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Fluometuron Carryover to Flue-Cured Tobacco Following Application to Cotton

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Tobacco (*Nicotiana tabacum* L.) is commonly rotated with cotton (*Gossypium hirsutum* L.) in North Carolina. An experiment on coastal plain soils determined potential for fluometuron { *N,N*-dimethyl-*N'*-[3-(trifluoromethyl)phenyl] urea} applied to cotton to carry over to tobacco. Cotton received fluometuron preemergence at 1.7 kg a.i. ha⁻¹ broadcast or in a 50% band over the row followed by zero, one, or two postemergence-directed applications at 1.7 kg ha⁻¹ in a 50% band. Greater tobacco chlorosis was noted following broadcast preemergence application. At five of six sites, 6% or fewer plants exhibited minor chlorosis following preemergence and one postemergence application, while 3 to 29% were chlorotic following preemergence and two postemergence applications. At the sixth site, 1, 20, and 67% of plants exhibited chlorosis following preemergence and zero, one, and two postemergence applications, respectively. Necrosis on lower, unharvestable leaves was noted on 13% of plants at one site. No stunting was observed, and no treatment affected tobacco yield or leaf quality. A second experiment determined tobacco sensitivity to fluometuron was affected by transplant source. Fluometuron at 0.03 to 1.7 kg ha⁻¹ was incorporated before transplanting greenhouse- and plantbed-produced transplants. Ten percent visible injury and 10% yield reduction occurred with fluometuron at 0.08 and 0.10 kg ha⁻¹, respectively. Greenhouse transplants initially exhibited greater response to fluometuron, but no difference between transplant sources was noted 4 wk after transplanting. Fluometuron applied to cotton according to label directions should not economically impact tobacco production the following year.