HOW PERFECT DO WHEAT STANDS NEED TO BE?

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We all want a perfect stand. It looks good and makes us feel good about our farming operation. We also believe that it is reflected in our final yield and the overall yield potential of the crop.

Stands are usually not perfect. This is especially true for no-till wheat. In fact, this is one of the reasons that producers have shied away from this practice. Many times the stand looks bad and it is felt that it would probably reduce yields.

But is this true? We have many farmers that use tramlines in their wheat and studies indicate that they do not reduce yields. The rows on each side of the tramline seem to compensate for the loss of stand in the skipped rows. If this is true, then a certain amount of stand loss in a wheat field can be tolerated. The question is how much?

METHOD:

In order to better understand the effects of gaps in the stand on wheat yields, two studies were initiated this last year. In both studies, the wheat was planted using tillage. Soon after the wheat had emerged, plants were removed to make gaps that were 6, 12 or 18 inches long. The number of gaps in the study were varied to result in 5, 10 or 15% of the area of the plots skipped. One trial was located at Princeton at the West Kentucky Research and Education Center and the other was on the Joe and Henry Sanger farm in Fulton County. Two varieties (Pioneer 25R26 and Pioneer 2552) were used in Fulton and one (Pioneer 2552) at Princeton. The 25R26 variety tillers fairly prolifically while the 2552 variety is less.

RESULTS:

The results of the experiment are found in the following table. The yields of the trials were very high, so it was a good test for this type of trial. The results were surprising. The skips had no effect in the trial at Princeton. In fact, the lowest yielding treatment was the one with no skips. So in this trial where 5 and 10% of the plants were removed in skips of 6, 12, and 18 inch length, there was no effect on yield. In the trial at Fulton County, there were no differences among treatments in the 25R26 variety. The yields were the same, even when the area skipped was as high as 15% regardless of the size of the gap. There were differences with the 2552 variety. When 15% of the area was skipped, the yields were reduced regardless of the size of the gap (12 or 18 inches). When only 5% and 10% of the area was skipped, the yields were as good as the treatment with no skips. Head counts indicate that the yield compensation in the treatments with skips was not due to increased tillering but due to more and larger seeds per head.

SUMMARY:

These results only represent one year of results and the study will continue for several years. However, at this time, it certainly appears that wheat stands do not have to be near

perfect for high yields. Skips in the stand that comprise as much as 10% of the area will still produce stands of over 100 bu/acre and produce as well as a stand with no skips.

EFFECT OF PERCENTAGE OF AREA SKIPPED AND THE SIZE OF GAPS ON WHEAT YIELDS

Area Skipped %	Length of Gap (inches)	Wheat Yield (Bu/Ac)	
		Pioneer 25R26	Pioneer 2552
FULTON COUNTY			
0	0	110.3 a*	107.0 ab
5	12	109.0 a	102.3 bc
10	12	104.5 a	108.0 a
15	12	109.1 a	100.6 c
10	18	108.0 a	107.5 ab
15	18	105.8 a	100.6 c
PRINCETON			
0	0	-	107.5 b
5	6	-	111.5 ab
10	6	-	108.5 ab
5	12	-	113.0 a
10	12	-	110.9 ab
5	18	-	108.3 ab

*Letters followed by the same letter in individual columns indicate no true differences according to a statistical analysis.