

DOWNY BROME CONTROL WITH HERBICIDES IN SPRING. Kirk A. Howatt, Assistant Professor, North Dakota State University, Fargo, ND 58105-5051.

Downy brome is a winter annual grass that can be pervasive in winter wheat production. In North Dakota, downy brome is extending far beyond the region of winter wheat production and quickly becoming a problem in spring wheat and other spring seeded crops. Downy brome is able to invade spring cropping systems because of the adoption of minimum tillage and zero tillage practices. Experiments were conducted to determine which herbicides would control downy brome if the infestation was not discovered until after crop emergence. Treatments were applied to three-leaf downy brome that was tillered but panicles were not pronounced in stems on May 5. Imazamox had greater activity than other ALS-inhibiting herbicides 14 d after treatment (DAT), which was similar to activity of non-selective ACCase-inhibiting herbicides, 77 to 82%. Clodinafop was not different from untreated downy brome 14 DAT and expressed only minor symptoms 35 DAT. Clethodim, quizalofop, and imazamox provided greater than 90% control of downy brome 35 DAT. Propoxycarbazone gave 83% control, but downy brome control with remaining herbicides was less than 60% 35 DAT. Flucarbazone control of downy brome was increased more with nonionic surfactant or methylated seed oil adjuvants than when the adjuvant system contained a source of nitrogen.