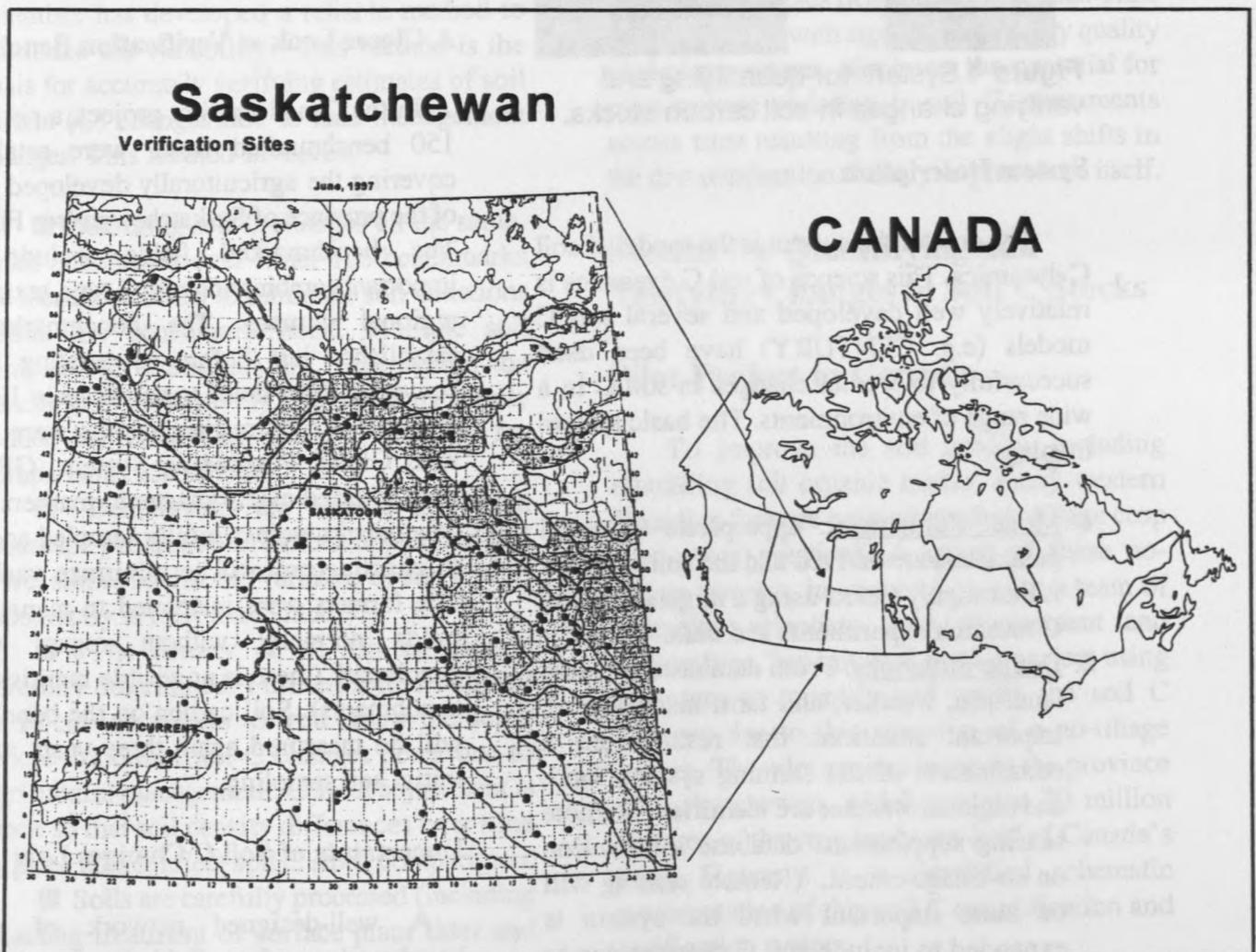


estimates of soil C stock changes are accurate. Based on our Canadian pilot project, a benchmark verification system can be implemented for a total cost less than 5 cents (i.e. US \$0.05) per hectare. With an appropriate quantification and verification system, the uncertainty of changes in soil C stocks due to changes in land management practices will be smaller than those for greenhouse gas emissions from agriculture included under the Kyoto protocol.

## A Win-Win Option for the Environment

Sustainable development requires that we leave future generations a productive soil resource. In this light, the wisdom of applying soil-improving practices is unarguable. These practices improve the health and fertility of the soil and decrease the use of fossil fuel, fertilizer, and other inputs per unit of food grown. Opportunities to apply soil improving land management practices exist on farm land throughout the world. Practices that improve the soil clearly contribute to both environmental and economic objectives.



**Figure 5** Map of benchmarked fields used in the Canadian pilot project involving the system to quantify and verify soil C stock changes from the adoption of no-tillage farming practices.