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**The Impact of the Switch from Traditional to Zero Tillage Technology on the Spring
Wheat Industry on the Canadian Prairies**

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One of the major innovations in Canadian agriculture over the last 40 years has been the introduction of zero tillage (ZT). Although the management package and machinery required for the successful production of a crop under ZT had been available on the Prairies since the 1970s, the switch from traditional tillage (TT) to ZT technology did not occur on any major scale until the 1990s. Although several studies have estimated the costs and benefits of the switch from TT to ZT and concluded that the high cost of producing a crop under ZT was regarded as deterrent to its adoption during the 1970s and 1980s, none of the studies has examined the costs and benefits to the different factors of production. This study presents an equilibrium displacement model that estimates the impact of the switch from TT to ZT technology on the different agricultural input suppliers on the Prairies. The research results reveal that the move to ZT decreases the rent accruing to the fuel and labour owners, and increases the rent received by the owners of land, machinery, herbicides and other variable inputs. The aggregate change in the return to the industry is positive, with most of the increase accruing to land owners. This distribution of the benefits helps to explain the adoption of the technology of ZT on the Prairies.