

# 15 General Pest Management Considerations – Apricots

## 15.1 Diseases

### Bacterial Canker (*Pseudomonas syringae*)

#### • Biology & Cultural

See the description of pathogen biology and copper spray timing for this disease under “Cherries—Diseases.” No recent research has been done on bacterial canker in apricots under east coast conditions. However, this pathogen is probably responsible for much of the early tree death that follows limb die-back and trunk cankers that commonly develop in young apricot plantings. *P. syringae* can also cause a severe blossom blast on apricots if pathogen populations are high when a bloom-time frost occurs. Blossom blast can kill most of the spurs on affected trees.

When pruning, make sure to leave a 6-inch stub, especially when removing scaffold branches as the bacteria appear to be arrested within the stub. Avoid flush cut pruning.

To minimize the potential for severe losses from bacterial canker, apricot plantings should not be located adjacent to old sweet cherry orchards nor close to hedgerows or woodlots that contain wild *Prunus* (especially wild black cherry, *Prunus serotina*). Copper sprays should be applied in spring and fall as for sweet cherries. The spring copper spray may be even more important on apricot than on sweet cherry because apricots appear more sensitive to blossom blast. Entry of the pathogen through pruning wounds can be minimized if pruning is done during hot, dry weather after bloom or after harvest, because *P. syringae* is suppressed by hot weather. Trunks and scaffolds on apricot trees should be painted with white latex paint in autumn to reduce the potential for winter injury, as *P. syringae* can also enter where bark is injured during winter.

#### • Pesticide Application Notes

[1.1] Optimum timing and effectiveness of copper applications for control of bacterial canker and blossom blast of apricots has not been determined under eastern conditions. However, applying copper at the maximum labeled rates at the late dormant stage should increase the likelihood that effective copper residues will remain on the trees throughout the bloom period. Copper applications are especially important on young trees because trees less than five years old can be killed by bacterial canker if infections reach the main trunk.

### Bacterial Spot (*Xanthomonas arboricola* pv. *pruni*)

#### • Biology & Cultural

Bacterial spot can be devastating to apricots. Apricot varieties developed in drier climates and then grown in the more humid climate of New England are the most likely to be susceptible. This disease will be more severe in the warmer southern portions of New England, in

wet years, in orchards with lighter (sandy) soils, and in windy orchard sites. The bacterial spot pathogen, *Xanthomonas arboricola* pv. *pruni* infects leaf scars at leaf drop and overwinters in infected twigs. Bacteria populations subsequently multiply during warm weather and ooze out during spring rains. Immature tissues are less susceptible to the bacterial infection, and as such, infections will not begin until petal fall/shuck split. Early season copper applications applied to manage bacterial canker are quite effective for controlling the bacterial spot populations, but also likely to induce phytotoxicity if one is not careful.

#### • Pesticide Application Notes

Unfortunately, there are no materials registered for bacterial spot on apricots. Despite the effectiveness, do not make a dormant copper application for bacterial spot. Copper applications to manage bacterial canker and bacterial blast are still allowed whether or not the planting has bacterial spot.

### Brown Rot

#### • Biology & Cultural

Refer to the reference materials list at the end of this publication for a Fact Sheet containing details on the biology and management of this disease.

#### • Pesticide Application Notes

[2.1] Apricots are much more susceptible to blossom blight than any other stone-fruit species. At least 1 protective spray should be applied each year; repeat at full bloom and/or petal fall if wet weather prevails during bloom. Pristine, Indar, Tebuzol, Adament, Rally and Orbit are generally more effective than captan or Bravo. When used at a rate of 10 oz/100 gal dilute, Rovral 50WP provides 24–48 hr kickback activity against blossom blight infections at 68° F; Indar and Orbit also have significant kickback activity. Scala, Vanguard, and Elevate have not been tested on apricots, but they have been effective for blossom blight on peaches.

[2.2] The shuck split application is an important spray. Chlorothalonil (Bravo, Echo) provides a longer period of protection than either captan or sulfur, but do not use Chlorothalonil after shuck split.

[2.3] Fruit are very susceptible to brown rot prior to pit hardening and the last 3 wk before harvest. It is recommended that spray intervals be shortened during the preharvest period and that Indar, Orbit, or Pristine be used if disease pressure is high (warm, wet). Indar and Orbit are registered for use beginning 3 weeks before harvest. Of these materials, Indar has the longest residual activity.

