

User manual of the *Alfalfa Yield Predictor*

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Note: This document provides a guide for using the *Alfalfa Yield Predictor* located at <http://dairy.nmsu.edu: Tools>, and complements the Circular publication under the title “Using a Computer Application to Predict Alfalfa Yields.

1. Prepare Excel security settings.

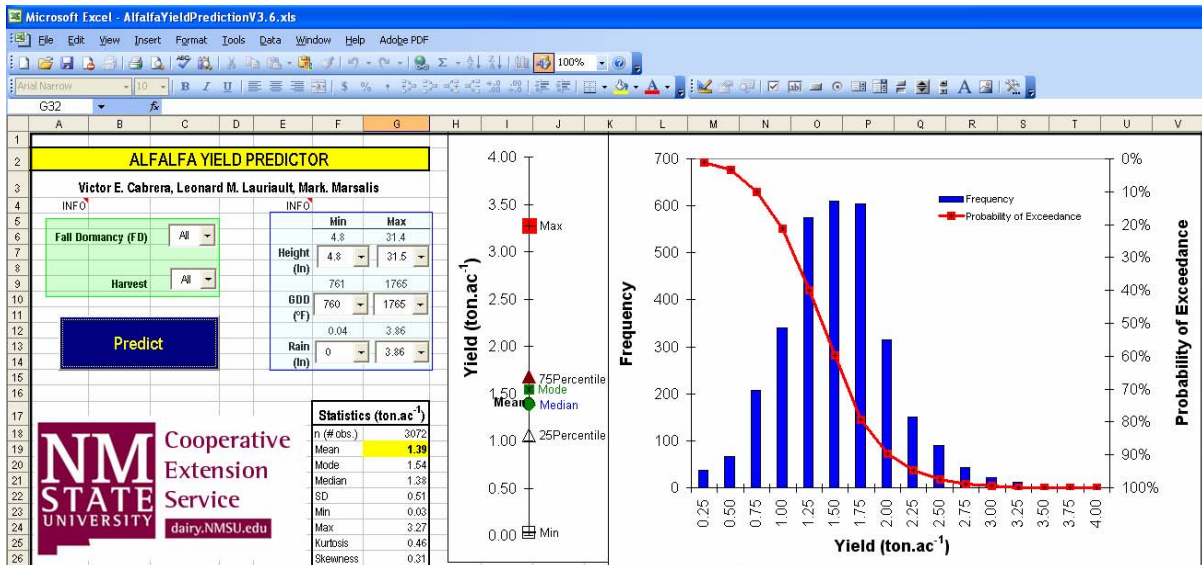
- Open Microsoft Office Excel (a blank new file).
- Go to Tools, Macro, Security...
- In the “Security Level” tab, select “Medium” and press OK.
- Close Excel program.

2. Download application (*AlfalfaYieldPredictor.xls*) from <http://dairy.nmsu.edu: Tools>.

- Right click on [AlfalfaYieldPredictor.xls](#) and select “Save Target As...”
- Save file in known place on your local computer

3. Open *AlfalfaYieldPredictor* application.

- Find the *AlfalfaYieldPredictor.xls* file saved in step 2 and open it.
- A Security Warning will appear requesting to “Enable Macros”.
- When you select “Enable Macros” the following screen will appear:



4. Select the parameters that best describe your situation or the parameters under which you would like to have prediction of alfalfa yields. Above the green and blue rectangles there is a cell with the text “INFO” from which you have extra information by superposing the mouse on them.
- In the green rectangle select discrete parameters in the drop box menus.
 - a) **Fall Dormancy (FD)**. You can select “All” which means the application will present results for all FD or you can select a specific FD between 2 and 9.
 - b) **Harvest**. You can select “All” which means the application will present results for all harvests or you can select a specific harvest between 1 and 6.
 - In the light blue rectangle select continuous parameters by defining a range using pre-determined values in the drop boxes or by typing values directly on the drop boxes. Note that the minimum and maximum values for each parameter inside a selection are displayed above the drop boxes as a reference (e.g., if the maximum height indicated is 50 cm, then only selection of a maximum height lower than 50 cm will narrow down the results).

- c) **Height.** Select or type a minimum and maximum height of plants in inches in the corresponding drop boxes.
- d) **Growing Degree Days (GDD).** Select or type a minimum and maximum GDD in ° Fahrenheit in the corresponding drop boxes.
- e) **Rain.** Select or type a minimum and maximum of rain in inches in the corresponding drop boxes.

5. Perform the prediction.

- Click on the blue “Predict” button.
- A message will appear in the screen when the selection is too narrow and does not return any valid result.
- Note that only after pressing the “Predict” button you can be sure that the displayed results correspond to your selections.

6. Review you results.

- a) **Statistics.** The descriptive statistics of your selection will be located in a table in cells F17 to G26. Some of these statistics are also visually displayed on the left side of the figures.
- b) **Histogram.** The frequency of your results is represented by the blue bars on the main figure. The histogram presents the number of observations found in every yield category represented by each 0.25 ton ac⁻¹ of yield change.
- c) **Probability of Exceedance.** The exceedance is represented by the red curve on the main figure. The exceedance curve shows the probability of having higher or lower yields according to the selection of parameters. The exceedance curve also

gives information of how much probability exists to obtain a target yield,
according to the selection of parameters.

7. Print results.

- The application is set up to print a landscape page with exactly all of the information displayed in the screen.