

The Consulting Rosarian Major Pests and Diseases

By Glenn Schulman, CR, MR

Not every pest is detrimental and not every detrimental disease or pest requires extermination, as the cure can sometimes be worse than the pest

There are varying approaches to controlling pests often referred to as integrated pest management

1. Monitoring for outbreaks
2. Cultural practices
3. Mechanical and physical barriers
4. Biological approach
5. Chemical Control

Aphids



Chilli Thrips



Flower Thrips



Grasshoppers



Japanese Beetles



Leaf Cutter Bees



Leafhoppers



Rose Leafhopper

Edwardsiana rosae

(adults and damage)

Rose Midge



Rose Slugs



Scale



Spider Mites



Spider Mites

© All Thimble

Powdery Mildew



Black Spot



Downy Mildew



Anthracnose



Botrytis Blight



Rose Canker



Rust



Bacterial Crown Gall



Rose Mosaic



Rose Rosette



Water Wand



Dormant Spray



Dormant Spray



DoMyOwn.com

Dormant Spray

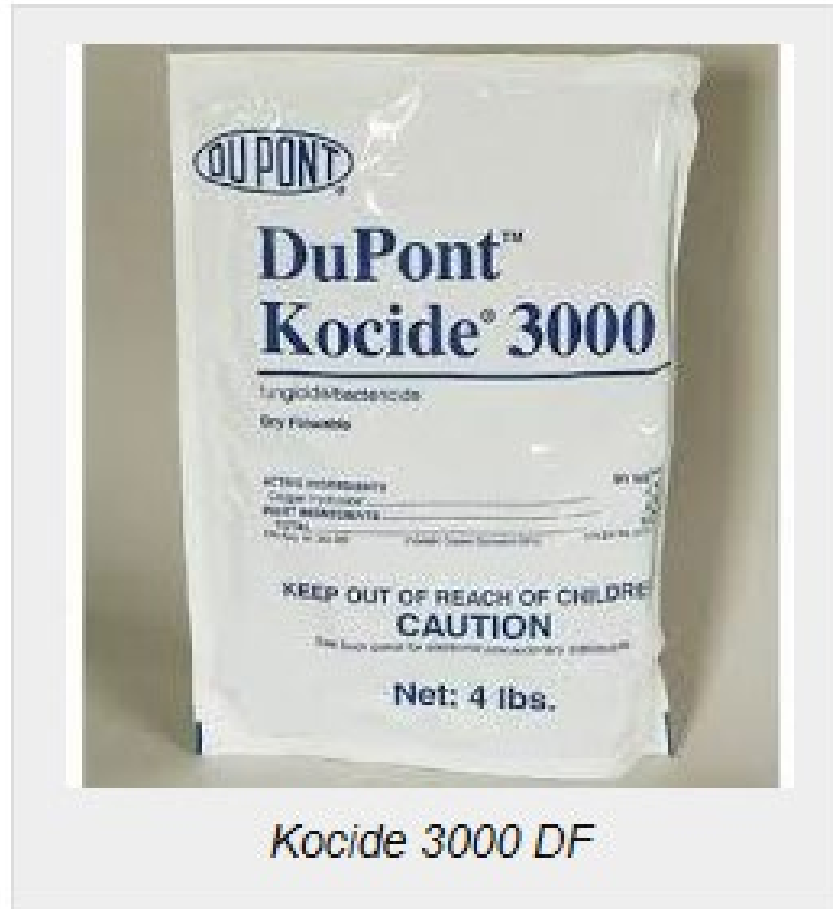


Dormant Spray

Brandt Lime Sulfur Fungicide (2.5 Gallon)



Dormant Spray



Spray Chart Small Garden

SPRAY FORMULATIONS - 2016

Products for Smaller Rose Gardens (25 or fewer plants)

