

Table 1. Copper product summary – check label for allowed use on crop.

Product	Copper form	Amount of formulation	Metallic copper equivalent	Unit type	metallic copper per unit
Dry formulations					
Copper sulfate = bluestone = blue vitriol	Copper sulfate pentahydrate*	99%	25%	1 lb	0.25 lb
Kocide 101	Copper hydroxide	77.0%	50%	1 lb	0.50 lb
Champ WP	Copper hydroxide	77.0%	50%	1 lb	0.50 lb
Nu-Cop 50DF	Copper hydroxide	77.0%	50%	1 lb	0.50 lb
Kocide 2000	Copper hydroxide	53.8%	35%	1 lb	0.35 lb
Kocide DF	Copper hydroxide	61.4%	40%	1 lb	0.40 lb
Kocide 3000	Copper hydroxide	46.1%	30%	1 lb	0.30 lb
Basic Copper 53	Basic copper sulfate	95%	53%	1 lb	0.53 lb
Cuprofix Ultra 40D	Basic copper sulfate= CuSO ₄ · 3Cu(OH) ₂ · H ₂ O	71.1%	40%	1 lb	0.40 lb
Basicop	Basic copper sulfate	95%	53%	1 lb	0.53 lb
Cuprofix Disperss *	Basic copper sulfate	36.9%	20%	1 lb	0.20 lb
C-O-C-S WDG	Copper oxychloride sulfate	79%	50%	1 lb	0.50 lb
COCS 53%	Copper oxychloride + basic copper sulfate	53%	53%	1 lb	0.53 lb
Liquid formulations					
Champ 2F = Champ liquid copper = Champium Formula 2	Copper hydroxide	37.5%	24.4%	1 gal	3.00 lb
Cueva Fungicide Concentrate**	Copper octanoate (copper salt of fatty acid)	10%	1.8%	1 gal	0.15 lb
Tenn-Cop 5E**	Copper salts of fatty and rosin acids	58.0%	5.14%	1 gal	0.43 lb
Copper-Count-N	Copper ammonium carbonate	31.4%	8%	1 gal	0.784 lb
CS 2005	Copper sulfate pentahydrate	19.9%	5%	1 gal	0.418 lb

Note: Check labels for crops listed. Copper sulfate formulations are generally more soluble than other types and thus are more prone to phytotoxicity and washoff unless combined with lime as a safening agent. *Cuprofix Disperss, a copper sulfate formulation, also contains gypsum, a calcium containing compound which provides some safening of the copper, much like the lime in Bordeaux. ** Fatty and rosin acid forms are not compatible with lime.

Credits and further information

Spring copper sprays for fruit diseases by Dr. Dave Rosenberger, Cornell University, Scaffolds Newsletter, Vol. 20, No. 2, March 28, 2011. <http://www.scaffolds.entomology.cornell.edu/2011/110328.pdf>

Ritchie, David. Copper-containing fungicides/bactericides and their use in management of bacterial spot on peaches. Southeast Regional Newsletter. Vol. 4, No. 1, March 2004.

<http://www.caes.uga.edu/commodities/fruits/gapeach/pdf/copperformulations.pdf>