

Technical Bulletin: Soybeans

There's still time to achieve higher yields in soybeans!



This has been a challenging year so far: the corn crop has reached its full growth potential and in most cases, is beyond rescue. Soybeans however are still in a good position to make good yields -- provided we look for opportunities to help our soybean crop make the most of the time it has left during this growing season. You can still scout your fields,

determine your soybeans' stage in the growth cycle and make decisions that will still impact yield.

First, bear in mind the components that determine soybean yield: 1. Total number of pods, 2. Number of beans per pod, and 3. Weight per bean (seed size). Now, let's look at how to determine what stage your beans are in, and what opportunities remain to boost yields.

Growth stage R1 – R2 describes node and bloom development. Each node on a soybean plant has the potential of producing multiple blooms (and therefore many more pods), which can contribute to higher yield potential. During the reproductive (flowering) stage of R1 to R2, there can be multiple blooms at each node. Stress causes bloom abortion, which will affect yield. For every bloom, there is a potential for multiple pods.

During the season, the soybean plant aborts approximately 60% to 75% of its blooms naturally -- each one having been a potential for multiple pods.

Shedding these blooms is the plant's way of dealing with stress during blooming. Increasing the health of the plant will help to ensure the plant keeps more blooms, which ultimately influences yield. In addition, bringing energy into the plant during this growth period provides needed stamina to deal with stress. This can be done by foliar feeding Monty's® 2-15-15 at 1.5 pts/A or AGRIHANCE®-R at 2 qts/A.

Growth stage R3 – R4 describes Pod development.

When a pod on the upper four nodes is 3/16" long, this signals the beginning of R3. Temperature or moisture stress at this time can affect yield through total pod number, bean number per pod and weight per bean (seed size). Very favorable conditions will result in greater pod number per plant at this stage. Applying Monty's 2-15-15 at 1.5 pts/A AGRIHANCE-R at 2 qts/A can provide additional energy and nutrients to help secure and develop the number of pods and help develop greater seed size.



Ask how Monty's AGRIHANCE-R can make a difference

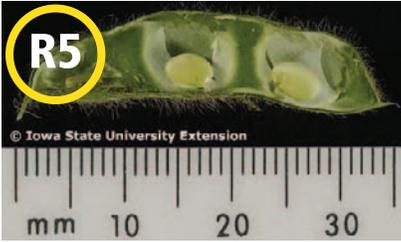


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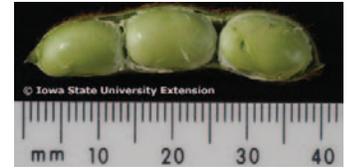
R5 through R7 describes seed development period. Seed fill during this stage requires a significant amount of water and

nutrients from the plant. Redistribution of nutrients in the plant occurs with the soybean providing about one half needed N, P, and K from the plant's vegetative parts and about one half from N fixation by the nodules underground and nutrient uptake by the roots.

Stresses can actually lower yields by reducing pod number and the number of beans per pod, and to a lesser extent by reducing seed size. About half way through R5 to R6, the plant attains its maximum height, node number and leaf area. Nitrogen fixation peaks, and then begins to drop and the seeds continue a steady period of dry weight accumulation.



R6 initiates with a pod containing a green seed which fills the pod cavity on at least one of the four top nodes of the main stem. R6 is also known as the "green bean" stage or beginning full seed stage. Reproductive Growth stage of the beans is rapid during this bean development period but will slow by R6.5 and achieve maximum development at R7. Total pod weight will peak during this stage. **Demand for nutrients for seed fill is at its highest during R2 through R7 growth stages.**



Conclusion: It is NOT too late to influence soybean yields.

- Stress caused by lack of moisture, heat, etc. during R1 through R5.5 **will affect the components of yield differently.**
- Stress at R1 through R4 could **reduce the number of pods.**
- Stress at R3 through R4 could **reduce the size of pods (1, 2 or 3 bean pods).**
- Stress at R4 to R6 may cause **beans to abort in the pod.**
- Stress at R5.5 to R6.5 **will affect the bean size.**

Fungicides may be applied at this time and provide additional benefit.

Application of Monty's 2-15-15 at 1.5 pts/A or AGRIHANCE-R at 2 qts/A during these growth stages helps provide the much needed energy and nutrients the soybean plant needs to deal with stress during these growth stages. This treatment will help with any and all of these remaining growth stages to complete greater plant development and maintain higher yield potentials.

Pods, size of pods (2, 3 or 4 beans), and size of the beans in the pod (test weight) all contribute to bushels per acre. For instance, a 5 bushel increase can contribute an additional \$98.00 per acre in today's bean market. Take action today with the application of Monty's line of products to overcome the impact this drought has had on your crops.

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