

# Wheat Plant Stand Counts

Prior to seeding, time is taken to calculate seeding rates to reach a desired plant population based on target plant population, thousand kernel weight and mortality rates. Once seeding is complete and the crop is out of the ground, conducting plant counts is a good way to determine if the desired plant population was reached. If there are low plant counts steps can be taken to determine why.

Ideally, plant counts are taken around 21 days after emergence. If counts are taken too soon there might be plants that haven't emerged yet but leave it too long and it may be a struggle to differentiate between tillers and main stems. To do a plant count start by selecting 7-10 locations that are representative of the whole field. If the field is larger or highly variable, try to select more areas to do counts in. Avoid highly variable spots like sloughs and hilltops. If you find outliers with lower plant counts within the locations you chose, do not include it in the field average counts. Instead investigate further into what agronomic issues could be causing the low plant counts in that area. Remember emergence can vary from field to field and within in a field.

Once the field location is selected, count the number of plants in a square foot. A square foot is equal to 144 inches<sup>2</sup> so divide this number by the row spacing to find the total row length to count. (Ex.  $144 \div 10\text{-inch row spacing} = 14.4\text{'}$  of row to count.) Alternately, a tool like our Sask Wheat plant squares (12x12in) (pictured) can be used. Continue to count all the plants in that area. Do this for several chosen locations around the field and then calculate the average. The average count per square foot can then be compared to the targeted seeding rate or plant population per square foot used for seeding. Percent emergence of seed can be calculated as well.

Plant count information is valuable in the current year to see if the desired plant population has been reached. It also helps guide decisions around calculating seeding rates in future years that have similar growing conditions. Low plant counts can be caused by a variety of reasons including moisture (too much or too little), disease, insects, weed competition, crop residue, fertilizer toxicity, seeding depth, equipment issues or various other factors. While doing plant counts also take time to scout the area for insects, disease, weeds and the other variables listed previously to try and determine the cause.



## Other Western Canadian resources to check out:

[Manitoba Crop Alliance | Plant Stand Counts in Spring Cereals \(mbcropalliance.ca\)](https://mbcropalliance.ca)

[Take steps to know your emergence percentage - Alberta Wheat and Barley Commission \(albertawheatbarley.com\)](https://albertawheatbarley.com)