WEED MANAGEMENT WITH UNCERTAIN WEATHER

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Whether you are a homeowner with a small lawn or custom applicator contracting on thousands of acres in several counties, the success of your weed control efforts can be strongly driven by variability in the weather. If you are the homeowner with a small lawn, you can likely wait until weather conditions are favorable or use the short-term weather forecasts to help plan your weed control efforts. Farmers or custom applicators, however, are usually more severely constrained by a large set of additional responsibilities. Many herbicide products should be applied within a window of time when the crop and/or weed have emerged but are not too large, and their sizes are both strongly correlated to accumulated temperature units. Moisture conditions can also have a major influence on emergence, PRE and POST herbicide application success, as well as most mechanical control techniques. Because of the time and scheduling constraints that accompany larger scale agronomic operations, the current and short-term forecasts may not be sufficient to allow for planning of weed management operations. In order to complete their work, many professionals find themselves having to manage weeds in sub-optimal conditions. To help manage and conduct weed control operations with the greatest possible efficiency, we are in the process of designing a tool that will use a large amount of historical data to assess the likely amount of optimal application time remaining during the critical time of the year. This tool, christened "IPMWatch", will be a free software product and allow users to tune the conditions for optimal application.

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