Using to steam to manage weeds in perennial crops – *Marcelo Moretti, Oregon State University*

Field studies were conducted in 2018 and 2019 to evaluate the efficacy and performance of organically approved weed control methods. Treatments consisted of saturated steam, brush weeder, ammonium nonanoate (24.3 kg ai ha^{-1}), capric plus caprylic acid (33.2 kg ai ha^{-1}). A nontreated control was included. The studies were organized in randomized complete block with 5 by 5 factorial arrangement. Factor A consisted of the five treatments listed above. Factor B was a second application of one of the five treatments 28 DAT. A total of twenty five treatments were evaluated. Treatments were applied to the base of blueberry plants. The experiment was conducted once in the spring and twice in the summer. A lower efficacy was observed in treatments during the spring study (<30%) compared to the summer (30 to 70% control) because rainfall promoted new weed seed germination. Steam and brush weeder reduced weed biomass to 30% and 50% of the nontreated biomass in the spring, and 43% and 47% in the summer. Ammonium nonanoate reduced weed biomass only in the summer study. The brush weeder and the steam were 3- to 6.5-fold more cost-effective than organic herbicides. These results indicate that saturated steam and brush weeder are effective tools for weed management in organic blueberry.