

Dennis E. Deyton*¹, Carl E. Sams¹, Charles D. Pless², and John Cummins¹. 2001.

Comparison of Petroleum and Vegetable Oil Formulations for Control of Mites on Burning Bush.

HortScience 36:350 (Abstr.) ¹Dept. of Plant and Soil Sciences; ²Dept. of Entomology and Plant Pathology, The Univ. of Tennessee, Knoxville, TN 37901

Abstract:

Two-year-old burning bush *Euonymus alatus* Thunb. Sieb.'Compactus' plants in number 1 containers were obtained from a commercial nursery and placed in a greenhouse. The populations of Two-Spotted Spider mites (TSSM) were allowed to increase to >60 mites/leaf. The plants were sprayed on 6 Sept. with 1.5 % (v/v) solutions of the following: 1) PF1025 soybean oil (Panmark Co.), 2) Golden Natural (Stoller Enterprises) soybean oil, 3) Sunspray (petroleum oil from Sun Co., Inc.), 4) soybean oil/ Latron B-1956, 5) TNsoy2, or 6) TNsoy3. Other plants were sprayed three times at 5-day intervals with 0.5% (V/V) solutions of the following: 7) Eco-oil (vegetable oil formulation from Organic Crop Protectants PTY LTD), 8) TNsoy2, 9) TNsoy3, or 10) with water. The treatments were arranged in a randomized complete block design with six replications. The number of living mites on treated plants were counted on ten terminal leaves/plant 4 days after final spray application. Photosynthetic rates of leaves were measured prior to treatment and on 21 Sept., 27 Sept., 10 Oct., and 24 Oct. A single spray of 1.5% of the soybean oil formulations of Panmark, Golden Natural, soy/Latron B-1956, and TNsoy2 reduced mite populations by >95% at 4 days after spraying. The Golden Natural spray treatment tended to have less efficacy for TSSM control than the other soybean oil formulations. The three applications of 0.5% Eco-oil, TNsoy2, or TNsoy3 applied 5 days apart reduced mite populations by >98%. Plants sprayed with repeated sprays of 0.5% TNsoy2 or TNsoy3 had <1 mite/leaf compared to 80 mites/leaf on water sprayed plants.