<u>Problem / Solution</u>	<u>Toxicity</u>	<u>Amount/Gal</u>	<u>Notes</u>	<u>MOA*</u>
<u>Blackspot and Powdery Mildew</u>				
Bayer Disease Control for Roses	Caution	1 1/2 Tablespoons	Systemic action for 7 to 14 days	1
Daconil Fungicide Concentrate 29.6%	Warning	2 teaspoons	Control of blackspot. May burn foliage in hot weather.	6
Fertlome Liquid Systemic	Warning	2 Tablespoons	Effective for 10 days (same as Banner Maxx)	1
Fertlome Landscape & Garden Fungicide	Warning	6 teaspoons	Helps eradicate outbreak of blackspot (same as Daconil)	6
Immuno	Warning	2 Tablespoons	Multipurpose, Use every 10-14 days	1
Maneb (wettable powder)	Caution	1 1/2 Tablespoons	Helps eradicate blackspot, tends to leave a residue on foliage	6
Ortho Garden Disease Control	Warning	2 teaspoons	Helps eradicate outbreak of blackspot (formerly labeled as Daconil)	6
Ortho Rose & Shrub Disease Control	Danger	1 Tablespoon	Use weekly for control (formerly labeled as Funginox)	1
Pentathlon (wettable powder)	Caution	1 Tablespoon	Can be used at 3 day interval to eliminate blackspot	6
Bonide InFuse	Warning	2 Tablespoons	Effective for 10 to 14 days (same as Banner Maxx)	1
Bonide Mancozeb Flowable	Caution	1 Tablespoon	Helps eradicate outbreak of blackspot (same as Pentathlon)	6
Dithane M45 (wettable powder)	Caution	1 1/2 Tablespoons	Helps prevent and eradicate blackspot with little residue on foliage	6
OHF 8872 50% WP	Caution	1 teaspoon	Wettable powder generic Cleary's 3336F with same properties	2
Honor Guard PPZ	Warning	1/3 teaspoon	Generic Banner Maxx with systemic action for 14-21 days	1
<u>Insects (Use only when necessary)</u>				
Bayer Advanced Complete Insect Killer	Caution	1 Tablespoon	Broad spectrum with long life (Merit + Talstar)	2&4
Bayer Rose & Flower Insect Killer Conc	Caution	1 Tablespoon	Broad spectrum with long life (Merit + Tempo)	2&4
Garden Safe Rose & Flower Insect Killer	Caution	Ready to Use	Broad spectrum for aphids, Japanese Beetles and mites	2
Orthene (9.4% EC)	Caution	2 Tablespoons	(Liquid) Use as needed to eliminate trips, aphids, etc.	1
Orthene (97% WSP)	Caution	1/2 to 1 teaspoon	(Powder) Use as needed to eliminate trips, aphids, etc.	1
Ortho Max Lawn & Garden Insect Killer	Caution	3 Tablespoons	Contact insecticide with some mite control. (Same as Talstar)	2
Ortho Malathion Plus	Warning	2 to 3 teaspoons	Works well for aphids	1
Spectracide Garden Insect Killer Conc	Caution	4 Tablespoons	Also available in RTU (Ready to Use)	2
Savin (over the counter)	Caution	4 teaspoons	Broad spectrum product that will kill Japanese Beetles	1
Zenith 75 WSP	Caution	1/8 teaspoon	Generic form of Merit for aphids, whiteflies & Japanese Beetles	4
<u>Spider Mites</u>				
Avid (liquid)	Warning	1/4 teaspoon	Translaminar, kills adult mites only, use 1/2 teaspal for severe case	3
Luclid (liquid)	Warning	1/4 teaspoon	Generic Avid with exact same action	3
TetraSan (wettable powder)	Caution	1/2 teaspoon	Translaminar that kills eggs and nymphs, combine with Avid	5
Forbid 4F	Caution	1/4 teaspoon	Miticide with translaminar activity for all life stages	6
<u>Combination Sprays for Insects and Diseases</u>				
Bayer All in One Rose & Flower Care	Caution	4 TBSP/pint/plant	Pour pint around plant monthly. Also contains 9-14-9 fertilizer.	1
Bayer 2 in 1 Systemic Rose & Flower Care	Warning	Sprinkle 2 oz/plant	Granular 9-12-4 fertilizer with systemic insect control	1
Bayer 3-in-1	Caution	5 1/4 Tablespoons	Insect, disease and mite control all in one.	1,2&4
Bonide Rose Shield	Caution	3 Ounces	Systemic insect and disease prevention for 7-14 days	1,2&4
Bonide Rx 3 in 1	Caution	1 Ounce	Organic Neem Oil fungicide, insecticide, and miticide spray	6
Bonide Rx Systemic Drench	Caution	2 oz/quarterplant	Mix and pour fungicide and insecticide for up to 6 weeks	1&4
Fertlome Rose, Flower & Veg Spray	Caution	2 Tablespoons	Extract of Neem oil. Use as preventative for insects & disease.	6
Immuno Plus Insect & Disease Control	Caution	4 Tablespoons	All in one insect and disease control	1&2
Orthene Insect & Disease Control	Danger	2 Tablespoons	All in one. Use only as needed.	1
Garden Safe Fungicide 3	Caution	2 Tablespoons	Organic all in one insect & disease control for 7-14 days.	6
<u>Spray Adjuvants</u>				
Cadence	Caution	1/2 teaspoon	Penetrant/wettable/spreader for systemic and translaminar pesticides	
Blende	Caution	1/2 - 1 teaspoon	Extender/diluter/spreader for all pesticides	

