

**WIU CENTENNIAL HONORS COLLEGE
Thomas E. Helm Undergraduate Research Day 2023**

Abstract

Poster

Major: Agriculture

Faculty Mentor(s): Mark Bernards

Waterhemp and Morningglory growth as affected by corn emergence time

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Waterhemp and morningglory are particularly problematic weeds in Illinois corn production. The time of weed emergence relative to crop emergence may have profound impacts on weed growth and seed production. Our hypothesis was that corn that emerges before waterhemp or morningglory will suppress the growth and reproduction of both weeds. Corn was planted alone or with waterhemp or morningglory in a commercial potting mix in 4-inch circular pots arranged in a 15-pot tray pack and grown in a greenhouse. Waterhemp and morningglory were also planted individually in pots. At one and two weeks after corn planting, waterhemp and morningglory were planted into pots containing corn, and into pots individually. Corn was thinned to one plant per pot, and waterhemp from the first planting was thinned to 3 plants per pot two weeks after planting. Corn, waterhemp and morningglory height and biomass were measured eight weeks after planting. Weeds planted after corn had less emergence and less biomass. Strategies that prevent weed emergence until after the corn crop has emerged and has the capacity to shade the soil will greatly reduce weed competition.