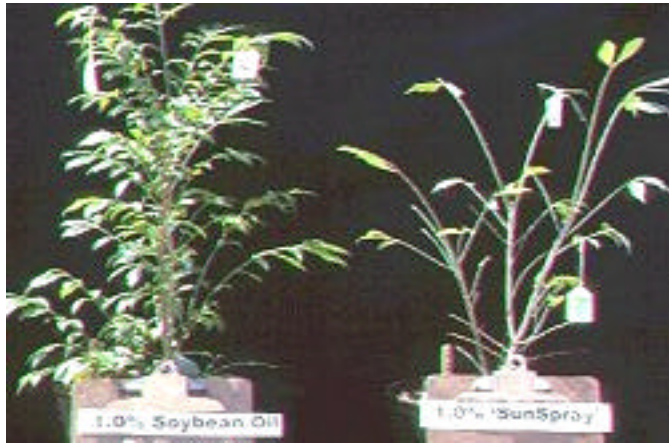


Aaron L Lancaster*¹, Dennis E. Deyton¹, Carl E. Sams¹, Charles D. Pless², Donna C. Fare³, and John C. Cummins¹. 1999.

Soybean Oil Controls Two-spotted Spider Mites on Burning Bush and Is Less Phytotoxic than Petroleum Oil. *HortScience* 34:834 (abstr.)



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Abstract: Research comparing the efficacies of soybean and petroleum oil for controlling two-spotted spider mites (*Tetranychus urticae*) on burning bush (*Euonymus alatus*) was conducted in 1998. Plants in 11.3-L pots were sprayed with 0% (water control), 0.25%, 0.5%, 0.75%, 1.0%, or 1.5% soybean oil, or with 1.0% or 1.5% 'SunSpray Ultra-fine' on 12, 17, and 22 JUNE

using a backpack mist blower. Soybean oil was mixed with Latron B-1956 at 10% of the respective oil concentration before emulsifying with water. Plants were maintained in a greenhouse, where daily maximum temperatures exceeded 37°C. Mites were collected from 20 randomly selected leaves per plant on the fourth day after each spray. All of the oils significantly reduced populations of two-spotted mites. Populations of two-spotted mites on control plants averaged ≈ 11 mites per leaf, as compared to the soybean oil-treated plants, which had 2 ± 2 mites per leaf. The petroleum oil-treated plants had 1.5 ± 0.5 two-spotted spider mites per leaf. Predatory mite populations were not affected by the oils on 16 JUNE. The predatory mite populations decreased on oil-treated plants, but increased on water-treated plants on both 21 and 26 JUNE. The predatory mites may have migrated from the oil-treated plants to the water-treated plants, which still supported large populations of two-spotted mites. Plants sprayed with soybean oil displayed less phytotoxicity and significantly less defoliation than plants sprayed with petroleum oil.