Site-specific temperatures improve weed emergence predictions in California rice: introducing a web-based decision support tool

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This website predicts time to emergence for smallflower umbrella sedge and watergrass in California rice fields managed with “flushed” early-season irrigation.

Rationale: Alternative stand establishment systems employ early-season irrigation flushes and post-emergence herbicide applications to control weed populations. For post-emergence control of weeds to be effective, populations must be fully emerged. Therefore, the minimum time to emergence is relevant management information because it influences the efficacy of control. The working hypothesis behind this web tool is that, because early-season (4/15-6/1) temperatures are spatially and temporally heterogeneous, site-specific temperatures will improve the accuracy of weed emergence predictions, which will, in turn, improve the efficacy of alternative stand establishment approaches to weed control in California rice.

Summary: Because early-season temperatures are heterogeneous across time and space in the California rice growing region, modeling weed emergence as a function of real-time, site-specific temperatures improves the accuracy of the output.

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