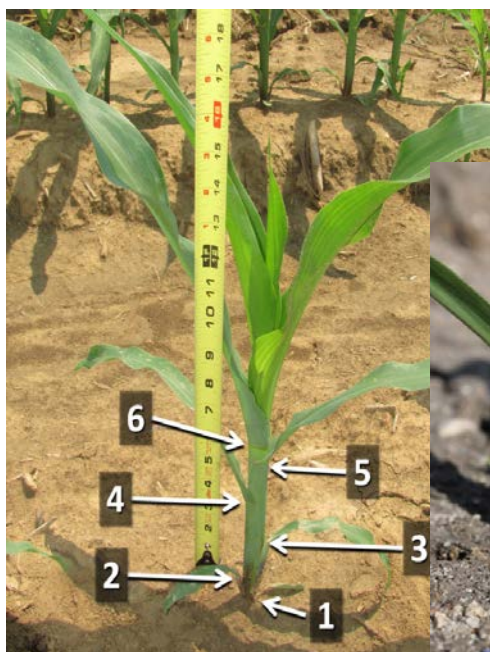


Irrigation Key Points from Ron Heiniger Presentations

1. Utilize a check book, to maintain adequate soil moisture; **the rate of rainfall + irrigation must meet or exceed evapotranspiration** (evaporation from the soil surface + transpiration from leaves) to avoid crop stress.
2. Do not monitor upper soil depth; top inch is very dynamic. **Monitor fifteen inches or deeper** (depending on rooting depth). See enclosure for soil moisture monitoring information.
3. We must know our soil type and depth to know soil water holding capacity. Soil type, along with water holding capacity, is listed in the soil survey.
4. **As we increase plant population, water demand also increases** (0.05"/day for every increase of 5,000 plants/acre.)
5. Corn uses very little water until around V6 (6 leaves and leaf collars visible), when water use increases dramatically.
6. **The #1 problem with irrigation systems, is that we are not leading in**, or providing water ahead of peak demand. We must have adequate soil water *before* V10-V12 (10-12 leaves & leaf collars visible).
7. Corn planted at 30,000 plants/acre will use up to 0.35" per day at peak need. This **peak need occurs the week before through the week after tasselling**.
8. **The most critical time that water is needed are days 5, 6 & 7 after R1** (silk emergence).
9. The second most critical time is R2 (blister) – R6 (black layer)-plants use 0.1 – 0.25" of water/day.
10. A very rough fertigation program is described below. Studies have shown that irrigation water through traveling guns and even pivots is applied non-uniformly, therefore fertigation may not be uniform.
 - i. 50 # at planting (via starter band and/or manure)
 - ii. 50 # at V6 sidedress via fertigation, sprayer/spreader or could be eliminated with past organic source (manure or legumes) (V6: 6 leaves AND leaf collars visible)
 - iii. 30 # at V10 through fertigation (V10: 10 leaves AND leaf collars visible)
 - iv. 30 # 1 week before tassel (about V15: 15 leaves AND leaf collars visible)
 - v. 50 # at tassel (VT)210 Pounds total (based on 210 bushels per acre)



V6 corn plant. The first six leaves are fully emerged, evident by their exposed leaf collars. Count only these leaves with exposed collars for growth staging.



Inset photo shows only leaves with exposed collars. Photos courtesy Mississippi State Extension and Corn, Beans, Pigs and Kids blog.