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Tropical Soda Apple Can Be Spread By Moving Cattle

by W. F. Brown, P. Mislevy, J.J. Mullahey
University of Florida, IFAS



For questions or comments regarding this publication contact [William F. Brown](#), or [Paul Mislevy](#)

Presently, tropical soda apple has infested over 400,000 acres of Florida pastures. This is an increase of 250,000 acres during the past 1.5 years. This weed is presently contained in nearly 20 percent of Florida's bahiagrass pastures. Tropical soda apple is native to Argentina and Brazil, and the exact means by which this weed was introduced into Florida is not known. The weed has been identified in most counties in central and south-Florida, and has been observed in parts of north-Florida. Tropical soda apple has recently been added to the Florida noxious weed list, which means it is illegal to move this plant in hay, sod, or seed from one property to another without a permit.

Tropical soda apple is a perennial plant and can attain a height of three to six feet. The plant flowers and produces fruit throughout the year but mainly from September to May. Mature fruit turn yellow and produce reddish-brown seed. Each tropical soda apple plant can contain over 100 fruit, with over 400 seeds per fruit, for a total of more than 40,000 seeds per plant. The seed is highly viable with a germination rate exceeding 75 percent.

Cattle and wildlife have spread tropical soda apple by eating the fruit and spreading the seed through defecation. Dung piles from cattle can contain 100 to 500 seeds, which can give rise to 20 to 50 soda apple seedlings. Dung piles provide the perfect environment for seedlings, by providing adequate fertility and resistance to grazing by cattle. The fact that livestock producers have observed tropical soda apple seedlings germinating from cattle dung piles indicates that the seed can survive passage through the digestive tract of cattle and wildlife. This has special implications for the transport of cattle, not only from one pasture to another on a given ranch but from one area of the state to another.

The exact length of time tropical soda apple seed is viable in the cattle rumen, and the time required for all ingested seed to pass through the digestive tract is not known. Research evaluating passage rates of various seeds and small particles indicate that after ingestion, first particles begin to appear in the feces within 12 to 24 hours. Approximately 10 days is required for all particles to be excreted. This suggests that for cattle grazing pastures infested with tropical soda apple, cattle should be moved to a non-infested pasture on the ranch for 10 days before being moved to another ranch. If this is not feasible, the receiving ranch should hold the cattle in as small an area as possible for 10 days. This will concentrate any contamination such that soda apple plants can be more easily controlled.

Other potential means for spreading this plant are through hay and sod production and seed harvest. Hay and sod fields should be free of this weed prior to harvest. Livestock producers have indicated that tropical soda apple was spread to their ranch through the purchase of infested hay, and from seed and vegetative planting material obtained from infested pastures.

Preliminary research investigating control of tropical soda apple suggests that plants should be mowed in April. From 50 to 60 days following mowing, apply 0.5 lb/acre Remedy plus 0.25 percent non-ionic surfactant in 40 gal./ acre water. Wait 30 days and follow with an additional 0.5 lb./acre Remedy plus 0.25 percent non-ionic surfactant in 40 gal/acre water. This is the preferred method, and provides the best control. If only one pass can be made over a field, 1.0 lb./acre Remedy plus 0.25 percent non-ionic surfactant in 40 gal/acre water can be applied 50 to 60 days following mowing the plants in April. For more information call the REC-Ona, 813-735-1314 or

Immokalee-REC, 813-657-5221.