

USING SOYMAP TO PREDICT SOYBEAN DEVELOPMENT AND YIELD

A regional project titled “Effect of Planting Date, Latitude, and Environmental Factors on Choice of Maturity Group in Midsouth Soybean Production” was initiated by the Midsouth Soybean Board (MSSB) in 2012.

Following the completion of 3 years (2012-2014) of field research at Midsouth locations, a resulting data set was used to develop an online decision support tool called [SOYMAP](#) (Soybean Maturity, Analysis, and Planning). The tool, when queried, provides a comparison between any two MG’s for a given location, planting date, and soil type. Resulting information includes yield responses, predicted dates of R1, R5, and R8, irrigation requirements, and economic returns.

Click [here](#) for a SOYMAP Tutorial Video that provides excellent guidance for using the tool, and [here](#) to access the latest version (V.5) of a SOYMAP User Manual. For best results, SOYMAP developers encourage users to download the software directly from the SOYMAP website (click the SOYMAP-v.4 to download). There is a block where users can enter their email address so that the site developers can notify of any changes or updates to the program. Click [here](#) for a detailed article that provides the background information for the creation of the SOYMAP Decision Support Tool.

The support tool is based on simulations specific for soybeans, and 30-year weather data from the 11 location choices in the tool. At each location, simulations were run for weekly planting dates from late March/early April until the end of June and for MG’s 3-6 in one-half MG increments when planted on either a silt loam or clay soil. Click [here](#) to see locations and choices for each variable.

Maturity date and/or relative maturity of soybean varieties are strongly influenced by latitude. Therefore, varieties considered for Midsouth soybean farming should be evaluated using a location choice in the tool that has a latitude that is similar to that of an intended planting site. Otherwise, days to maturity or maturity date of soybeans planted by the producer at that site may not be the same as that indicated in the tool.

The latitude for 11 locations ranging from Columbia Missouri (38°57’N) to Baton Rouge Louisiana (30°27’N) is given in the location dropdown of the tool. Latitude of the location of an intended planting site can be found on the [USGS website](#). (Hint: one degree of latitude equals about 69.5 miles). For best results, use the location in the tool that is no more than one degree of latitude to the north or south of an intended planting site.

Producers are encouraged to access this tool and use it to select the best MG from which to select a variety, along with determining predicted dates of the start of important reproductive stages.

In addition to the above online tool, publications titled “Soybean Yield Response: Planting Date and Maturity Groups...” have been composed for [Arkansas](#), [Mississippi](#), [Missouri](#), and [Tennessee](#). These publications for the individual states provide the data and supporting documentation to obtain the best estimates for variety/MG choice based on planting date at locations within each state.

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