Compatibility of Acephate with Herbicides Applied Postemergence to Peanut.


Numerous agrochemicals can be applied in peanut to control pests. Field and laboratory experiments were conducted in North Carolina during 2009 and 2010 to define biological and physicochemical interactions when acephate was applied in combination with chloroacetamide and contact herbicides. Experiments were also conducted during 2011 to determine peanut response to acephate applied alone or with paraquat when peanut was planted either without aldicarb or when aldicarb was applied in the seed furrow at planting. Peanut damage caused by tobacco thrips (Frankliniella fusca Hinds.) feeding was greater when chloroacetamide herbicides were applied without acephate compared with application with acephate regardless of paraquat treatment. Visible injury caused by paraquat was higher when chloroacetamide herbicides were included compared with paraquat alone in one of two years. Visible injury by paraquat was lower when applied with acephate compared to paraquat alone in one of two years. Acephate applied to peanut foliage and aldicarb applied in the seed furrow at planting protected peanut from tobacco thrips feeding similarly. Acephate alone or with chloroacetamide herbicides changed solution pH from slightly acidic to highly acidic. Several combinations of acephate formed transient precipitates.