NEMATICIDAL AND HERBICIDAL PROPERTIES OF LIQUID FORMULATION OF POTASSIUM AZIDE

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The nematotoxic properties of a proprietary liquid formulation of potassion azide [KN_3] were studied in greenhouse experiments with a soil from a cotton field infested with the reniform nematode [*Rotylenchulus reniformis*]. The compound was added to soil in aqueous solution to have rates of : 1, 2, 3, 4 and 5 mgs KN_3/kg soil. Soil samples for nematological analysis [salad bowl incubation technique] were collected one week after application of the material. Numbers of the reniform nematode declined exponentially in response to increasing KN_3 rates up to 4 mg/kg soil where almost 100% control of the nematode was observed; the 5 mg rate resulted also in 100% control. Numbers of microbivorous nematodes also declined in response to increasing KN_3 rates; however, the declined was linear and not as sharp as that observed for *R. reniformis.* Application of KN_3 at nematicidal rates to a soil infested with crab grass [*Digitaria sanguinalis*], purple nutsedge [*Cyperus rotundus*], Jimson weed [*Datura stramonium*] and a variety of other weed species failed to control the weeds. However, when KN_3 was applied at rates 20 - 200 mg/kg soil, the number of weeds declined proportionately to the rates used. Rates $\geq$ 140 mg/kg soil resulted in $\geq$ 80% control of weeds. Among the weed species crabgrass was the least sensitive to KN_3 applications but purple nutsedge and the other species could be controlled [$\geq$ 80%] by rates of 100 -120 mg/kg soil.