

A Profitability Comparison of No-Till and Tillage Farms

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http://www.agmanager.info/KFMA/Newsletters/Research/Profitability_NoTill-Tillage.pdf

Introduction

As shown in AgManager publication GI-2016.4, farms practicing 100% no-till tend to have higher yields than farms that practice some level of tillage. However, higher yields don't necessarily translate into greater profits. This publication examines no-till and tillage farms to see if there is a profitability advantage to using no-till production on all farm acres.

As in the yield comparison publication, Kansas Farm Management Association farms (KFMA) have been marked as either tillage or no-till farms for at least the last five years. Farms that are labeled no-till farms practice no-till on all their crop acres. Farms that are labeled tillage farms practice some level of tillage during a crop rotation cycle. On a tillage farm, some crops may still be planted no-till. The major distinction though is that tillage farms at some point disturb the soil to grow a crop.

Results

Figure 1 shows the average net farm income for the last five years for all no-till and all tillage farms. As can be seen in the figure, no-till farms had higher net farm incomes for all years except 2014 where they basically had the same level of net farm income. In some years, the advantage of no-till (2011 and 2013) was very large. In 2011, no-till farms had a net farm income advantage of over \$100,000. In 2013, no-till farms had a net farm income advantage of over \$50,000.

Because Figure 1 uses net farm income and the entire state, there could be differences caused by farm size and by region of the state, that are hidden in the figure. To remove these potential issues, Figures 2, 3, and 4 examine the net income on a per acre basis and for a specific KFMA region.

Figure 2 shows the net income per acre for no-till and tillage farms for the North Central region. For the years 2012, 2013, and 2014 both farm types had the same net income per acre. However, in 2010 and 2011, no-till farms enjoyed a profit advantage of \$20 to \$30 per acre.

Figure 3 shows the net income per are for no-till and tillage farms for the South Central region. Like the North Central region, the South Central region saw a profit advantage of about \$20 per acre for 2010 and 2011 while in 2012 the two regions saw essentially the same level of profitability per acre. However, in 2013 and 2014, the South Central region saw a large profit advantage for no-till farms of \$50 and \$30 respectively.

Figure 4 shows the net income per acre for no-till and tillage farms for the Northeast region. This region probably resembled the North Central region most closely as no-till farms saw a large profit advantage in years 2010, 2011, and 2012 while tillage farms had per acre profits that were equal to or greater than no-till farms in 2013 and 2014. 2014 tillage farms in the Northeast were the only year and region where

tillage farms had better per acre profits among all the regions and years. In years 2010 through 2012, no-till farms saw a profit advantage of between \$40 and \$70 per acre.

Conclusions

The greater yields of no-till farms did translate into greater profitability. This was clear from examining total net farm income (Figure 1) as well as on a per acre basis by region (Figures 2, 3, and 4). The years and regions where no-till was more profitable tended to vary however. The two northern regions (North Central and Northeast) tended to have greater per acre profits for no-till in the years 2010, 2011, and 2012. During this same time frame, the southern region (South Central) had per acre profits of no-till and tillage farms that were more similar. During the years 2013 and 2014, the situation somewhat reversed. The southern region showed a greater profit advantage for no-till while the northern regions showed profits that were nearly the same form no-till and tillage farms.

