

**Project Title: Temik replacement and optimized prefumigation irrigation to enhance soilborne nematode and disease control in Florida potatoes.**

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**2. Project Abstract:** Regulatory and potential environmental problems with the soil fumigants, coupled with the recent loss of Temik® aldicarb, have led to the urgent need to implement alternative methods for managing soilborne nematodes and disease problems into the farming practices of Florida potato growers. With the pending changes in fumigant product labels anticipated January 1, 2012, large scale grower field trials are needed to demonstrate the efficacy and economics of alternative methods of nematode, and disease control. Alternative chemicals to be evaluated include individual and or combined use of Vydate CL-V with different soil fumigant formulations of chloropicrin, and 1, 3-dichloropropene, including Telone II, Telone C17, Telone C35, and Pic Clor 60. For grower trials, plot sizes for each alternative chemical treatment will be a total of 1 acre MOL, being compared to a grower standard treatment of Telone II (6 gpa) and Temik® Aldicarb (20 lb/a). Treatment evaluations will also include studies which seek to optimize chloropicrin use rates, rates which account for cost, tuber quality, and as a buffer zone reducing strategy. The project will focus on the importance of soil moisture on movement and retention of fumigant gases in soil, and as a contributing cause to pest control inconsistencies. Studies to evaluate prefumigation soil moisture conditions will be conducted to ascertain contributions to pest control inconsistencies with soil fumigants and suboptimal moisture condition. The project also focuses on the development of educational programs for principal stakeholders regarding new EPA mandated product labels (Jan 1, 2012) requiring implementation of buffer zones, good agricultural practices (GAP's), new mandatory rules setting minimum standards for field crop debris and soil moisture, and formulation of transition strategies away from Temik® aldicarb use for nematode and corky ringspot disease control.