#### • Pesticide Resistance

[2.4] For resistance management purposes, the SI fungicides (Indar & Orbit) should not be used routinely throughout the season for BOTH blossom blight AND fruit rot control. Where peaches within the same block ripen

over an extended season, continued use of SI fungicides as preharvest sprays for successive varieties will also create selection pressure for fungicide resistance. Use captan or Pristine to break the string of preharvest SI fungicides applied to varieties with varied ripening or harvest dates.

## Peach Scab

### • Biology & Cultural

Peach scab can severely damage apricot if spring weather is warm and wet and no fungicides are applied at shuck split and first cover. The disease is more common following a year when spring frosts caused a crop failure, because trees grown for an entire summer without fungicides are more likely to carry peach scab infections the following year.

### • Pesticide Application Notes

[3.1] Apply 2 or 3 sprays at 10–14-day intervals beginning at shuck split. Under light disease pressure, a single application of Bravo or Echo applied at shuck split may provide season-long control. Bravo and Echo cannot be applied after shuck split.

## Perennial (Cytospora, Valsa) Canker

### • Biology & Cultural

[4.1] See discussion of this disease under Peaches. Also, refer to the reference materials list at the end of this publication for a Fact Sheet containing details on the biology and management of this disease.

## Phytophthora Root, Crown, and Collar Rots

### • Biology & Cultural

[5.1] Apricot rootstocks are perhaps more susceptible to Phytophthora root, crown, and collar rots than any other fruit tree rootstock grown in New England. The main defenses against these diseases should be providing good soil drainage through proper site selection and physical manipulations such as tiling or planting on berms. In general, berms are much more effective than tiling. See comment [5.2] about pesticide applications.

Refer to the reference materials list at the end of this publication for a Fact Sheet containing details on the biology and management of this disease.

### • Pesticide Application Notes

[5.2] In addition to the cultural practices noted in comment [5.1], Ridomil will provide additional protection in wet years, on marginal sites, or in wetter sections of the orchard. Applications should be made just before growth starts in the spring and at 2–3 month intervals thereafter if soil conditions are very wet. Apply to the soil beneath the tree canopy in sufficient water to assure good coverage (material is moved into the soil by subsequent rain or irrigation). See label for further details.

## 15.2 Insects and Mites

### European Red Mite, Twospotted Spider Mite

#### • Biology & Cultural

Refer to the reference materials list at the end of this publication for a Fact Sheet containing details on the biology and management of this pest.

#### • Pesticide Application Notes

[6.1] Apply oil against overwintering eggs.

[6.2] Apply as mites appear in a minimum of 50 gal/A. Acramite, Apollo, Envidor, Onager and Savey limited to 1 application per season.

[6.3] Use lower rate of Nexter for European red mite, and higher rate of Nexter, for twospotted spider mite.

[6.4] Non-bearing trees only.

### Oriental Fruit Moth

#### • Biology & Cultural

Refer to the reference materials list at the end of this publication for a Fact Sheet containing details on the biology and management of this pest.

#### • Biological & Non-chemical Control

[7.1] Pheromone disruption is economically justified if 2–3 sprays are normally applied, and if no other insecticide sprays are routinely needed for other pests after petal fall. For this reason, disruption may not be economical for the 1st brood, as plum curculio sprays at this time normally would also control oriental fruit moth.

Pheromones should be applied in mid-June before initiation of the 2nd flight; the need for re-application depends on residual field life of specific formulations: Isomate-M 100, 90 days; Checkmate OFM-F, 30 days. Insecticide sprays or a double rate of pheromone may be needed in orchards adjacent to sources of adult immigration or in other high pressure situations.

#### • Pesticide Application Notes

[7.2] Summer sprays should be timed to start approximately at the 10% hatch point, 175–200 DD (base 45° F) after the first adult catch of the second brood, with a second application in 10–14 days. In high pressure blocks, a final spray should be applied 2 wk before harvest to control late season larvae. For best effectiveness and insecticide resistance management, the use of pre-mixes such as

\*Leverage should be reserved for those situations when the pest complex to be treated is appropriately matched to the combination of active ingredients and modes of action contained in the product.

Suggested action threshold: Avg. of >10 adults/ week caught per pheromone trap.

