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Identifying Soybean Growth Stages - Vegetative

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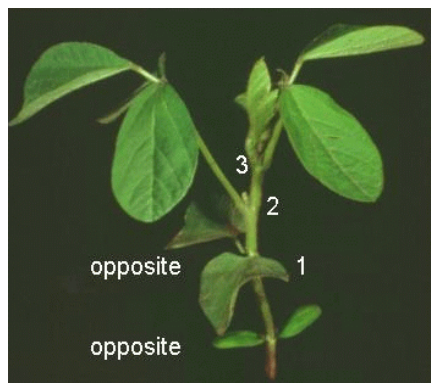
Identifying stage of development is essential for proper diagnosis of soybean pests or other problems and to determine the effect of these stresses on yield. Unfortunately, no standard method of staging soybean development has been agreed upon by all crop advisers. The following method was developed by Iowa State University and is followed by most extension specialists and research scientists. To avoid confusion it is important to include a description of the stage along with letter/numeral designation. When attempting to determine a stage be sure to observe plants throughout the field because variation occurs within any field. A stage occurs for a field or sample when 50% of the plants are at the stage in question.

Soybean development is divided into vegetative (V) and reproductive (R) stages. Subdivisions of the vegetative stages are designated numerically as V1, V2, etc., except for the first two stages, VE and VC.

VE designates emergence and occurs when the cotyledons emerge from the soil (Fig. 1). VC designates the cotyledon stage and occurs when the unifoliolate leaves unfold (Fig 2).



To determine all other vegetative stages, you must count the number of nodes on the main stem. Start counting from the node where the unifoliolate leaves are (were) attached. This node and one below it (cotyledonary node) are the only places on the soybean stem where two petioles (or scars) are situated opposite each other on the stem. The unifoliolate leaf node is number 1. Continue counting until you reach the uppermost node with a fully developed leaf.



A fully developed leaf is one that has a leaf above it with unfolded leaflets. This is determined by observing the leaflet margins. If the leaflet margins no longer touch each other, then the leaf has unfolded. Thus, a V2 plant has unfolded leaves on three nodes including two nodes where trifoliolate leaves are attached. Remember to count nodes even if the leaves have fallen from the plant, and only main stem nodes are counted.