

SOYBEAN STATION

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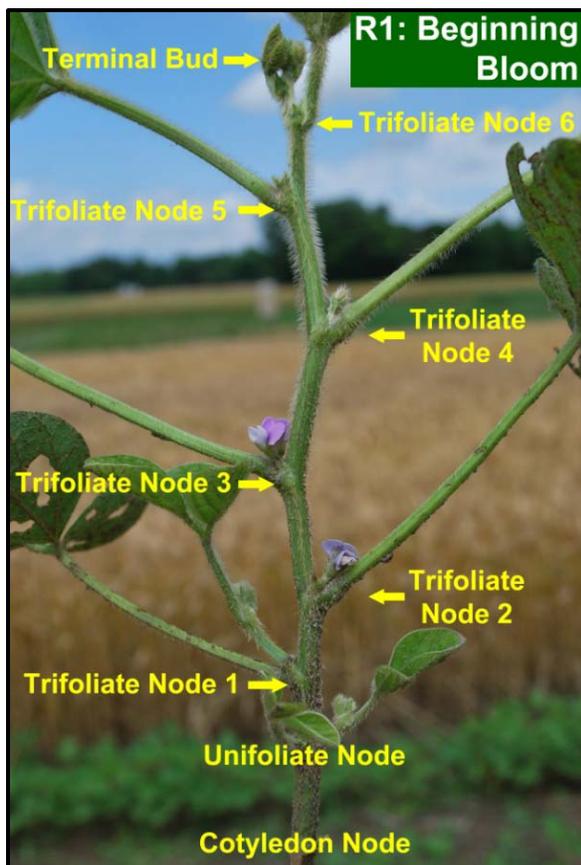
Soybean Early Reproductive Growth Stages

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Soybean development in Indiana ranges from just planted to flowering. As of the 3rd of July, 94% of the soybeans had emerged and 3% were blooming. The rate of bloom is about 10% less than the 5-year average and 20% less than last year's fast pace. Management decisions are based on the growth stage, the time of the year, and pest (weeds, insects, disease) occurrence. We will overview the early reproductive stages of soybean for proper scouting.

Reproductive Growth Stages:



R1 – Beginning Bloom is defined as any open flower(s) on any of the main stem nodes.

Flowering normally begins at the third to sixth main stem node (including the cotyledon and unifoliolate nodes). A node is the point where the lateral leaf branch attaches to the main stem. It will form a bump, which is helpful in determining the nodes of the cotyledons and the unifoliate. Cotyledons and unifoliate eventually abscise as vegetative growth progresses up the plant.

These nodes will have a bump on opposite sides of the stem followed by alternating nodes of the trifoliates (see R1 picture). Flowering begins around six to eight weeks after emergence and it is both temperature and photoperiod responsive. Vertical root growth rate increases rapidly. Approximately 65 days away from the beginning of physiological maturity (R7).

The soybean pictured to the left is R1 with six trifoliates. The first flower was initiated at trifoliolate node 2, which is node 4 when cotyledon and unifoliolate nodes are included. This plant would be classified as V6 (vegetative stage 6) if there was no open flowers on the main stem.

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R2 – Full Bloom is where any open flower is located at one of the two uppermost nodes of the main stem. Plant has accumulated ~25% of the total dry weight and ~50% of the total node number. Rapid dry weight and nutrient accumulation begins and continues until physiological maturity. Nitrogen fixation rate increases as does the plant's nitrogen demand. Approximately 60 days away from the beginning of physiological maturity (R7).

Growth Stage	Duration Median	Duration Range
# of days		
R1: Beginning Bloom	4	1 to 7
R2: Full Bloom	10	5 to 15
R3: Beginning Pod	10	5 to 15
R4: Full Pod	10	4 to 26
R5: Beginning Seed	15	11 to 20
R6: Full Seed	20	9 to 30

