Thrips Control in Peanut in North Carolina with Insecticides Applied During Planting and After Peanut Emergence

L. GRIMES*, R. L. BRANDENBURG, D. L. JORDAN, B. R. ROYALS, and A. T. HARE, North Carolina Cooperative Extension Service, Raleigh, NC 27695.

Tobacco thrips (*Frankliniella fusca* Hinds) is an important pest in peanut in North Carolina and injury from this insect can result in lower yield. Developing an alternative to aldicarb has been a major focus of research in North Carolina for the past decade. Research was conducted from 2011-2013 in North Carolina to compare visible injury from tobacco thrips feeding and peanut (*Arachis hypogaea* L.) when acephate, imidacloprid, and phorate were applied alone in the seed furrow at planting or followed by acephate applied postemergence 3 weeks after planting. In a final experiment conducted during the same time period, a commercial liquid formulation of *Bradyrhizobia* inoculant was applied alone or with imidaclorpid in fields with and without plantings of peanut in recent years. Peanut foliage in these experiments did not express visible symptoms caused by tomato spotted wilt virus, a *tospovirus* vectored by thrips (*Frankliniella* spp.). Peanut injury from tobacco thrips feeding was reduced by acephate, imidacloprid, and phorate applied in the seed furrow at planting compared with non-treated peanut. Imidacloprid was more effective in protecting peanut from injury than phorate. Applying acephate further reduced injury from thrips. Pod yield was greater when imidacloprid was applied compared with yield following non-treated, acephate, and phorate when acephate was not applied postemergence. Pod yield was similar regardless of in-furrow treatment when acephate was applied postemergence. Thrips control by imidacloprid was not affected by *Bradyrhizobia* inoculant and imidacloprid did not negatively affect efficacy of *Bradyrhizobia* inoculant regardless of previous field history. These data indicate that imidacloprid protects peanut as well or more effectively than other systemic insecticides currently used in peanut and that imidacloprid is compatible with *Bradyrhizobia* inoculant. Other research has demonstrated that the formulated product Velum Total (imidacloprid plus fluopyram) controls thrips as well as imidacloprid alone and is compatible with *Bradyrhizobia* inoculant.

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