

Tolerance of Several Grape Cultivars to Injury from Atmospheric Contaminations of 2, 4-D*

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Grapes grown in Northeastern Kansas are regularly and seriously injured by 2,4-D, which drifts as vapors from widescale use on crop and non-crop-land areas. During late June 2,4-D injury usually becomes apparent in the Kansas Agricultural Experiment station vineyard in Doniphan county. Thereafter, all new growth on sensitive cultivars typically has distorted leaves and shoots associated with ex-

posure to phenoxy compounds. In July and August, the older leaves turn brown and fall. With that foliage gone, the fruit does not ripen properly. Much of the fruit on vines most severely affected is worthless and must be discarded.

Differences among cultivars in susceptibility to 2,4-D injury have been noted for several years. Some are quite sensitive; others, rather tolerant. Only tolerant ones produce good quality fruit.

Table 1. Tolerance of indicated grape cultivars to atmospheric contamination from 2,4-D.

Susceptible	Moderately susceptible	Tolerant
Bath	Alden	Baco 1
Campbell	Concord	Bailey
Early	Foche	Beta
Catawba	Fredonia	Buffalo
Cimarron	Gasconade	Canada
Moore's	Interlaken	Muscat
Early	Seedless	Couderc 7120
Naples	Kendaia	Delaware
NY 14528	Mo. Reisling	Delicatessen
NY 17452	Niagara	Eden
NY 18080	NY 15305	Extra
Ravat 262	NY 30454	Himrod
Ruby	Ontario	NY 15302
Siebel 2653	Schuyler	NY 21572
Sheridan	Seneca	NY 25576
Urbana	USDA 709-1	NY 30695
USDA 4005-10		Romulus
USDA 4023-16		Seibel 1000
Van Buren		Seibel 9110
Westfield		Seyve-Villard
Wittle 61		5-276
Yates		Seyve-Villard
		18-283
		Seyve-Villard
		23-18
		Steuben

In both 1967 and 1968, 2,4-D injury became apparent in mid-June and by late July defoliation was severe on some cultivars. Established vines of several cultivars in the experimental vineyard were rated visually as "susceptible," "moderately susceptible" or "tolerant" to 2,4-D injury as indicated by mid-summer defoliation.

Tolerances of several cultivars to atmospheric contaminations from 2,4-D are presented in Table 1. Because of sensitivity to 2,4-D, such older cultivars as Campbell Early and Sheridan, and some promising new cultivars as Bath, NY 18080, Westfield and Wittle 61 rarely produce good quality fruit. On the other hand, uneven ripening and poor fruit quality have not been a problem on the cultivars "tolerant" to 2,4-D. Those with desirable horticultural characteristics still show promise in Northeastern Kansas.

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