

Pesticide Half-Life Chart



Adjusting the pH of the spray solution can reduce pesticide decomposition and make the spray more effective. The following chart shows the Pesticide Half-Life or the time it takes for half the amount of chemical to be decomposed (made inactive) at various pH levels.

Pesticide Product	Buffering*	Optimum pH	Half-Life at pH indicated (50% decomposition)					
			9.0 Alkaline	8.0 Alkaline	7.0 Alkaline	6.0 Acidic	5.0 Acidic	4.5 Acidic
2, 4-D Amine		6.0	Stable at pH 4.5 - 7.0					
Aliette*		4.0	Stable at pH 3.0 - 5.0					
Ambush		6.0	Stable at pH 5.0 - 6.0					
Asana*	X	4.0	More Stable in Acidic Conditions					
Atrazine		7.0						
Banvel*	X	5.5	Stable at pH 5.0 - 6.0					
Bayleton*		7.0	Stable Over Wide Range of pH					
Bravo*		7.0	Stable Over Wide Range of pH					
Captan*	X	5.0		10 Minutes	8 Hours		32 Hours	
Chloropyrifos		6.0		1.5 Days	35 Days	12 Hours		63 Days
Daconil* 2787		7.0	Stable Over Wide Range of pH					
Dacthal*		7.0	Hydrolyzed in Strong Acid and Alkaline					
Danitol		6.0			Stable at pH 5.0 - 7.0			
Diazinon		7.0	29 Days	21 Days	0 Days		14 Days	8 Days
Dimethoate	X	5.0	48 Minutes			12 Hours		20 Hours
Dipel* (Bt)		6.0	Unstable in pH>8					
Diquat*		6.0	Stable in Neutral or Acid Solutions					
Dithane		7.0	Stable in Neutral or Acid Solutions					
Diuron		7.0	Stable in Neutral or Acid Solutions					
Furadan*		5.0	78 Hours			8 Days		
Fusilade*		7.0	17 Days		147 Days			455 Days
Gibberellic Acid	X							
Glyphosate	X	5.5						
Goal*		7.0	Stable in Neutral pH					
Gramoxone		6.5	Unstable in pH>7					
Guthion*	X	5.5	12 Hours		10 Days		17 Days	
Imidan*	X	5.0		4 Hours	12 Days		7 Days	13 Days
Kelthane*	X	5.5	1 Hour		5 Days		20 Days	
Kocide		7.0						
Krovar		7.0						
Lannate*		6.5	Stable in Slightly Acid Water					
Lorsban*		7.0		1.5 Days	35 Days		63 Days	

ATTENTION:

Shake jugs well before pouring!

Adjust spray solution pH of Pesticide Product before adding OII-YS!!!

Caution!!!

The spray solution must pH buffered to 5.0 or below before adding OII-YS!

Before using OII-YS in spray solutions containing Phosphites or Humic Acid products, please perform a check for compatibility before adding the OII-YS.



For more information, visit
www.O2YScorp.com

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			9.0 Alkaline	8.0 Alkaline	7.0 Alkaline	6.0 Acidic	5.0 Acidic	4.5 Acidic
Malathion	X	5.0	5 Hours	19 Hours	3 Days	8 Days		
Maneb*	X	5.5	34 Hours		17 Hours		20 Days	
Manzate		6.0						
Monitor*	X	5.5	Decomposes Rapidly at pH>7					
Nemacur*		7.0	8 Days		700 Days			40 days
Orthene*	X	7.0	16 Days		46 Days		40 Days	
Parathion Ethyl		7.0		25 Hours	120 Days			
Pendimethalin		6.2	Stable Over Wide Range of pH					
Permethrin		6.0			Stable at pH 5.7 - 7.7			
Poast*		7.0/Center>	Stable at pH 4.0 - 10.0					
Pounce*		6.0			Stable at pH 5.7 - 7.7			
Princep*		6.0	24 Days				96 Days	20 Days
Prowl		6.5						
Ridomil		4.0						
Roundup*	X	5.5				Stable at pH 5.0 - 6.0		
Rovral*		7.0	Rapid Hydrolysis at pH>8					
Sencor*		6.5	Stable at pH 5.0 - 9.0					
Sevin*	X	7.0	24 Hours	2.5 Days	24 Days	100 Days		
Simabine		6.0						
Solicam		6.0 - 7.0						
Subdue*		7.0	Stable Over Wide Range of pH					
Surflan*		7.0	Stable Over Wide Range of pH					
Terrachlor*	X	5.5	Rapid Hydrolysis at pH>7					
Thiodan*		6.5	Some Alkaline Hydrolysis					
Topsin M		7.0						
Treflan*		7.0	Stable Over Wide Range of pH					
Trimec*		7.0					Avoid pH 5.0 or Less	
Ultra Flourish		7.0						
Vendex*		7.0	Not Stable at pH>7		Stable Over Wide Range of pH			
Vydate*	X	5.0	30 Hours				Stable at pH 4.7	
Weedar		6.5						

- For most pesticides, the optimum pH is in range of 5.0 - 6.5 (slightly acidic).
- *An (X) in the buffering column denotes that the use of a buffering agent should produce significant agronomic gains.
- **Check with the respective manufacturer's label for recommended pH levels.** Many factors determine the efficacy of sprays, therefore, it is not possible to guarantee any combination or results accordingly. The following factors are involved with chemical performance: pH; temperature; solubility; concentration; type of agitation; humidity; mixture time in tank; and time of day of application. The above pH half-life information has been obtained from various manufacturers, universities, and state agricultural sources.
- Data Sources: University of Massachusetts, Ohio State University, North Carolina Ag Extension, and Product labeling.

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