

To Growers Wishing to Export Oranges to Korea:

Dr. Jim Adaskaveg, University of California, Riverside, has advised CCM that as of February 25, the risk-assessment, environmental model for Septoria spot of orange has reached the level three stage in **Tulare** county and the level two stage in **Fresno** county. Madera and Kern counties are at level one. **A third application of the copper-zinc-lime spray is now strongly advised and should be applied to all oranges grown in Fresno and Tulare counties including Valencias and Navels for shipments of oranges to Korea by March 20, 2011.** Additional notices will be made for Madera and Kern counties in the coming weeks. The instructions are the same as for the first and second applications and are included below for your information. All orange blocks in **Fresno** and **Tulare** counties that will ship after **March 20, 2011** should have the third application to provide the necessary protection no matter how many days have elapsed since the second application. The third spray is not required at this time for all other counties.

Please keep in mind that the lapsed time between the second application and harvest is an indicator of infection risk. Any harvest less than or equal to approximately 65 days from the second treatment is at a moderate risk level, any harvest approximately 66-84 days from the second treatment is at a high-risk level, whereas a harvest that is more than 85 days from the second application is at an extremely high-risk level for Septoria spot. Do not try to use the third application date as a harvest deadline or as a cut-off date for harvesting and storing fruit destined for Korea. The longer the fruit is stored, the greater the risk for Septoria spot development.

The high rainfall this growing season should reduce the potential for copper phytotoxicity but has led to record detection levels of the disease in the NAVEK lab. An alternative treatment to the copper-zinc-lime treatments has **not** been registered but all possibilities are being explored. The table below summarizes the spray volumes and the rates of each component of the treatment (copper, zinc, and lime).

**First Application 2010-11 Season
Zinc-Copper-Lime Applications
Fixed coppers (e.g., copper hydroxide and copper oxide)**

Application Volume	Metallic 100 gal	Metallic		Hydrated Lime/100 gal
		Zinc/ gal	Copper/100	
400	gal/A	0.63-1 lb	0.41-0.75 lb	0.5-1.0 lb
600	gal/A	0.42-0.67 lb	0.28-0.5 lb	0.33-0.67lb
800	gal/A	0.31-0.5 lb	0.21-0.38 lb	0.25-0.5 lb
Total*	lb/A	2.5-4	1.65-3	2-4 lbs

* - If the disease was observed or a positive NAVEK report was issued for Septoria spot in a grower lot last season, use a higher rate of each spray component (e.g., 4 lb metallic zinc, 3 lb metallic copper, and 4 lbs of lime per acre) within the range provided.

TABLE 2

(Zinc monohydrate + Copper pentasulfate)

Application Volume	100 gal	Metallic		Copper/100	Hydrated Lime/100 gal
		Metallic Zinc/	gal		
400	gal/A	0.83 lb		0.41-0.62 lb	5-17 lb
600	gal/A	0.55 lb		0.28-0.41 lb	3.3-11 lb
800	gal/A	0.41 lb		0.21-0.31 lb	2.5-8.4 lb
Total*	lb/A	3.3		1.65-2.45	20-67

* - If the disease was observed or a positive NAVEK report was issued for Septoria spot in a grower lot last season, use a higher rate of each spray component (e.g., 3.34 lb metallic zinc, 2.45 lb metallic copper, and 67 lbs of lime per acre) within the range provided.