



GROWTH AND PRODUCTION ON MERLOT GRAPES WITH TRANSFORMER®

TARGET	Improved growth and yield on hard soil	CROP	Grapes cv. <i>Merlot</i>	TRIAL DATE	2010
LOCATION	Paso Robles CA, USA	RESEARCHER	Dr. D. Uys, M. Matthew ORO AGRI SA (Pty) Ltd		

APPLICATION

The effect of TRANSFORMER on the growth and yield of Merlot grapevines under drip irrigation on a hard soil was tested in a vineyard in Paso Robles, California. Previously, growth of the vines had been generally unsatisfactory. There were two treatments with TRANSFORMER and one untreated control, with each treatment applied on a 3.4 acre block. TRANSFORMER for application was pre-diluted in a 265 gallon tank. One gallon per acre was injected for 30 minutes for both of the TRANSFORMER treatments and the irrigation continued for another 30 minutes, until no foam emerged from the dripper emitters. Thereafter, the irrigation in the one gallon per acre block was closed off and the other block got another application of one gallon per acre on its own, bringing the total applied to 2 gallons per acre. All three treatments were further irrigated as normal. Treatments were applied on May 13, 2010 and evaluations of foliage volume were made on June 15 and September 16, 2010. The average width and height (from the cordon wire) of the foliage was measured and from this, the square inches in a cross section was determined. Yield on a number of rows for each treatment was determined at harvest.

RESULTS

Treatment with TRANSFORMER resulted in a considerable increase in the early shoot growth one month after treatment, with the 2 gallon per acre showing a 25% increase (*Figure 1*). On September 16, the increase compared with the untreated control was even better, but by then the growth in the one gallon per acre treatment had caught up with that shown by the higher rate. Yield in the 2 gallons per acre plot was 12.8% higher than in the untreated control (*Figure 2*). This was better than the 7.0% improvement for the one gallon per acre treatment.

Soils with hydrophobic tendencies have a low potential for water movement in the smaller pores such as the meso and micro-pores. It has been shown that lateral spread of water under a dripper emitter in such soils is greatly improved by treatment with TRANSFORMER, resulting in a larger area being wetted under each emitter. Apart from this, the soil directly under the emitter drains faster as the water moves laterally and is absorbed into the smaller soil pores, opening up the large macro-pores for aeration of the soil. The increase in growth and yield in the trial is ascribed to the above advantages brought about by TRANSFORMER. Improvement in shoot growth will have an effect on root growth as well, resulting in the total vine growth being enhanced. During the next season, therefore, the vines will start out with more potential for growth and yield.

■ UNTREATED ■ TRANSFORMER (1 gal./a) ■ TRANSFORMER (2 gal./a)

FIGURE 1 - PERCENT IMPROVEMENT IN FOLIAGE VOLUME WITH TRANSFORMER VS. UNTREATED CONTROL

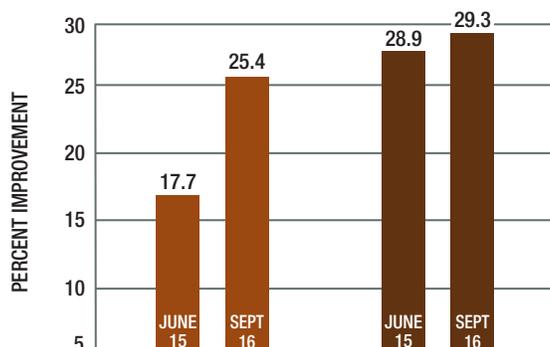


FIGURE 2 - EFFECT ON YIELD WITH TRANSFORMER VS. UNTREATED CONTROL

