Resistance Management Programs for Fire Blight Using FireWall™ 17 WP and FireLine™ 17 WP Bactericides

As surely as warm spring temperatures herald the onset of bloom, the annual battle against fire blight (*Erwinia amylovora*) is renewed in apple and pear orchards across the country. For over 50 years, streptomycin sulfate has been the standard against which all other control agents for fire blight have been measured. In hundreds of field trials spanning decades of work by research scientists from all major universities and extension services across the country, streptomycin delivered the most consistent and effective control of fire blight. Experienced growers know that no other product has proven its equal in controlling fire blight. Unfortunately, in many areas of pome fruit production, fire blight bacteria have developed resistance to streptomycin.

Streptomycin resistance develops when a genetic mutation in the bacteria enables its survivability when exposed to streptomycin. Over time these now-streptomycin resistant bacteria multiply and predominate within orchard fire blight bacterial populations while susceptible fire blight bacteria are systematically eliminated by repeated applications of streptomycin. Eventually only streptomycin resistant fire blight bacteria remain and for the orchard in which this has occurred the outcome is, for all practical purposes, irreversible. This is why a resistance management strategy is so important. *A well-planned and executed streptomycin resistance management program will ensure selection pressure for streptomycin resistance is minimized, thus maximizing the effective life of streptomycin to control fire blight in your orchard*.

FireWall (streptomycin) and FireLine (oxytetracycline) Resistance Management Programs for Fire Blight[1]

FireWall and FireLine are proven fire blight control products having distinct modes of action (FRAC Group 25 and 41, respectively). Thus, FireWall and FireLine along with other key practices are the cornerstones of effective fire blight resistance management programs. See table below.

Step	AgroSource Resistance Management Program Recommendations for Fire Blight	
1	Practice good sanitation; remove any fire blight "strikes" immediately from orchard and burn.	
2	Apply copper ahead of "green tip" to reduce fire blight inoculum.	
3	Consider use of Apogee® to minimize excessive shoot growth and to control shoot blight.[2]	
4	To combat blossom blight and to reduce fire blight inoculum …	
	In Streptomycin Effective Orchards	In Streptomycin Resistant Orchards
	Tank mix FireWall and FireLine at full rates each.	Apply FireLine and "biological" at full rates each.[3]
	Repeat applications using a fire blight prediction model in accordance with label instructions for each product and recommendations from your professional pest control advisor or consultant.	

For more information, visit the AgroSource website at www.agrosource.net
Always read and follow label instructions.

[1] FireWall and FireLine are trademarks of AgroSource, Inc.
[2] Apogee is a registered trademark of BASF.
[3] Tank mix or rotation of "biological" products for Fire Blight control should be made as per your professional pest control advisor or consultant.