

WEED PHENOLOGICAL VARIATION IN REACTION TO WEATHER: AN ANALYSIS OF 82 WISCONSIN WEEDS OVER FOUR YEARS. Ed Luschei and Jerry Doll, Professors, Department of Agronomy, University of Wisconsin, Madison, WI 53706.

A diverse collection of annual, biennial and perennial weeds were monitored for four years at a single site at the Arlington Agricultural Research Station in south-central Wisconsin. We report on the relative and absolute consistency of first-emergence/growth and first-flower times across species and within categorical groups (e.g. life-cycle type, chronological groups, physiological groups C3/C4). We examine the extent to which yearly deviations from means correlate with deviations in thermal time calculated across a range of base temperatures. For specific weeds, we correlate the 50% emergence time predicted using WEEDCAST 2.0 with the observed date of first emergence. We also contrast results with other existing historical data from the Leopold farm in south central Wisconsin and Wisconsin Phenological Society. Ultimately we address the question: how much information is contained in the recording of a phenological observation of a species 'X' about (1) contemporaneous and, (2) future phenological events in sets of other species.