WEEDSOFT: EFFECTS OF CORN ROW SPACING ON PREDICTIONS OF HERBICIDE EFFICACY ON SELECTED WEED SPECIES. Shawn M Hock*, Research Associate III, Univ. of Guam, Mangilao, GU, 96923, Stevan Z. Knezevic, Professor, Univ. of Nebraska, Concord, NE, 68728, William G. Johnson, Purdue Univ., Lafayette, IN, 47907, Christy Sprague, Ass. Professor, Michigan State Univ., East Lansing, MI, 48824.

The ability to accurately estimate herbicide efficacy is critical for any decision support system used in weed management. Recent efforts by weed scientists in the North Central Region to adopt WeedSOFT across a broad region have resulted in a number of regional research projects designed to assess and improve the predictive capability of WeedSOFT. Field studies were conducted in Nebraska, Missouri, and Illinois to evaluate herbicide efficacy predictions by a computerized weed management decision support system in two corn row spacings. After crop and weed emergence, weed densities and heights were entered into WeedSOFT to generate a list of treatments ranked by predicted crop yields, which included: highest predicted crop yield potential (number one control recommendation), a 10% yield reduction, a 20% yield reduction, a 10% yield reduction plus cultivation, and cultivation alone. These treatments were applied to corn grown in 38- and 76-cm rows. Generally, treatments applied in 38-cm rows had more accurate herbicide efficacy predictions compared to 76-cm rows. WeedSOFT provided better control predictions for broadleaf than grassy species. WeedSOFT provided excellent herbicide efficacy predictions for the most important treatment, the number one control recommendation based on highest predicted crop yield potential, which indicates a good potential for practical use of this software for herbicide recommendations.