TRINEXAPAC-ETHYL, PLANT POPULATION, NITROGEN FERTILITY, AND CROP PRODUCTION IN DRILL-SEEDED RICE

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Under intense management (higher than recommended seeding and nitrogen fertility rates), lodging resistant/tolerant rice varieties will lodge. Trinexapac-ethyl can decrease plant stature and reduce lodging in rice. Francis, a variety moderately susceptible to lodging, was grown with dense stands and high nitrogen fertility. Foliar treatments of trinexapac-ethyl (6 and 12 g/A) were applied during the initial stages of stem formation (internode elongation). Growth reduction was noted within 2 weeks after application. At maturity, trinexapac-ethyl reduced mature plant height between 5 and 10%, delayed heading (a measure of crop maturity) between 1 and 3 days and increased grain yield up to 5% in the first crop. Rice was most responsive to trinexapac-ethyl at either a high plant population or with supplemental nitrogen fertility. With combinations of high plant population and supplemental nitrogen, the response to trinexapac-ethyl was minimal. Lodging was absent in the first crop. The second or ratoon crop, which originated from the stubble of the first crop, was unaffected by trinexapac-ethyl.