

## HRS CHEMICAL REFERENCE GUIDE

(prepared by Theresa Andersen - 2007)

### FUNGICIDES

Trade Name	Active Chemical	Toxicity Category	Control For (notes 6 & 7)	Application Rate	Recommended Application Frequency	Class. (notes 2 - 4)
Fore (80%) WP	mancozeb	Class III - Caution	BS	1 Tbs./gal	every 7-10 days	Contact
MainSail WDG	chlorothalonil	Class I - Danger	BS, (PM,DM)	½ Tbs./gal	every 7-14 days	Contact
Kocide 2000 (53.8%) Powder	copper hydroxide	Class II - Warning	prevention of DM	1 lb/100 gal	every 7-14 days	Contact
Dithane M-45 (80%)	mancozeb	Class III - Caution	BS, (PM,DM)	1½-2 Tbs./gal	every 7-10 days	Contact
Mancozeb (37%) FL	mancozeb	Class III - Caution	BS, (PM,DM)	2 1/3 tsp/gal	every 7-10 days	Contact
Funginex (6.5%) EC	triforine	Class I - Danger	BS & PM	1 Tbs./gal	every 7-10 days	Systemic
Immunox (1.55%) EC	myclobutanil	Class II - Warning	PM, (BS)	2 Tbs./gal	every 2 weeks	Systemic
E-rase (0.5%) RTU	Jojoba Oil	Class III - Caution	PM	full conc.	every 7-14 days	Contact
E-rase (97.5%) Conc	Jojoba Oil	Class III - Caution	PM	4-5 tsp./gal	every 7-14 days	Contact
Aliette (80%)	fosetyl aluminum	Class III - Caution	phytophthora root rot, DM	1 ½ Tbs./gal (foliar), ¼ - ½ Tbs./gal (drench)	every 7-14 days	Systemic (note 9)
Cleary's 3336	thiophanate-methyl	Class IV - Caution	BS & PM	½ -1 Tbs./gal	every 7-10 days	Systemic
Compass (50%)	trifloxystrobin	Class III - Caution	BS, PM & DM	0.1 tsp./gal (low) 0.2 tsp./gal (high)	every two weeks	Systemic (note 8)
Fertilome (w/ Banner)	propiconazole	Class II - Warning	BS, (PM)	2 Tbs./gal (BS) 1 Tbs./gal (PM)	every 10-14 days	Systemic
Infuse (w/ Banner)	propiconazole	Class II - Warning	BS, (PM)	2 Tbs./gal (BS) 1 Tbs./gal (PM)	every 10-14 days	Systemic
Banner Maxx (14.3%) EC	propiconazole	Class II - Warning	BS, (PM)	1/3 tsp./gal	every 2-3 weeks	Systemic
HonorGuard PPZ	propiconazole	Class II - Warning	BS, (PM)	1/3 tsp./gal	every 2-3 weeks	Systemic
Ortho Disease Control (29.6%)	chlorothalonil	Class II - Warning	BS, (DM)	1 Tbs./gal	every 7-14 days	Contact
Hoist 40 WP	myclobutanil (systhane)	Class II - Warning	BS, PM	½ tsp./gal	every 7-10 days	Systemic

### INSECTICIDES

Trade Name	Active Chemical	Toxicity Category	Primary Control For	Application Rate	Comments
Orthene (75%) SP	acephate	Class III - Caution	sucking & chewing insects	1½ - 2 tsp./gal	Contact & systemic. Also good for fire ants
Orthene (97%)	acephate	Class III - Caution	sucking & chewing insects	1 tsp./gal	Contact & systemic. Also good for fire ants
Ortho Systemic Insect Killer	acephate & fenbutatin-oxide	Class III - Caution	sucking & chewing insects; spider mites	2 Tbs./gal	Contact & systemic.
Orthenex	acephate & triforine	Class I - Danger	fungus & sucking & chewing insects	2 Tbs./gal	Contact & systemic.
Malathion (50%) EC	malathion	Class III - Caution	sucking & chewing insects	2 tsp./gal	
Conserve SC	spinosad	Class III - Caution	thrips, spider mites, bag worms	1/3 tsp./gal (thrips); 1 tsp./gal (sp. mites)	Slightly systemic. Provides up to 2 weeks of control. Almost no odor.
Insecticidal Soap		Class IV - Caution	spot control of aphids	5 Tbs./gal	Contact
Bonide (permethrin conc - 2.5%)	permethrins	Class III - Caution	aphids, white fly	see label	Contact
Bonide (permethrin pump spray - 0.02%)	permethrins	Class III - Caution	aphids, white fly	n/a	Contact
Logic Fire Ant Control	fenoxycarb	Class III - Caution	fire ants		Insect growth regulator ant bait.