## Peachtree Borers (including Lesser peachtree borer)

### • Biology & Cultural

Refer to the reference materials list at the end of this publication for a Fact Sheet containing details on the biology and management of this pest.

### • Biological & Non-chemical Control

[8.1] Hang pheromone ties at shucksplit before moth flight begins. Pruning should be done before hanging dispensers. Use Isomate PTB-Dual at a rate of 150 per acre. Use a higher rate (200-250/A) for outside edges of border blocks; areas that haven't been disrupted before and have high populations; and in blocks smaller than 5 acres. Isomate PTB-Dual is effective on both Peachtree Borer and Lesser Peachtree Borer.

### • Pesticide Application Notes

[8.2] Up to 3 sprays of pyrethroids to trunk and scaffold limbs against larvae: June 1-10, July 7-15, and August 1-10 (do not spray fruit). OR 1 application of \*Thionex immediately after harvest; do not spray fruit. \*Baythroid not labeled for peachtree borer. Suggested action threshold: 1st emergence of adults plus 8 days (in blocks with a history of damage), or 1-2 larvae or pupal cases/tree.

## Plum Curculio

### • Biology & Cultural

Refer to the reference materials list at the end of this publication for a Fact Sheet containing details on the biology and management of this pest.

### • Pesticide Application Notes

[9.1] 2–3 applications. Begin at fruit set (shucks on) and follow at 8–10-day (for Sevin) or 10–14-day (for other products) intervals. Do not apply Actara between the pre-bloom (swollen bud) and post bloom (petal fall) growth stages. For best effectiveness and insecticide resistance management, the use of pre-mixes such as \*Leverage should be reserved for those situations when the pest complex to be treated is appropriately matched to the combination of active ingredients and modes of action contained in the product.

[9.2] Frequent applications (7–10-day intervals) of Surround and maximal coverage (minimum of 100 gal/A) are advised while there is active foliar growth.

## Scales, including European Lecanium and San Jose Scale

### Biology and Cultural

Refer to the reference materials list at the end of this publication for a Fact Sheet containing details on the biology and management of San Jose scale.

### Pesticide Application Notes

[10.1] Apply oil against overwintering immatures.

[10.2] One application 4–6 weeks after shuck split, against newly hatched crawlers. Movento must be used with an organosilicone or nonionic spray adjuvant.

## Tarnished Plant Bug

### • Biology & Cultural

Refer to the reference materials list at the end of this publication for a Fact Sheet containing details on the biology and management of this pest. Satisfactory control requires adequate management of orchard weeds that attract this pest and act as alternate hosts.

### • Monitoring & Forecasting

[11.1] Most catfacing injury is caused before shuck split. Later season feeding generally results in only minor surface scarring.

[11.2] Apply spray as insects or damage appears. Suggested action threshold: 3 bleeding sites/tree.

### • Pesticide Application Notes

[11.3] At 10–14-day intervals as needed in midsummer. Do not apply Actara between the pre-bloom (swollen bud) and post bloom (petal fall) growth stages. For best effectiveness and insecticide resistance management, the use of pre-mixes such as \*Leverage should be reserved for those situations when the pest complex to be treated is appropriately matched to the combination of active ingredients and modes of action contained in the product.

Suggested action threshold: 3 bleeding sites/tree.

## Western Flower Thrips

### • Biology & Cultural

Drought conditions and high temperatures may encourage damaging populations. Adults move from alternate weed or crop hosts to fruit just prior to and during harvest, feed on the fruit surface in protected sites, such as in the stem end, the suture, under leaves and branches, and between fruit. Feeding results in silver stippling or patches; injury is particularly obvious on highly colored varieties.

### • Pesticide Application Notes

[12.1] In orchards with severe infestations, a petal fall application may be warranted against thrips feeding in fruit clusters. Control may be improved by addition of an adjuvant.

[12.2] An application immediately after harvest may prevent subsequent losses; however, an additional application may be needed if pressure is severe. Control may be improved by addition of an adjuvant. Note 14 day pre-harvest-interval.