Weights and Measures

Equivalents

3 tsp = 1 TBSP
 2 TBSP = 1 Fluid Oz.
 4 TBSP = 1/2 cup = 1/4 Cup = 2 fluid oz.
 1 Cup = 16 TBSP = 8 Fluid Oz.
 32 TBSP = 2 Cups = 1 Pint
 64 TBSP = 4 Cups = 2 Pints = 1 Quart
 1 oz = 3 TBSP dry weight (approximately)

Definitions

TBSP = Tablespoon
 tsp = teaspoon
 Gal = Gallon

Toxicity Category

I - Highly Toxic (1)
 II - Moderately Toxic
 III - Slightly Toxic
 IV - Relatively non-toxic

Note (1) - Pesticides in this category with signal word DANGER (pest & ornamentals)
 Pesticides in red are widely toxic to use, demand and inhibition expenses. If signal word is DANGER by itself, it means that toxicity rating is based on eye and skin irritation.

Signal Word

DANGER
 WARNING

CAUTION

CAUTION

Please Note: Before using any chemical always READ THE LABEL, wear protective clothing, and think safety.

* MOA (Mode of Activity) for detailed explanation see associated article at www.chattanooga.org

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Spray Chart Large Garden

SPRAY FORMULATIONS - 2016

Products for Larger Rose Gardens

<u>Problem / Solution</u>	<u>Toxicity</u>	<u>Amount/Gal</u>	<u>Notes</u>	<u>MOA*</u>
<u>Blackspot and Powdery Mildew</u>				
Aliette	Caution	1 1/2 Tablespoons	Treatment for Downy Mildew	6
Banner Maxx (14.3%)	Warning	1/3 teaspoon	Systemic action for 14-21 days	1
Heritage	Caution	1/4 teaspoon	Similar to Compass. Translaminar action	5
Honor Guard PPZ	Warning	1/3 teaspoon	Generic form of Banner Maxx with same properties	1
Cleary's 3336F Plus	Caution	1 teaspoon	Systemic action for 7-10 days	2
CHP 8872 50% WP	Caution	1 teaspoon	Wettable powder generic form of Cleary's 3336F with same properties	2
Compass (50 WDG)	Caution	1/4 teaspoon	Translaminar action for 14 days, alternate with another product	5
Decolil Ultra (WDG)	Danger	1/2 Tablespoon	May burn foliage when used in hot weather	6
Eagle 20 EW	Caution	1/3 - 2/3 teaspoon	Primarily for powdery mildew, effective for up to 14 days	1
<u>Blackspot</u>				
Dithane 75DF	Caution	1/2 teaspoon	Also somewhat effective for Botrytis	6
Dithane M45 (wettable powder)	Caution	1 1/2 Tablespoons	Helps prevent and eradicate blackspot with little residue on foliage	6
Phyton 27	Danger	1/2 Tablespoon	Systemic (Use 1 Tablespoon/gallon for therapeutic action)	6
Penlabition (replaces Manzate)	Caution	1 Tablespoon	Can be used at 3 day interval to eliminate disease	6
<u>Severe Powdery Mildew</u>				
Rubigen EC	Warning	1/4 teaspoon	For severe case use 1/2 teaspoon/gallon every 14 days	1
E-Base Concentrate (Lajoba Oil)	Caution	4 teaspoons	Will remove powdery mildew from foliage, will not control	6