**FERTILIZERS & SOIL FOOD**

<b>Trade Name</b>	<b>Chemical Composition or N-P-K</b>	<b>Suggested Application Rate</b>	<b>Suggested Application Frequency</b>
Sierra	18-7-10 +1% Fe	1 -2 cups/bush	every 6 months
Peters Instant	20-20-20	1 Tbs./gal	every 2 weeks
Nitro-Phos Gran.	(9.1 NH <sub>3</sub> +1.3 nitrate+7.6 urea)-12-6	1½ Lb./100 ft <sup>2</sup>	every 4 weeks
HRS Instant	28-14-10 + chelated minors	1 Tbs./gal	every 3 weeks
Carl Pool Instant	10-50-10	2 Tbs./gal	every 2 weeks
Carl Pool Control	13-13-13 w/trace elements		every 3 to 4 months
Color Star Gran.	19-13-6	1½ cup/bush	every 2 to 4 months
Mills Easy Feed	20-10-6	1 Tbs./gal	monthly
Blood Meal	12-0-0	½ cup/bush	every 4 to 6 wks (max)
Alfalfa Meal	3-1-2	½ - 1½ cups/bush	every 4 to 6 wks (max)
Alfalfa Pellets	3-1-3	½ - 1½ cups/bush	every 4 to 6 wks (max)
Bone Meal	0-10-0	½ - 1 cup/bush	2- 4 times/yr
Cottonseed Meal	6-2-1	½ - 1½ cups/bush	every 4 to 6 wks (max)
Fish Meal		½ - 1½ cups/bush	every 4 to 6 wks (max)
Epsom Salts	magnesium sulphate	½ - 1 cup/bush	every 2 to 4 months
Bat Guano	10-3-1	2 tsp./ 6" pot	every 4 to 6 wks (max)
Mills Magic Mix	6-5-1	2 - 3 cups/bush	every 4 to 6 wks (max)
SW Earth Essentials	5-1-3	2 - 3 cups/bush	every 4 to 6 wks (max)
Gardenville Soil Food	6-2-2	2 - 3 cups/bush	every 4 to 6 wks (max)
Sprint 330FE	chelated iron	1 Tbs./gal	as needed for iron deficiency
Fish Emulsion	5-1-1	3 Tbs./gal	every 2 weeks (max)
More Bloom	0-10-0	1 Tbs./gal	monthly
Liquid Sea Weed	1-0-4	1 Tbs./gal	weekly
Root Stimulator	5-20-10	3½ Tbs./gal	at planting or rooting time.
Watch Us Grow	8-8-8 + micro-nutrients	2 Tbs./gal	every 2 weeks
Superthrive	vitamins	1/8 - 1 tsp./gal	monthly
Messenger	3.0% Harpin Protein	½ tsp./qt. or 1 pckt./gal	every 2 to 3 weeks
Dolomite Lime	Calcium-magnesium carbonate	apply to raise pH per soil test	in fall; wait 3-4 mo. and retest
SW Lawn Special	15-5-10 (2% iron)	40 lb / 5000 sq.ft.	spring appl. for quick green-up
SW Premium Gold	15-5-10 (3% iron) slow release	40 lb / 5000 sq.ft.	every 3 mo. (4-6 wks later)
SW Winterizer	16-8-12 (1% iron)	40 lb / 5000 sq.ft.	late Sept.-late Nov. (1 appl.)

**EPA LABELING TOXICITY CATEGORIES BY HAZARD INDICATOR**

<b>SIGNAL WORD ON LABEL</b>	<b>Class I DANGER</b>	<b>Class II WARNING</b>	<b>Class III CAUTION</b>	<b>Class IV CAUTION</b>
Oral LD <sub>50</sub> (mg/kg)	< 50	50-500	500-5000	> 5000
Inhalation LD <sub>50</sub> (mg/l)	< 0.05	0.05-0.5	0.5-2	> 2
Dermal LD <sub>50</sub> (mg/kg)	< 200	200-2000	2,000-5,000	> 5,000
Eye Irritation (recovery period)	corrosive > 21 days	irritation 8-21 days	irritation 7 days	minimal < 1 day
Skin	corrosive	severe irritation	moderate irritation	mild or slight irritation

\* for more information visit [www.epa.gov](http://www.epa.gov)

**General Suggestions/Notes:**

1. Write application rate on container for quick reference.
2. Contact fungicides remain on the plant surface and prohibit invasion by pathogens. Also called multi-site fungicides, they are less susceptible to resistance development. Complete plant coverage is essential.
3. Systemic fungicides are absorbed into the epidermal tissues to combat pathogens. Also called single-site fungicides, with repeated use are susceptible to the development of disease resistance.
4. For better disease control, rotate the use of both contact and systemic fungicides.
5. Most pesticides work best at a pH of 5.0 to 5.5. Add a spray adjuvant such as Indicate 5 to adjust alkaline city water.
6. Primary control is listed first, with secondary control in parenthesis.
7. BS = black spot; PM = powdery mildew; DM = downy mildew.
8. Rotation with non-strobilurin class fungicide highly recommended.
9. Do not combine with other chemicals or with a spreader/sticker additive.