



WINTERKILL IN WINTER WHEAT

Jochum Wiersma, Small Grains Specialist

The recent warm weather broke the dormancy of winter wheat and the crop is actively growing. This is a very opportune time to evaluate the stand and determine the extent of winterkill. Evaluating your stand will help you determine whether to leave the winter wheat stand or consider replanting with spring wheat or another crop.

To do a stand count, use one of the following two methods:

1. Count the number of plants in a foot of row at several locations in the field. Take an average and convert in plants per acre using Table 1.
2. Take a hula-hoop, let it fall, and count the number of plants inside the hoop. Repeat this at random several times across the field and calculate an average. Use Table 2 to convert the count to an approximate population per acre.

Table 1 Average number of plants per foot of row for different row spacing and plant densities per acre

Row Width	<i>Plants per acre (times 1 million)</i>							
	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5
6"	9.2	10.3	11.5	12.6	13.8	14.9	16.1	17.2
7"	10.7	12.1	13.4	14.7	16.1	17.4	18.7	20.1
10"	15.3	17.2	19.1	21.0	23.0	24.9	26.8	28.7
12"	18.4	20.7	23.0	25.3	27.5	29.8	32.1	34.4

Table 2 Adjustment factors to multiply the number of plants inside a hoop and convert the number to number of plants per acre

<i>Hoop Diameter</i>	<i>Multiply by</i>
30"	8,900
32"	7,800
34"	6,900
36"	6,200
38"	5,500

Page 47 of the Small Grains Field Guide mentions the general rules for replanting decisions. Use the following guidelines to determine whether replanting is worthwhile:

- 1) If reduced stand is uniform (no big skips or holes) keep stands at 15 plants per square foot.
- 2) If skips are large (3 to 6 ft), or holes are 4 to 6 feet in diameter and stand is 18 plants per square foot or less, then replant if moisture is adequate.

The amount of winterkill in the Winter Wheat Variety Trials in Crookston and Fosston was negligible this past winter. Most damage appeared to be caused by deer grazing. Both trials were planted into soybean stubble in the first couple of days of October last fall. Initial stands were recorded in the third week of October. At that time, the seedlings had barely reached the first leaf stage. The stands were recorded again this week. The stands last fall averaged 19.5 plants/ft², some 5.5 plants/ft² less than intended. Not all seedlings must have emerged at the time the stand were recorded last fall as stand counts improved to an average to 20.5 plants/ft² when stands recorded earlier this week.