Effect of clomazone rates and timings on rice (*Oryza sativa*) and barnyardgrass (*Echinochloa crus-galli*). Wei Zhang*, Eric P. Webster, and David C. Blouin. Louisiana State University AgCenter, Baton Rouge.

**Abstract**

A three-year study was conducted to evaluate rice and barnyardgrass response to clomazone rates and application timings. Clomazone was applied at 0.22, 0.45, 0.67, 0.9, and 1.12 kg ai/ha preplant incorporated (PPI), preemergence (PRE), and delayed preemergence (DPRE). Rice bleaching and barnyardgrass control was visually evaluated at 14 and 49 days after treatment (DAT), and rice was harvested for grain yield. The SAS mixed procedure was used to analyze the data and no clomazone rate by application timing interaction was detected. Clomazone rate effect was significant on rice bleaching, barnyardgrass control, and grain yield regardless of the application timings. Rice bleaching at 14 DAT was 5, 13, 20, 28, and 35% as the clomazone rate increased. Rice recovered from the initial clomazone injury as rice bleaching reduced to 1 to 8% at 49 DAT. Lower barnyardgrass control was observed for clomazone at 0.22 kg/ha 14 DAT and at 0.22 and 0.45 kg/ha 49 DAT compared with the higher rates of clomazone. Rice treated with clomazone at 0.22 kg/ha resulted in the lowest grain yield (2532 kg/ha) and this was probably due to a reduced weed control. A clomazone application timing effect was significant on rice bleaching and grain yield but not on barnyardgrass control. Clomazone applied PRE had lower rice bleaching at both rating dates compared with PPI and DPRE. Rice grain yield was also lower when rice was treated with clomazone PRE compared with the PPI or DPRE applications. The reduction in rice grain yield from rice treated with clomazone PRE was probably due to a reduced activity on other weeds present. In summary, initial rice bleaching by clomazone within the rates used did not translate into yield loss. Instead, higher clomazone rates seemed to increase rice yield due to increased weed control. Clomazone applied PPI and DPRE was better than PRE in terms of increasing rice yield regardless of increased bleaching observed.

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