## Storage Rots

### • Pesticide Application Notes

[13.1] A postharvest treatment with Scholar SC via dipping, flooders, T-jet, or similar system for control of storage rots is recommended for fruit coming from orchards where sporulating brown rot was observed, or when one

hopes keep fruit in cold storage for a few days prior to sale. Holding tanks in postharvest treatment equipment must have excellent agitation to keep fungicides in suspension. Solutions must be replenished regularly as directed on the product label. Never expose treated fruit to direct sunlight. This will cause the fungicide to break down.

## 15.3 Apricot Spray Tables

**Table 15.3.1. Pesticide Spray Table -- Apricots.**

Refer to inside back cover for key to abbreviations and footnotes.

Pest	Product	Rate/100 gal	Rate/A	REI (hrs)	PHI (days)	Comments (see text)
<b>Late Dormant</b>						
Phytophthora root, crown and collar rots	Ridomil Gold SL 4EC		2 qt/A	48	0	[5.1]
Bacterial canker ( <i>Pseudomonas syringae</i> )	Kocide 2000		6-12 lb/A	24	PH,BL	[1.1]
	or Kocide 3000		3.5-7.0 lb/A	24	PH,BL	
	or §Cuprofix Ultra 40 Dispers		5.0-8.0 lb/A	12	BL,PH	
	other coppers	See comments [1.1]				
European red mite, Scale insects	oil	2 gal/100 gal	See label	12	0	[6.1],[10.1]
<b>Popcorn</b>						
Brown rot (Blossom blight)	Adament 50 WG		4-8 oz/A	120	1	[2.1]
	OR Bravo Weather Stik 6F	1.0-1.3 pt/100 gal	3.1-4.1 pt/A		SS	
	or other chlorothalonil formulations (see labels)					
	OR Captan 50WP	2 lb/100 gal	3.0-5.0 lb/A	24-96 (E)	0	
	or Captec 4L	0.75-1 qt/100 gal	2.5 qt/A	24	0	
	OR Echo 720 6F	1.0-1.4 pt/100 gal	3.1-4.1 pt/A	12hr/7 days (E)	SS	
	or Echo 90DF	0.75-1.2 lb/100 gal	2.25-3.5 lb/A			
	OR Elevate 50WDG		1.5 lb/A	12	0	
	OR Indar 2F		6 fl oz/A	12	0	
	OR Orbit 3.6EC		4 fl oz/A	12	0	
	OR Pristine 38 WDG		10.5-14.5 oz/A	12	0	
	OR Quash		2.5-3.5 oz/A	12	14	
	OR Rally 40 WSP	1.25-2.0 oz/100 gal	2.5-6.0 oz/A	24	0	
	OR Rovral 4F		1.0-2.0pt/A	24	PF	
	OR Scala 600SC		9.0-18.0 fl oz/A	12	2	
OR Tebuzol 45DF	2 oz/100 gal	4-8 oz/A	120	0		
OR Vanguard 75WG		5-10 oz/A	12	BL		
Tarnished plant bug	See materials listed under Petal Fall.					[11.1]
<b>Bloom</b>						
Brown rot (blossom blight)	See materials and comments listed under Popcorn.					