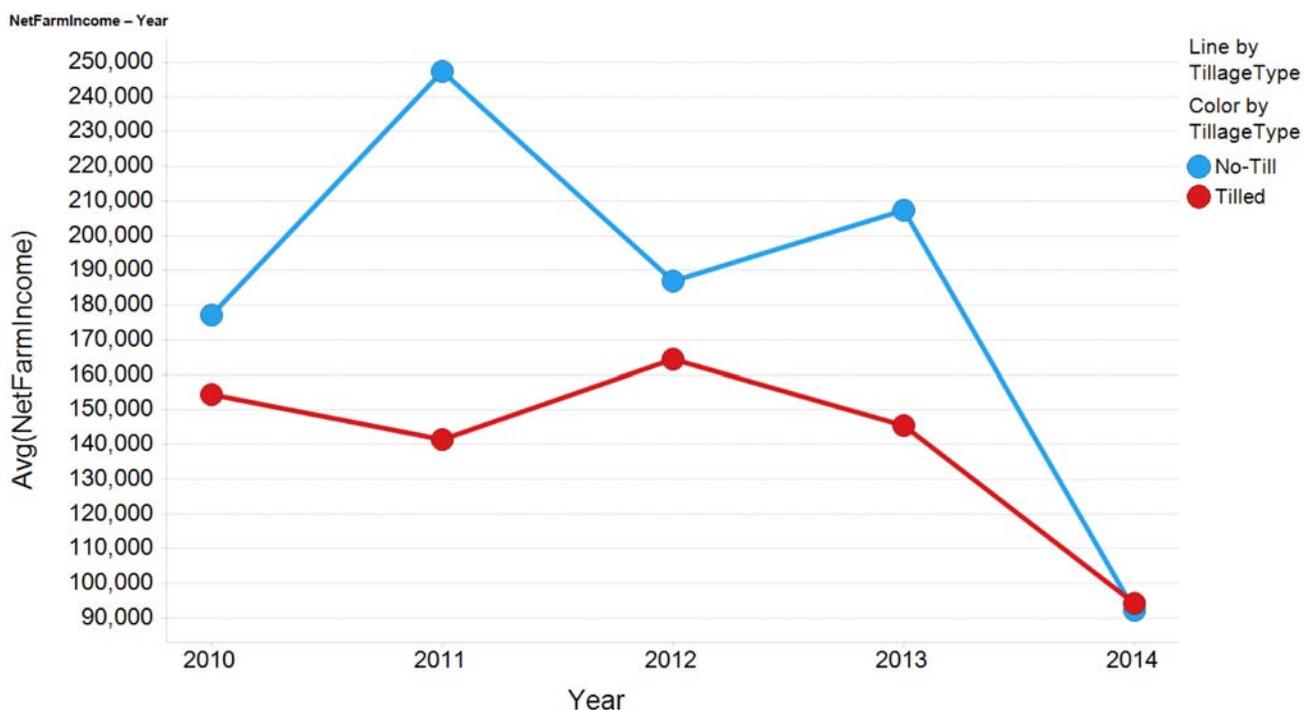


Figure 1. – Comparison of No Till and Tilled Net Farm Income
All Non-Irrigated Crop Farms

