

# MANITOBA

## Adoption of Beneficial Management Practices in Manitoba



### Background

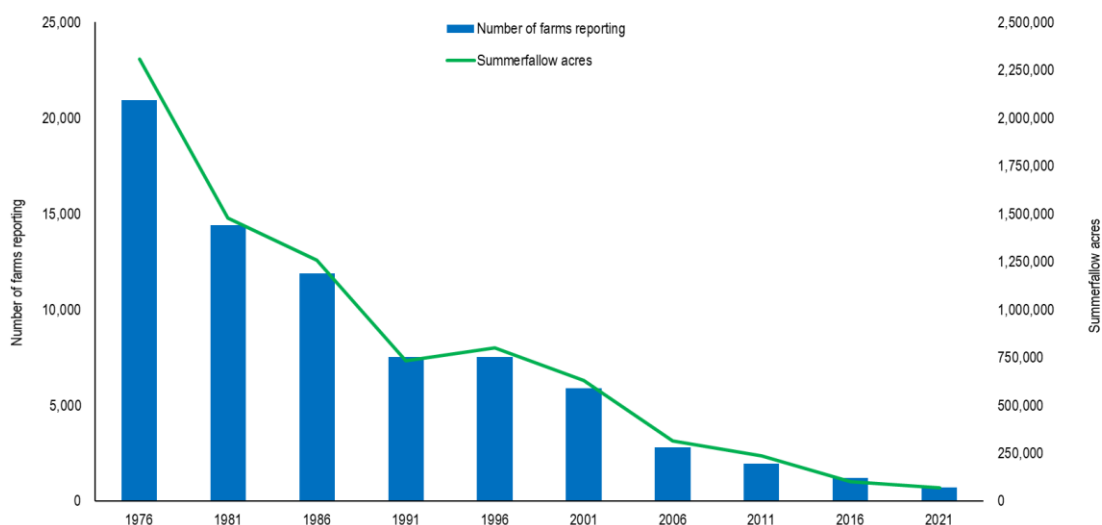
Beneficial Management Practices (BMPs) are essential to mitigate the environmental impacts of farming and increase the efficiency of food production systems. Widespread adoption of BMPs can also contribute to achieving Canada's greenhouse gas emission reduction target of 40 to 45 per cent below the 2005 level in 2030<sup>1</sup>. In this regard, Manitoba farmers are playing key roles in improving the sustainability of the agri-food system through the adoption of various BMPs. The Government of Manitoba offers financial incentives that help farmers and industry service providers implement BMPs<sup>2</sup>. This report provides an overview of the adoption of various BMPs on Manitoba farms as reported by Census of Agriculture 2021.

### A Steady Decline in Summerfallow Practices

For so long, summer fallow, a practice of not planting a crop for at least one growing season, was considered an effective risk management strategy by producers to build up soil moisture reserves in drier areas and as a weed control mechanism in wetter areas. Until the mid-1970s, a significant portion of agricultural land in Manitoba was under summer fallow. However, since the mid-1970s, summerfallow was identified as a large contributor to environmental degradation. Land allowed to rest was tilled to remove weeds, exposing the soil to wind and water erosion. Summerfallowing in Manitoba has been in decline since then. In 1976, 20,935 farms practiced summerfallow on 2.3 million acres across Manitoba while in 2021, summerfallow is down to 68,675 acres or 0.6 per cent of cropland, down from 20 per cent in 1976.

As Figure 1 shows, the number of farms reporting summer fallow practice and the acres under summerfallow decreased by 40.3 per cent and 31.7 per cent between 2016 and 2021, respectively.

