

Bearded Sprangletop Adaptation to Flooding in California Rice. Katie E. Driver*, Amar Godar, Alex Ceseski, Mike Lee, and Kassim Al Khatib. University of California, Davis. *Corresponding author (kemccauley@ucdavis.edu)

Bearded sprangletop (*Leptochloa fusca* (L.) Kunth ssp. *fasicularis* (Lam.) N. Snow) is a problematic weed in California rice production. Flooding was thought to suppress bearded sprangletop growth, however after many years of continuous rice production, anecdotal evidence suggests that bearded sprangletop populations can tolerate flood pressures. A study was conducted at the Rice Research Station in Biggs, CA to test the flooding tolerance of two populations against three irrigation methods. The study implemented a split block factorial design with sprangletop population being factor 1 and irrigation method being factor 2. The irrigation methods were 1) 4 in. (10 cm) continuous flood; 2) 8 in. (20 cm) continuous flood and; 3) 2 in. (5 cm) flood. The two bearded sprangletop populations tested consisted of one clomazone resistant and one susceptible population. There was no emergence of bearded sprangletop in the 8 in. flood depth of either population. With a continuous 4 in. flood, only the resistant population survived flooding pressure and produced significantly more tillers and seed than any other treatment- population combination tested. This suggests that there may be a fitness advantage related to clomazone resistance, however further testing is needed to confirm this.