2,4-D	

* The only pesticides used by California citrus growers are ones that have been approved by U.S. Environmental Protection Agency (EPA) and the California Department of Pesticide Regulation.

**** Beneficial insects are a key component in the California orange growers IPM program.**