



Evaluating Corn Stands by Dennis Brown, CCA

Uneven emergence is one of the leading causes of yield reduction in corn today. Uneven emergence is caused by the following

- Variability of seeding depth
- Seed-to-soil coverage
- Seedbed moisture, seedbed temperature
- Damage from soil-borne insects and diseases

Uneven plant spacing within the row is another yield reduction problem in corn management. These are due to problems related to the planter

- Worn, or misadjusted seed meter components, lack of seed lubricant
- Poorly lubricated chains and fittings
- Mismatch of seed size with seed meters or seed plates
- Excessive planting speed.

Stand losses due to pests or weather often result not only in lower plant densities, but also in unevenly spaced survivors. Corn that initially emerges and develops uniformly through early leaf stages can take a turn for the worse around the three- to four-leaf stage if the kernel or mesocotyl is damaged by insect or disease prior to the successful development of nodal roots from the crown area of the plant.

Final plant population is the factor that determines what our season-ending yield will be. Most hybrids today require above 27,000 plants per acre to reach expected yield and many are increasing plant populations to 36,000 or more. This is because they are determinate ear hybrids. Flex hybrids on the other hand are more forgiving and will produce good yields with final plant stands below 24,000 plants per acre. It is important to know what the ideal population range is for the hybrids you plant in order to set the planter.

In order to achieve adequate final plant populations, seed spacing is very important. Below is a table that shows what the space between each seed should be with regards to row spacing and desired planting population. Remember that 5-15% of the seed you plant will not germinate. Always read the tags to see what germination is and adjust you planting populations accordingly to final population goals. Replant only when stands drop below a hybrids ideal range of population.

Seeds per/ac	20,000	22,000	24,000	26,000	28,000	30,000	32,000	34,000
Row width	Inches Between Seeds							
15"	20.0	19.0	17.4	16.1	14.9	13.9	13.1	12.3
20"	15.7	14.3	13.1	12.1	11.2	10.5	9.8	9.2
30"	10.5	9.5	8.7	8.0	7.5	7.0	6.5	6.1
36"	8.7	7.9	7.3	6.7	6.2	5.8	5.4	5.1
38"	8.3	7.5	6.9	6.3	5.9	5.5	5.2	4.9
40"	7.8	7.1	6.5	6.0	5.6	5.5	4.9	4.6