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Pest	Product	Rate/100 gal	Rate/A	REI (hrs)	PHI (days)	Comments (see text)
<b>Petal Fall</b>						
<b>Brown rot</b>	See materials and comments listed under Popcorn, except Vanguard, which cannot be used after bloom.					
<b>Plum curculio</b>	Actara		4.5-5.5 oz/A	12	14	[9.1]
	OR Avaunt 30 WDG		5.0-6.0 oz/A	12	14	
	OR *Baythroid XL 1EC		2.4-2.8 fl oz/A	12	7	
	OR Imidan 70WP	0.75-1 lb/100 gal	2.1-4.25 lb/A	72	14	
	OR *Leverage 2.7 SE		4.4-5.1 fl oz/A	12	7	
	OR Sevin XLR Plus, 4F		2.0-3.0 qt/A	12	3	
	OR §Surround 95WP		25-50 lb/A	4	0	[9.2]
<b>Peachtree borer and Lesser peachtree borer)</b>	Pheromone disruption ties: §Isomate-PTB-Dual	150 ties per acre				[8.1]
<b>Tarnished plant bug</b>	Actara		4.5-5.5 oz/A	12	14	[11.3]
	OR *Asana XL 0.66EC	2.0-5.8 fl oz/100 gal	4.8-14.5 fl oz/A	12	14	[11.2]
	OR Assail 30SG		5.3-8.0 oz/A	12	7	
	OR *Baythroid XL 1 EC		2.0-2.4 fl oz/A	12	7	
	OR *Proaxis 0.5CS		2.6-5.1 fl oz/A	24	14	
	OR *Warrior II		1.3-2.5 fl oz/A	24	14	
<b>Western flower thrips</b>	Delegate WG		4.5-7 oz/A	4	14	
	OR SpinTor 2SC		4.0-6.0 fl oz/A	4	14	[12.2]
	or §Entrust 80WP	0.4-0.8 oz/100 gal	1.25-2.5 oz/A	4	14	
<b>Shuck Split</b>						
<b>Brown rot</b>	Adament 50WG		4-8 oz/A	120	1	[2.2]
	OR Bravo Weather Stik 6F	1.0-1.3 pt/100 gal	3.1-4.1 pt/A	12hr/7 days (E)	SS	
		or other chlorothalonil formulations (see labels)				
	OR Captan 50WP	2 lb/100 gal	3.0-5.0 lb/A	24-96 (E)	0	
		or Captec 4L	0.75-1 qt/100 gal	2.5 qt/A	24	
	OR Echo 720 6F	1.0-1.4 pt/100 gal	3.1-4.1 pt/A	12hr/7 days (E)	SS	
	or Echo 90DF	0.75-1.2 lb/100 gal	2.25-3.5 lb/A			
	OR Pristine 38WDG		10.5-14.5 oz/A	12	0	
	OR Quash		2.5-3.5 oz/A	12	14	
	OR Rally 40 WSP	1.25-2.0 oz/100 gal	2.5-6.0 oz/A	24	0	
<b>Peach Scab</b>	Any of the products listed above (except Quash) for brown rot at shuck split.					[3.1]
	OR Gem 500SC		1.9-3.8 oz/A	12	1	
<b>Additional Summer Sprays</b>						
<b>Brown rot</b>	Adament 50WG		4-8 oz/A	120	1	[2.3]
	OR Captan 50WP	2 lb/100 gal	3.0-5.0 lb/A	24-96 (E)	0	
		or Captec 4L	0.75-1 qt/100 gal	2.5 qt/A	24	

**Table 15.3.1. Pesticide Spray Table -- Apricots.**

Refer to inside back cover for key to abbreviations and footnotes.

Pest	Product	Rate/100 gal	Rate/A	REI (hrs)	PHI (days)	Comments (see text)
<b>Additional Summer Sprays (continued)</b>						
<b>Brown rot</b> (continued)	OR Elevate 50WDG		1.5 lb/A	12	0	
	OR Indar 2F	0.8 oz/100 gal	6.0 fl oz/A	12	0	
	OR Orbit 3.6EC		4 fl oz/A	12	0	
	OR Pristine 38WDG		10.5-14.5 oz/A	12	0	
	OR Quash		2.5-3.5 oz/A	12	14	
	OR Rally 40 WSP	1.25-2.0 oz/100 gal	2.5-6.0 oz/A	24	0	
	OR Tebuzol 45DF	2 oz/100 gal	4-8 oz/A	120	0	
<b>European red mite,</b> <b>Twospotted spider mite</b>	Acramite 50WS		0.75-1.0 lb/A	12	3	[6.2]
	OR Apollo 4SC		2.0-8.0 oz/A	12	21	[6.2]
	OR Envidor 2SC		16-18 fl oz/A	12	7	[6.2]
	OR §Nexter 75WS		4.4-10.7 oz/A	12	300(PH)	[6.3]
	OR Onager 1 EC		12.0-24.0 oz/A	12	28	[6.2]
	OR Portal		2 pts/A	12	365	[6.4]
	OR Savey 50DF		3.0-6.0 oz/A	12	28	[6.2]
<b>Lecanium scale,</b> <b>San Jose scale</b>	Esteem 35WP		4.0-5.0 oz/A	12	14	[10.2]
	OR Movento SC		6.0-9.0 fl oz/A	24	7	
<b>Oriental fruit moth</b>	Pheromone disruption:					[7.1]
	§Checkmate OFM-F		1.3-2.9 fl oz/A			
	Or Checkmate OFM Dispenser		100-200 dispensers/A			
	§Isomate-M 100		100 ties/A			
	OR Altacor 35WDG		3.0-4.5 oz/A	4	10	[7.2]
	OR *Asana XL 0.66EC	2.0-5.8 fl oz/100 gal	4.8-14.5 fl oz/A	12	14	
	OR Assail 30SG		5.3-8.0 oz/A	12	7	
	OR Avaunt 30 WDG		6.0 oz/A	12	14	
	OR *Baythroid XL 1EC		2.0-2.4 fl oz/A	12	7	
	OR Delegate 25 WG		6.0-7.0 oz/A	4	14	
	OR Intrepid 2F		10-16 fl oz/A	4	7	
	OR *Leverage 2.7SE		3.6-4.4 fl oz/A	12	7	
	OR *Proaxis 0.5CS		2.6-5.1 fl oz/A	24	14	
	OR Sevin XLR Plus, 4F		2.0-3.0 qt/A	12	3	
OR *Warrior II		1.28-2.56 fl oz/A	24	14		
<b>Peachtree borer,</b> <b>Lesser peachtree borer</b>	*Asana XL 0.66EC	2.0-5.8 fl oz/100 gal	4.8-14.5 fl oz/A	12	14	[8.2]
	OR *Baythroid XL 1EC		1.4-2.0 fl oz/A	12	7	
	OR *Proaxis 0.5CS		2.6-5.1 fl oz/A	24	14	
	OR *Thionex 3EC	1 qt/100 gal	2.7-3.3 qt/A	48	21/30 (A)	
	or *Thionex 50WP	1.5 lb/100 gal	4.0-5.0 lb/A	96	21/30 (A)	
	OR *Warrior II		1.28-2.56 fl oz/A	24	14	