Figure 1. Trends in Summerfallow Practice in Manitoba



Source: Statistics Canada, Table 32-10-0153-01

Manitoba Agriculture, Foresight and Analysis, 2022-05-27

<sup>1</sup> [2030 Emissions Reduction Plan – Canada's Next Steps for Clean Air and a Strong Economy - Canada.ca](#)

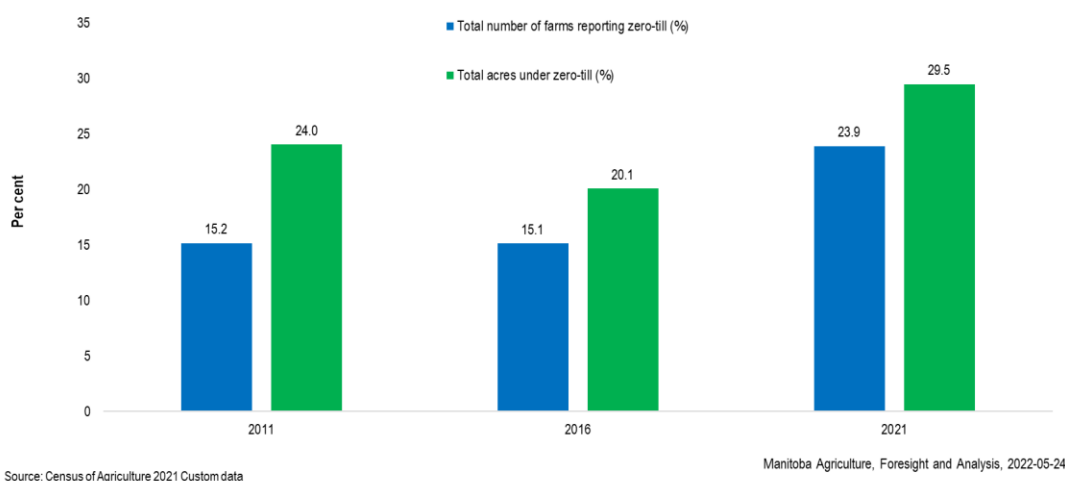
<sup>2</sup> [Province of Manitoba | agriculture - Ag Action Manitoba - Assurance: Beneficial Management Practices \(gov.mb.ca\)](#)

## No-till Practice on the Rise

Zero tillage, also known as no-till or no-tillage, is an agricultural practice where crop seed is directly sown through drillers without prior land preparation. No-till systems have several economic and environmental benefits, including a significant reduction in land preparation costs, increased water infiltration into the soil, reduced soil erosion, increased accumulation of soil organic matter, reduced greenhouse gas emissions due to carbon sequestration and fewer machinery passes, and reduced soil compaction.

In Manitoba, the total acres under a zero-till system increased by 52.6 per cent, from 2.1 million acres in 2016 to 3.2 million acres in 2021. The number of farms reporting a zero-till system also increased by 55.2 per cent between 2016 and 2021. In 2021, 29.5 per cent of the total crop acres prepared for seeding were under the zero-till system, an increase from 20 per cent in 2016. Figure 2 shows the trends in zero-till adoption in Manitoba.

**Figure 2. Percentage of Farmers Reporting and Acres under a Zero-till System in Manitoba**



Greenhouse, nursery and floriculture producers reported the highest proportion of zero-till systems, with 76.6 per cent of their lands in 2021 seeded with a zero-till system, an increase of 14.1 per cent from 2016. Fruits and tree nuts producers reported the second-highest proportion of zero-till acres. Poultry and egg producers reported the smallest proportion of their land being seeded with the zero-till system in 2021. Oilseed and grain producers, which cultivated 85.6 per cent of the land prepared for seeding in 2021, reported 29.7 per cent of the total land prepared for seeding was under zero-till system. Table 1 shows the adoption of the zero-till system by industry groups.

Adoption of the zero-till system also varies regionally, with greater adoption in the south-west region of Manitoba. The five rural municipalities reporting the highest adoption of zero-till system in 2021 were the municipalities of Boissevain-Morton (71.7 per cent), Two Borders (71.4 per cent), of Wallace-Woodworth (70.2 per cent), Souris-Glenwood (61.9 per cent), and Elton (54.4 per cent).

