

Pendimethalin Safety in Fig. Seth Watkins and Bradley D. Hanson (Department of Plant Sciences, University of California, Davis, CA).

A trial was conducted at the UC Davis Pomology Research Station to evaluate the safety of the Satellite HydroCap formulation of pendimethalin in fig.

The trial was initiated on January 31, 2020 using 6 year old “Kadota” fig trees in a mixed species experimental orchard (Table 1). The soil was a Rincon silty clay loam with a pH of 7.9 and an organic matter content of 2.0%. The trial design was a randomized complete block with 4 replications and 10 ft by 12 ft plots (1 tree per plot). The treatments were applied with a CO2 pressurized backpack sprayer calibrated to deliver 30 GPA at 30 PSI through three Teejet AIXR11003 flat fan nozzles. A discharge calibration was performed before test substance application and a metronome was used to maintain travel speed. The herbicide treatments (Table 2) were applied to the soil surface in a 5’ band on both sides of the tree row. Visual crop foliar injury ratings were taken approximately 30, 60, 90, 120, and 150 days after application.

No foliar injury was observed from any treatments at any rating interval (Table 2). Although no fruit yield measurements were taken, visual fruit quality and yield appeared normal in all treated trees.

In this study, pendimethalin up to 7.6 lb ai/a (8 qt of Satellite HydroCap), 2x of the likely use rate, appeared to be safe in fig; a 4 qt/A use rate would likely have acceptable crop safety in commercial production comparable to current grower standard treatments.

*Table 1.* Application data.

Application date	1/31/2020
Air temperature (F)	54.5
Soil temperature (F)	50.9
Relative humidity (%)	86
Wind (mph) and direction	3.1 north
Cloud cover (%)	50

*Table 2.* Visual foliar injury ratings in a fig crop safety study near Davis, CA in 2020.

Treatment	Rate lbs ai/A	3/3/20	4/3/20	5/1/20	5/29/20	6/29/20
-----Injury <sup>a</sup> -----						
untreated	0	0	0	0	0	0
oryzalin (Surflan A.S.) + oxyfluorfen (Goal 2XL)	4.0 1.0	0	0	0	0	0
oryzalin (Surflan A.S.) + oxyfluorfen (Goal 2XL)	8.0 1.0	0	0	0	0	0
pendimethalin (Satellite) + oxyfluorfen (Goal 2XL)	3.8 1.0	0	0	0	0	0
pendimethalin (Satellite) + oxyfluorfen (Goal 2XL)	7.6 1.0	0	0	0	0	0

<sup>a</sup>Injury scale is 0-100 with 0 being no injury and 100 indicating complete kill.