<u>Botrytis (blowms develop brown edges and appear to rot, primarily in spring and fall)</u>				
Chipco 28019	Caution	1 to 2 teaspoons	Use 1 teaspoon to prevent and 2 teaspoons to eradicate	3
Decree 50% WDG	Warning	1 teaspoon	Use every 14 days during cool, wet weather	1
<u>Insects (Use only when necessary)</u>				
Conserve SC	Caution	1/2 teaspoon	Excellent for thrips, locally systemic	4
Kontak	Caution	1/8 - 1/4 teaspoon	Substitute for Merit with Spider Mite control. Systemic & translaminar	6
Merit 75 WP	Caution	1/8 teaspoon	Effective for aphids, whiteflies, & Japanese Beetles on foliage	4
Zenith 75 WSP	Caution	1/8 teaspoon	Generic form of Merit with same properties	4
Orthene (97% WSP)	Caution	1/2 to 1 teaspoon	(Powder) Use as needed to eliminate thrips, aphids, etc.	1
Serfin (over the counter)	Caution	4 teaspoons	Japanese Beetles, mix with Tempo to prevent resistance by other insects	1
Talfer Flowable or Bifen I/T	Caution	1/2 Tablespoon	Contact miticide and insecticide	2
Tempo	Caution	1/8 teaspoon	Effective for aphids, thrips, Japanese Beetles	2
<u>Spider Mites</u>				
Avid	Warning	1/4 teaspoon	Translaminar, kills adult mites only, use 1/2 tealgal for severe case	3
Lucid	Warning	1/4 teaspoon	Generic form of Avid with same properties	3
TetraSan	Caution	1/2 teaspoon	Translaminar that kills eggs and nymphs, combine with Avid	5
Forbid 4F	Caution	1/4 teaspoon	Miticide with translaminar activity for all life stages.	6
<u>Spray Adjuvants</u>				
Cadence	Caution	1/2 teaspoon	Penetrant/wettable spreader for systemic and translaminar pesticides	
Binde	Caution	1/2 - 1 teaspoon	Extender/ stickerspreader for contact pesticides	

<u>Units and Measures</u>	<u>Abbreviations</u>
3 tsp = 1 TBSP	TBSP = Tablespoon
2 TBSP = 1 Fluid Oz.	tsp = teaspoon
4 TBSP = 12 tsp = 1/4 Cup = 2 fluid oz.	Gal = Gallon
1 Cup = 16 TBSP = 8 Fluid Oz.	
32 TBSP = 2 Cups = 1 Pint	
64 TBSP = 4 Cups = 2 Pints = 1 Quart	
1 oz = 2 TBSP dry weight (approximately)	

<u>Toxicity</u>	<u>Signal</u>
CAUTION	None
I - Highly Toxic (T)	DANGER
II - Moderately Toxic	WARNING
III - Slightly Toxic	CAUTION
IV - Relatively non-toxic	CAUTION

Note (T) - Pesticides in this category with signal word DANGER (and its equivalent) POISON in red are acutely toxic to oral, dermal and inhalation exposures. If signal word is DANGER in itself, it means that toxicity rating is based on eye and skin irritation.

Please Note: Before using any chemical always READ THE LABEL, wear protective clothing, and think safety.

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Questions?

Thank you!