

**Table to accompany *Effect of water pH on the stability of pesticides* by Annemiek Schilder, MSU Plant Pathology. (March 18, 2008)**

Product	Active ingredient	Optimum pH	Half Life / Time until 50% Hydrolysis**
<b>Insecticides/Miticides</b>			
Admire	Imidacloprid	7.5	Greater than 31 days at pH 5 - 9
Agri-Mek	Avermectin		Stable at pH 5 - 9
Ambush	Permethrin	7	Stable at pH 6 - 8
Apollo	clofentezine		pH 7 = 34 hrs; pH 9.2 = 4.8 hrs
Assail	acetamiprid	5 - 6	Unstable at pH below 4 and above 7
Avaunt	indoxacarb		Stable for 3 days at pH 5 - 10
Carzol	formetanate hydrochloride	5	Not stable in alkaline water; use within 4 hrs of mixing.
Cygon/Lagon	dimethoate	5	pH 4 = 20 hrs; pH 6 = 12 hrs; pH 9 = 48 min
Cymbush	cypermethrin		pH 9 = 39 hours
Diazinon	phosphorothioate	7	pH 5 = 2 wks; pH 7 = 10 wks; pH 8 = 3 wks; pH 9 = 29 days
Dipel/Foray	b. thuringiensis	6	Unstable at pH above 8
Dylox	trichlorfon		pH 6 = 3.7 days; pH 7 = 6.5 hrs; pH 8 = 63 min
Endosulfan	endosulfan		70% loss after 7 days at pH 7.3 - 8
Furadan	carbofuran		pH 6 = 8 days; pH 9 = 78 hrs
Guthion	azinphos-methyl		pH 5 = 17 days; pH 7 = 10 days; pH 9 = 12 hrs
Imidan	phosmet	5	pH 5 = 7 days; pH 7 < 12 hrs; pH 8 = 4 hrs
Kelthane	dicofol	5.5	pH 5 = 20 days; pH 7 = 5 days; pH 9 = 1hr
Lannate	methomyl		Stable at pH below 7
Lorsban	chlorpyrifos		pH 5 = 63 days; pH 7 = 35 days; pH 8 = 1.5 days
Malathion	dimethyl dithiophosphate	5	pH 6 = 8 days; pH 7 = 3 days; pH 8 = 19 hrs; pH 9 = 5 hrs
Matador	lambda-cyhalothrin	6.5	Stable at pH 5 - 9
Mavrik	tau-fluvalinate		pH 6 = 30 days; pH 9 = 1 - 2 days
Mitac	amitraz	5	pH 5 = 35 hrs; pH 7 = 15 hrs; pH 9 = 1.5 hrs
Omite	propargite		Effectiveness reduced at pH above 7
Orthene	acephate		pH 5 = 55 days; pH 7 = 17 days; pH 9 = 3 days
Pounce	permethrin	6	pH 5.7 to 7.7 is optimal
Pyramite	pyridaben		Stable at pH 4 - 9
Sevin XLR	carbaryl	7	pH 6 = 100 days; pH 7 = 24 days; pH 8 = 2.5 days; pH 9 = 1 day
SpinTor	spinosad	6	Stable at pH 5 - 7; pH 9 = 200 days
Thiodan	endosulfan	6.5	70% loss after 7 days at pH 7.3 to 8
Zolone	phosalone	6	Stable at pH 5 - 7; pH 9 = 9 days
<b>Fungicides</b>			
Aliette	fosetyl-al	6	Stable at pH 4.0 to 8.0
Benlate	benomyl		pH 5 = 80 hrs; pH 6 = 7 hrs; pH 7 = 1 hr; pH 9 = 45 min
Bravo	chlorothalonil	7	Stable over a wide range of pH values

Captan	captan	5	pH 5 = 32 hrs; pH 7 = 8 hrs; pH 8 = 10 min
Dithane	mancozeb	6	pH 5 = 20 days; pH 7 = 17 hrs; pH 9 = 34 hrs
Nova	myclobutanil		Not affected by pH
Ridomil	mefenoxam		pH 5 – 9 = more than 4 weeks
Rovral	iprodione		Chemical breakdown could take place at high pH
Orbit	propiconazole		Stable at pH 5 – 9
<b>Herbicides</b>			
Banvel	dicamba		Stable at pH 5 - 6
Fusilade	fluazifop-p		pH 4.5 = 455 days; pH 7 = 147 days; pH 9 = 17 days
Ignite	glufosinate-ammonium	5.5	
Gramoxone	paraquat		Not stable at pH above 7
Poast	sethoxydim	7	Stable at pH 4.0 to 10
Princep	simazine		pH 4.5 = 20 days; pH 5 = 96 days; pH 9 = 24 days
Prowl	pendimethalin		Stable over a wide range of pH values
Roundup	glyphosate	5 - 6	
Touchdown	glyphosate	5 - 6	
Treflan	trifluralin		Very stable over a wide range of pH values
Weedar	2,4-d		Stable at pH 4.5 to 7