NON-COMPUTER VERSION OF THE BOLLMAN CROP MONITORING PROGRAM

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Abstract

A non-computerized version of BOLLMAN will be helpful to facilitate the use of COTMAN for crop monitoring on a small scale without a large investment, and to help users learn the mechanics of the BOLLMAN system, appreciate the power of the computer-based version, and develop confidence in rule bases. BOLLMAN utilizes three sets of information: 1) sequential counts of nodes-above-white-flower (NAWF), 2) determination of the latest possible cutout (LPC) date, and 3) calculation and accumulation of heat units after cutout for each field.

The non-computer version of BOLLMAN uses the same NAWF sampling as the computer version. The LPC date is determined by choosing the historical weather data base nearest to the field and choosing an appropriate risk factor. The LPC date is then indicated on the NAWF chart. After recording mean NAWF counts on the chart, the user can compare actual values to the target development curve, and then interpolate between sample dates to determine date of physiological cutout, i.e. NAWF=5. The latest effective flowering date is either the date of physiological cutout or the LPC date, which ever comes first. As fields reach their latest effective flowering date, they are entered sequentially in columns on the heat unit chart, so that they are arranged from earliest to latest maturing. Daily heat units (DD60's) are calculated and added to each column. Insecticides may be terminated when 350 heat units are accumulated and fields are ready for defoliation at 850 heat units.

A non-computer version BOLLMAN can help with some critical end-of-season management decisions. Data requirements make non-computer version on SQUAREMAN not feasible. The full value of COTMAN requires both SQUAREMAN and BOLLMAN components.

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