

OBERON A NOVEL COMPOUND FOR MANAGEMENT OF MITES IN COTTON

Manuel R. Jimenez, Curt Engle, Carl Joplin, and Mac Learned

Commercial Development, Bayer Crop Science

Fresno, CA

Lamar Buckelew and Robert Steffens

Product Management, Bayer Crop Science

Research Triangle Park, NC

Abstract

Oberon (spiromesifen) provided outstanding control of early and mid-season spider mite infestations (*Tetranychus urticae*, *Tetranychus pacificus*). Oberon performance was similar to Zephyr and superior to Comite and Savey miticides. Unlike other acaricides, Oberon also has insecticidal effects against whiteflies and psyllids.

Introduction

Web spinning mites are regular pests of cotton produced in the San Joaquin Valley of California. Mites can be found as early as the cotyledon stage however, are typically found just prior to bloom. In the absence of beneficial insects, populations can build very fast, leading to premature defoliation and reduced yield.

Oberon (BSN2060) is a new acaricide/insecticide with activity against mites, whiteflies and psyllids. Oberon acts by reducing lipid synthesis. It is active on all developing stages and reduces fecundity of females. This makes it a novel insecticidal mode of action and a new resistance management tool.

Materials and Methods

In most trials, materials were applied with a tractor-mounted boom with drop nozzles delivering 20 to 40 gallons per acre. Plots generally consisted of four 38-inch rows by 50 feet in length. All trials had four replicates. Ten to twenty upper leaves were taken from the center two rows of each plot on a weekly basis. Leaves were either brushed or washed onto counting plates. Using a microscope and counting plate, motile mites were counted to determine the number of mites per leaf.

Results

Early Season

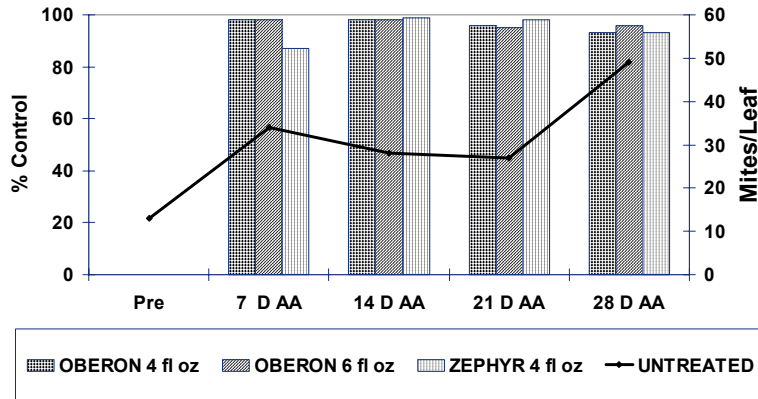
Early season tests were conducted on cotton plants less than 12 inches of growth. Oberon applied at 4 and 6 fluid ounces provided similar control to Zephyr at 7, 14, 21, and 28 days after application. (Figure 1)

Mid Season

Mid-season tests were conducted on cotton plants with greater than 12 inches of growth. Oberon applied at 8 and 12 fluid ounces provided similar control to Zephyr at 7, 14 and 21 days after application. Oberon applied at 16 fluid ounces provided slightly better control compared to Zephyr at 7, 14 and 21 days after application and similar control to Zephyr at 28 day after application. (Figure 2)

Oberon applied at all rated provided superior control compared to Comite and Savey at all evaluation dates. (Figure 3)

Early Season Mites

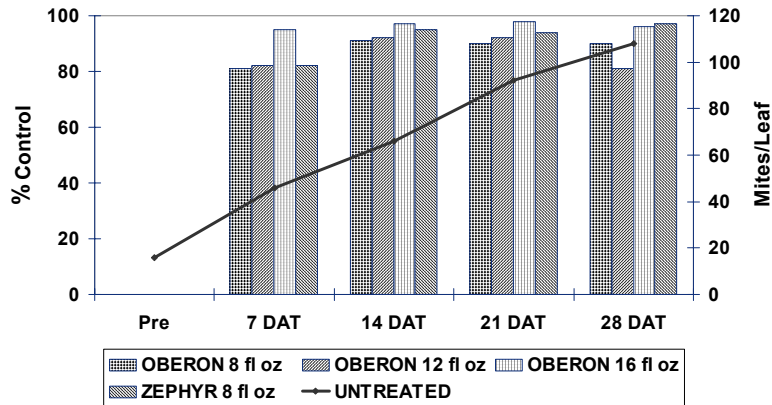


Average of 2 trials



Figure 1. Early-season spider mite control with Oberon and Zephyr, 2000-2001.

Mid-Season Mites (layby)

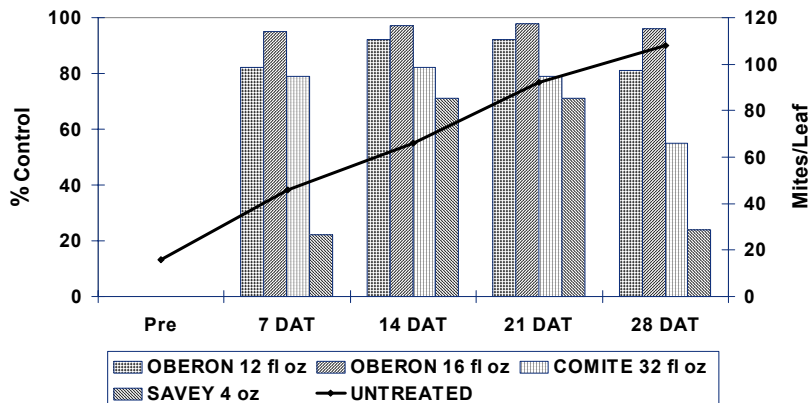


Average of 12 trials



Figure 2. Mid-season spider mite control with Oberon and Zephyr, 1998-2003.

Mid-Season Mites (layby)



Average of 10 trials: 1998 to 2003



Figure 3. Mid-season spider mite control with Oberon, Comite, Savey 1998-2003.