

SOYBEAN GROWTH STAGING

Brent Bean and Travis Miller

Soybean growth and development can be divided into two stages; vegetative, and reproductive.

The vegetative stages are determined by counting the number of leaves on a plant. The first leaves to appear at emergence are the two cotyledon leaves. Upon emergence the plant is staged as **V-E**. The cotyledon leaves are quickly followed by two unifoliolate leaves that appear on opposite sides of the same point on the stem. The unifoliolate leaves have a single leaflet (blade) per petiole. When the unifoliolate leaves have unrolled so that the edges are no longer touching, this is staged **V-C**. All new leaves following the unifoliolate leaves will have three leaf blades and are referred to as trifoliolate leaves. Trifoliolate leaves appear singly on the plant at each node, with each new leaf originating on the opposite side of the stem in relation to the preceding leaf. Beginning with the first trifoliolate leaf, stages are counted consecutively with the appearance of each new leaf such as **V-1**, **V-2**, etc., continuing to count through the last new leaf before bloom, ...**V-n**. When counting trifoliolate leaves, count the leaf when it has completely unrolled and the edges of each leaflets are no longer touching each other. When bloom begins, the **V** growth stages are dropped and we use the **R** or reproductive growth stages.

The reproductive phase begins with flowering.

R1 - Plants at R1 have a single open bloom on the main stem of the plant.

R2 - Full bloom stage is reached when 50% of the plants have flowers open at one of the two uppermost main stem nodes.

R3 - Pod development stage is reached when a pod 3/16-inch long occurs on one of the four uppermost nodes on the main stem.

R4 - Rapid pod growth stage is reached when a pod 3/4-inch long occurs on one of the four uppermost nodes on the main stem.

R5 - Seed development stage is reached when seeds are 1/8-inch long in one of the pods on one of the four uppermost nodes of the main stem.

R6 -Full seed and leaf yellowing stage is reached when bottom leaves begin to turn yellow and seeds are starting to turn green.

R7 -Beginning maturity stage is reached when one pod on the main stem has reached its mature color. This stage is not listed on the PET fax.

R-8 Full Maturity or physiological maturity of the soybean plant is considered to be when 95% of the pods have reached their mature color.