SODIUM AZIDE FOR CONTROL OF ROOT-KNOT NEMATODE AND WEEDS IN GREEN PEPPER AND TOMATO PRODUCTION IN THE SOUSS VALLEY IN MOROCCO

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The efficacy of pre-plant applications of NaN_3 for control of root-knot nematode [*Meloidogyne incognita*],coastal bermudagrass [*Cynodon dactylon*], yellow nutsedge [*Cyperus esculentum*] and other weeds in pepper [*Capsicum annum*] and tomato [*Lycopersicon esculentum*] production was studied in a field experiment at the MAGAPLANT farm [Comptoire Agricole du Souss] in the Souss valley, near Agadi. The soil was a calcareous silty clay loam with pH 7.8 and < 1% organic matter. NaN_3 was applied by drenching at rates of 100 and 200 kg/ha using the Agrizide™ formulation. Each rate was delivered into pre-acidified soil as well as in non-acidified soil using 3 different water levels: 3, 10, and 15 L/m^2. Acidification was with H_2SO_4 to lower soil pH to < 7.00. The soil was covered with standard polyethylene tarp immediately after NaN_3 application. After 3 weeks the cover was removed soil samples for nematological analyses were collected and the weeds were counted. Tomato and pepper seedlings were transplanted 6 weeks after NaN_3 application. Azide applications effectively controlled [>90%] the nematode and all weeds at 100 and 200 kgs dosages; the compound was particularly effective against nutsedge. NaN_3 was more efficacious in acidified soil than in soil without H_2SO_4; however, this difference was not pronounced and acidification of soils may not be needed. NaN_3 performed well when drenched with any of the 3 water levels but was slightly more effective when delivered in 15 L water/m^2. There was no evidence of phytotoxicity to pepper or tomato plants in any of the plots treated with NaN_3.The plants grew well and considerably more vigorous than those in untreated control plots. Results indicate that NaN_3 can be a good and practical substitute for methyl bromide in the production of pepper and tomato in southern Morocco.