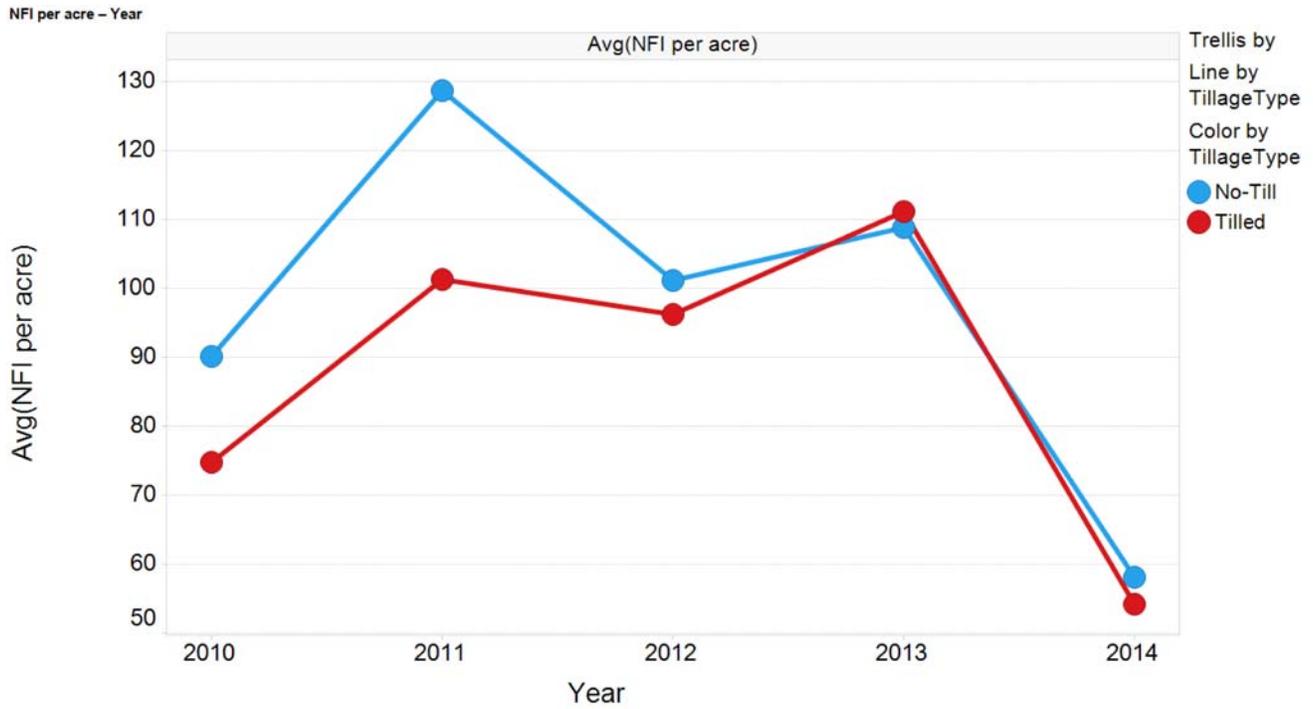


Figure 2. – Comparison of No Till and Tilled Net Income per Acre Non-Irrigated Crop Farms – North Central Region

