

Efficacy Ratings for DISEASE Management Tools in Hazelnuts

Rating scale: **E** = excellent (90–100% control); **G** = good (80–90% control); **F** = fair (70–80% control); **P** = poor (< 70% control); **?** = efficacy unknown, more research needed; **NU** = not used for this pest; ***** = used but not a stand-alone management tool.

MANAGEMENT TOOLS	Bacterial Blight	Eastern Filbert Blight	COMMENTS
Registered Chemistries			
Azoxystrobin (Abound)	NU	F-G	
Bacillus subtilis (Serenade)	P	NU	
Boscalid + Pyraclostrobin (Pristine)	NU	NU	
Chlorothalonil (Bravo and other brands)	NU	E	
Copper, Fixed (Bordeaux, Champ, Kocide)	G-E	G	
Fenarimol (Rubigan)	NU	P	Non-bearing orchards. SLN for OR.
Neem oil (Trilogy)	P	NU	
Harpin protein (Messenger)	P	P	
Horticultural Mineral Oil	NU	NU	
Phosphorous acid (Fosphite and other brands)	NU	NU	
Propiconazole (Orbit)	NU	E	
Pyraclostrobin (Cabrio)	NU	E	
Sulfur	NU	NU	
Trifloxystrobin (Gem)	NU	E	Unlike other strobies, has "kick-back" activity.
Triflumizole (Procure)	NU	G-E	
Unregistered/New Chemistries			
Trifloxystrobin + tebuconazole (Absolute)	NU		
Tebuconazole (Elite)	NU	G-E	
Thiram	NU		
Ziram	NU		
Captan	NU		

MANAGEMENT TOOLS	Bacterial Blight	Eastern Filbert Blight	COMMENTS
Sylitt (Dodine)	NU		
Biological			
None			
Cultural/Non-Chemical			
Adjacent area management	*	*	For eastern filbert blight, remove and destroy seedling volunteers.
Crop rotation	NU	NU	
Cultivar/rootstock selection	*	G-E	
Irrigation management	*	NU	
Pruning methods	*	G*	Burn or remove eastern filbert blight pruning piles.
Sanitation (removal of infected material)	*	G*	
Sun scald protection	*	NU	
Weed management	NU	NU	

Efficacy Ratings for WEED Management Tools in Hops

Rating scale: **E** = excellent (90–100% control); **G** = good (80–90% control); **F** = fair (70–80% control); **P** = poor (<70% control); **?** = efficacy unknown—more research needed; **—** = not used for this pest; ***** = used but not a standalone management tool. Note: Weed size or stage of growth is an important consideration with most post-emergence herbicides.

In "Type" column, Pre = soil-active against pre-emerged weeds; Post = foliar-active against emerged weeds.

MANAGEMENT TOOLS	Type	ANNUAL BROADLEAVES							PERENNIAL BROADLEAVES				GRASSES	COMMENTS
		Kochia	Lambsquarters	Lettuces	Mallow	Mustards	Pigweed	Puncturevine	Bindweed	Blackberry	Curly dock	Thistle	Quackgrass	
Registered Chemistries														
2,4-D (Weedar and others)	Post	F-G	E	G-E	P	E	E	E	F-G	F	G	F-G	—	
Carfentrazone (Aim)	Post	G	F	G	P	?	G	G	P	P	P	P	—	Broadleaf weeds need to be small and spray coverage good.
Clethodim (Select Max)	Post	—	—	—	—	—	—	—	—	—	—	—	G	Grass control only.
Clopyralid (Stinger)	Post	P	P	E	P	P	P	P	P	P	?	G-E	—	
Glyphosate (Roundup and others)	Post	E	E	E	P	E	E	E	F	E	?	E	E	Rating based on weeds not being dusty. Correct timing important when used on perennials.
Norflurazon (Solicam)	Pre	G	P	?	F	G	G	E	P	P	P	P	F	
Paraquat (Gramoxone and others)	Post	E	E	E	F	E	E	E	P	P	P	P	P	Rating based on weeds not being dusty and small.
Pelargonic acid (Scythe)	Post	P	P	P	P	P	P	?	P	P	P	P	P	
Trifluralin	Pre	G	E	F	P	F	E	G-E	P	P	P	P	P	
Unregistered / New Chemistries														
Dimethenamid (Outlook)	Pre	F	F	F	P	F	E	?	P	P	P	P	p	

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Oxyfluorfen (Goal)	Pre & Post	F	G	?	E	?	E	?	P	P	P	P	P	
Cultural (Nonchemical)														
Cover crop between rows		*	*	*	*	*	*	*	F	F	F	F	P	Efficacy depends on cover type and how good of a stand it is.
Crowning (mechanical)		F	F	F	F	F	F	F	P	P	P	P	P	
Cultivation between rows		E	E	E	E	E	E	E	P-E	P-E	P-E	P-E	P-E	Can be good to excellent on perennials if efforts are very persistent and done correctly.
Equipment sanitation		*	*	*	*	*	*	*	*	*	*	*	*	Cleaning equipment before moving from infested to uninfested fields is always a good practice.
Hand hoeing/hand pulling		G-E	G-E	G-E	G-E	NU	G-E	G-E	P	P	P	P	P	Can be good to excellent if very persistent in efforts.
Hilling		F	F	F	F	F	F	F	P	P	P	P	P	
Mowing between rows		G	G	G	G	G	G	G	P	P	P	P	P	Effective for annuals in preventing seed formation.