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Pest	Product	Rate/100 gal	Rate/A	REI (hrs)	PHI (days)	Comments (see text)
<b>Additional Summer Sprays (continued)</b>						
Tarnished plant bug	Actara		4.5-5.5 oz/A	12	14	[11.3]
	OR *Asana XL 0.66EC	2.0-5.8 fl oz/100 gal	4.8-14.5 fl oz/A	12	14	[11.2]
Stink bug	OR Assail 30SG		5.3-8.0 oz/A	12	7	
	OR *Baythroid XL 1EC		2.0-2.4 fl oz/A	12	7	
	OR Beleaf 50 SG		2.0-2.8 oz/A	12	14	
	OR *Leverage 2.7 SE		3.6-4.4 fl oz/A	12	7	
	OR Proaxis 0.5CS		2.6-5.1 fl oz/A	24	14	
	OR *Warrior II		1.3-2.5 fl oz/A	24	14	
Western flower thrips	SpinTor 2SC		4.0-6.0 fl oz/A	4	14	[12.2]
	or §Entrust 80WP	0.4-0.8 oz/100 gal	1.25-2.5 oz/A	4	14	
	OR Delegate WG		4.5-7.0 oz/A	4	14	
<b>Postharvest</b>						
European red mite, Twospotted spider mite	Nexter 75WS		4.4-10.7 oz/A	12	300 (PH)	[6.3]
Peachtree borers	*Thionex 50WP	1.5 lb/100 gal	4.0-5.0 lb/A	96	21	[8.2]
	or *Thionex 3EC	1 qt/100 gal	2.7-3.3 qt/A	48	21	
<b>Control of Storage Disorders</b>						
Storage rots	Scholar SC	16- 32 fl oz/100 gal (see comments and label)				[13.1]
<b>Autumn</b>						
Bacterial canker ( <i>Pseudomonas syringae</i> )	Kocide 2000		6-12 lb/A	24	BL,PH	[1.1]
	or Kocide 3000		3.5-7.0 lb/A	12	BL,PH	
	or §Cuprofix Ultra 40 Dispers		5-8 lb/A	12	BL,PH	
	or other coppers	See comments				

**Table 15.3.2. Plant Growth Regulator Use in Apricots***Refer to inside back cover for key to abbreviations and footnotes.*

Timing	Product	Concentration	Rate of Formulated Product	Comments
<b>Preharvest Fruit Drop Control</b>				
1-2 weeks before anticipated harvest	ReTain	132 ppm	0.74 lb/acre or 333 g/acre (1 pouch)	Apply in sufficient water to ensure thorough but not excessive coverage. An organosilicone surfactant (12 oz/100 gal) should be used with ReTain.