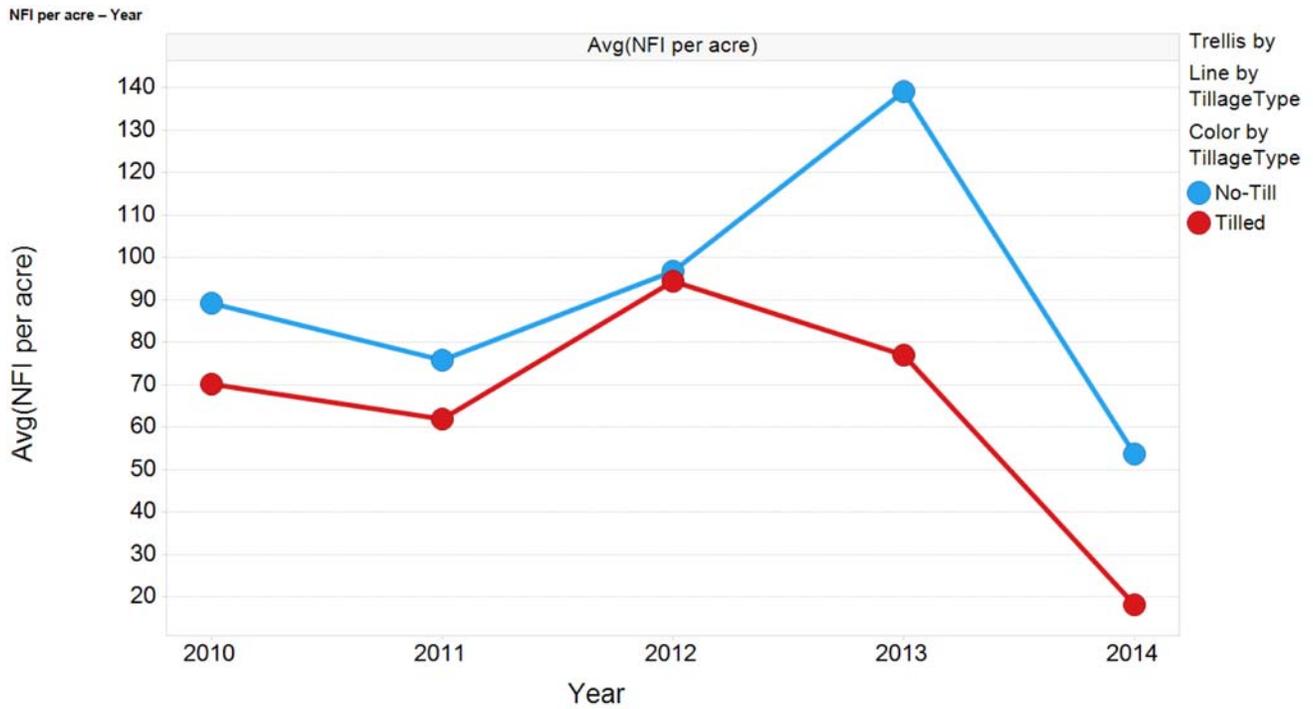


Figure 3. – Comparison of No Till and Tilled Net Income per Acre Non-Irrigated Crop Farms – South Central Region

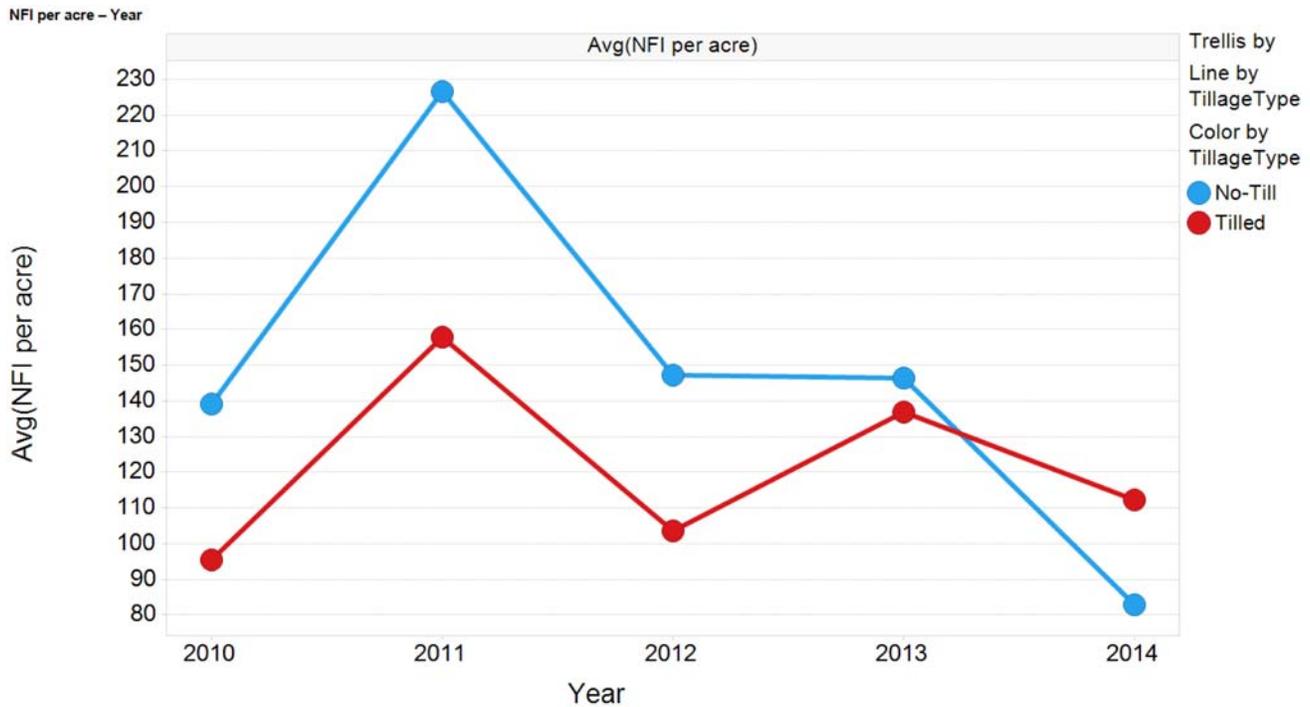


Figure 4. – Comparison of No Till and Tilled Net Income per Acre
Non-Irrigated Crop Farms – Northeast Region

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