

Corn Stand Evaluation

Many different stress factors are capable of reducing corn stands, such as:

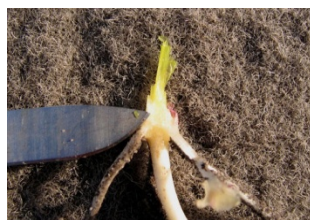
- cold or wet soils
- insect feeding
- unfavorable weather conditions

Stand Counts

- Take several sample counts to represent the field.
- Sample a length of row equal to 1/1000th of an acre.
- Measure off the distance appropriate for your row width, count the number of live plants and multiply by 1000 to obtain an estimate of plants/acre.

Row Width	Length of Rows
38 inches	13 ft 9 in
36 inches	14 ft 6 in
30 inches	17 ft 5 in
22 inches	23 ft 9 in
20 inches	26 ft 2 in
15 inches	34 ft 10 in

When an injury event such as frost or hail occurs it is best to wait a few days to perform a stand assessment, as it will allow a better determination of whether or not plants will recover.



Growth of green tissue near the growing point indicates that this plant would have recovered.



Soft translucent tissue near the growing point indicates that this plant will not recover.

Stand counts should be taken randomly across the entire area of a field being considered for replant; this may include the entire field or a limited area where damage occurred.

Other factors to evaluate

- **Stand uniformity** - An uneven stand will yield less than a relatively even stand with the same number of plants.
- **Plant health** - Plants that are severely injured or defoliated will have reduced photosynthetic capability and a lower yield potential.



This plant was defoliated by hail. New green tissue indicates that it is recovering, but its yield potential has been reduced.

Corn yield is influenced by stand density as well as stand uniformity:

- Variation in plant size can have a negative impact on yield
- Uneven emergence timing leads to uneven plant size

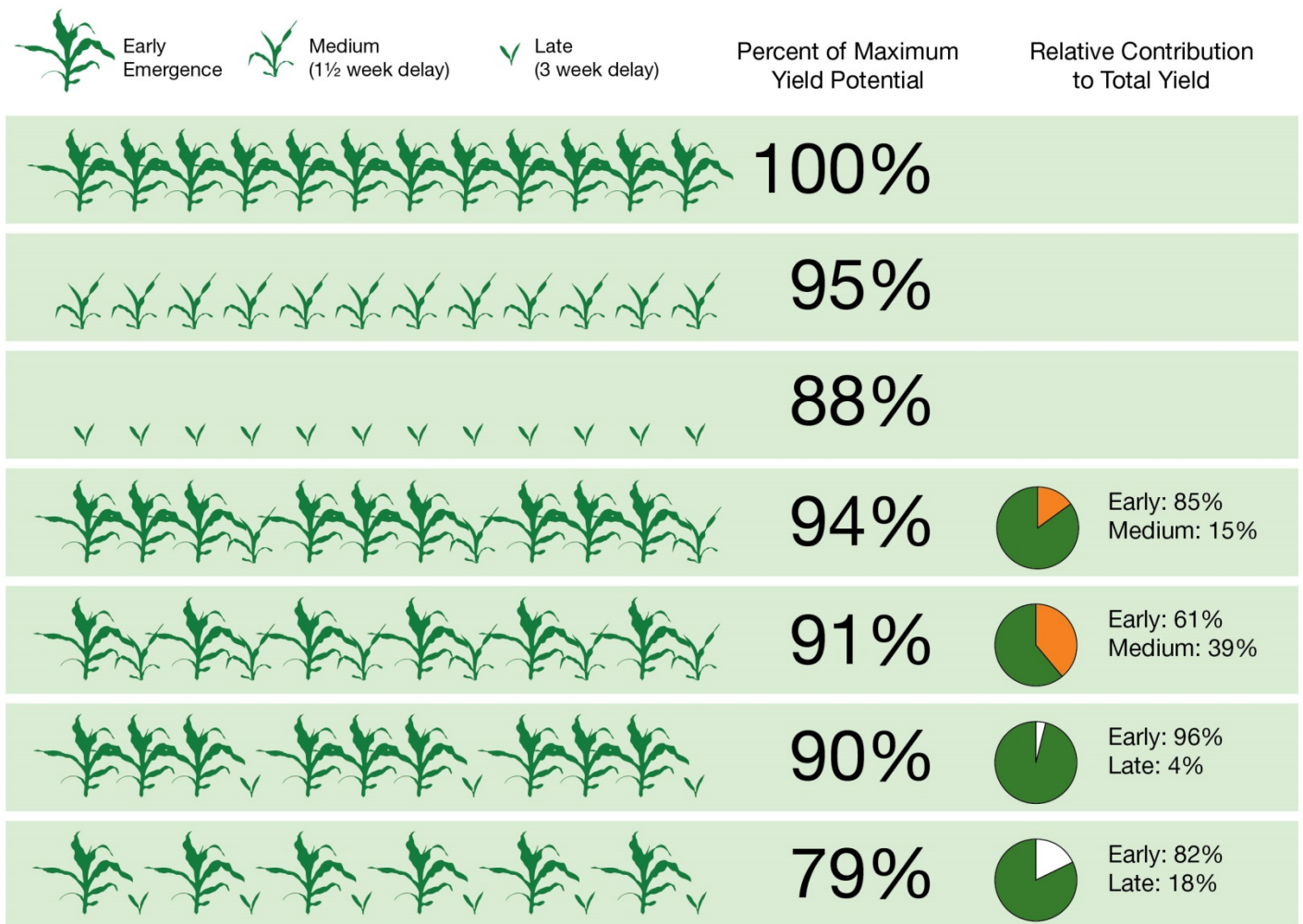


Several factors can lead to uneven emergence:

- Variation in soil moisture
- Poor seed to soil contact due to working or planting into wet soil
- Variation in soil temperature caused by uneven crop residue distribution
- Soil crusting
- Insects or disease

Late emerging plants are at a competitive disadvantage with larger plants in the stand and will have reduced leaf area, biomass, and yield

What is the impact of uneven emergence on yield?



Data from Carter, P.R., E.D. Nafziger, and J.G. Lauer, Uneven emergence in corn, North Central Regional Extension Publication No. 344