**Table 1. Amount and Percentage of Acres under No-till System by Industry Group in Manitoba, 2021**

Industry	Total acres prepared for seeding	No-till seeded acres	Proportion of acres seeded with zero-till system
Oilseed and grain farming	9,169,227	2,723,831	29.7
Beef cattle ranching and farming, including feedlots	421,977	123,578	29.3
Other crop farming	331,310	107,055	32.3
Vegetable and melon farming	257,446	76,426	29.7
Other animal production	214,670	69,234	32.3
Dairy cattle and milk production	141,841	24,505	17.3
Hog and pig farming	133,321	23,454	17.6
Greenhouse, nursery and floriculture production	5,689	4,360	76.6
Poultry and egg production	25,128	2,718	10.8
Sheep and goat farming	2,727	712	26.1
Fruit and tree nut farming	430	172	40.0

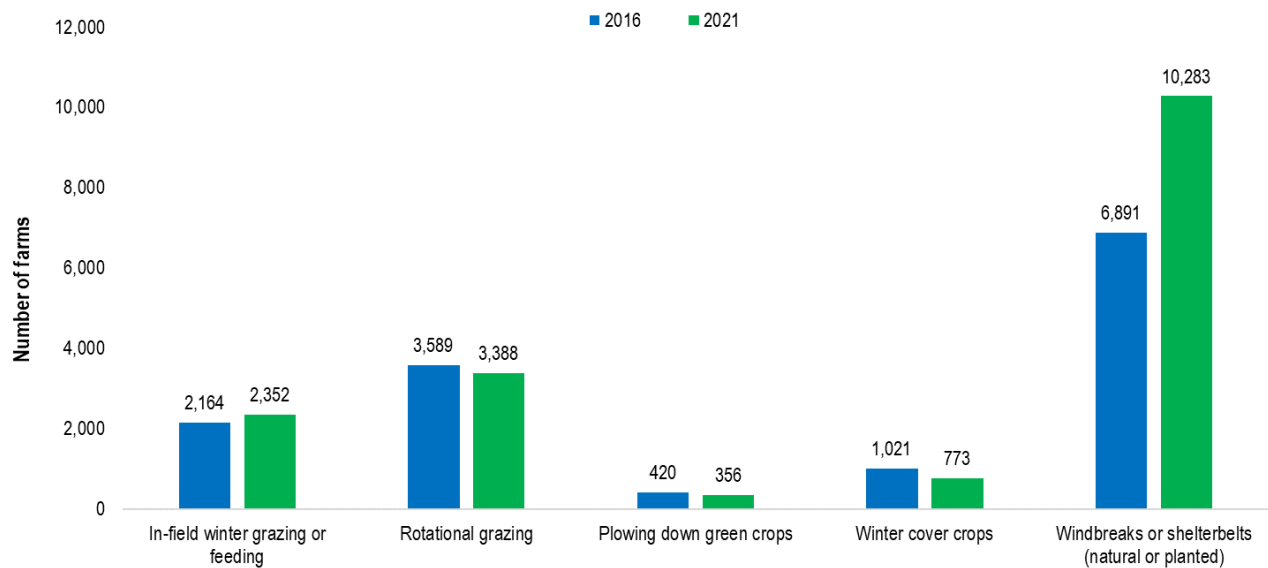
## Number of Farmers Reporting In-field Winter Grazing and Shelterbelts Increasing

The number of producers feeding or grazing their livestock in a field setting, rather than confined corral in the winter season, has increased in Manitoba. Over 2,350 producers reported an in-field winter grazing or feeding system in 2021, an 8.7 per cent increase from the previous census. Benefits of the in-field feeding system include low costs associated with manure and feed handling and improvement in soil fertility that promotes better plant growth. Similarly, the number of farmers reporting windbreaks or shelterbelts (natural or planted) increased by 49.2 per cent, from 6,891 farmers in 2016 to 10,283 farmers in 2021. Windbreaks or shelterbelts protect soil from wind and water erosion, improve air and water quality, provide shade and shelter to livestock, increase carbon sequestration, enhance wildlife habitat, and beautify the agricultural landscape.

## A Decline in the Number of Farmers Reporting Rotational Grazing and Cover Crops

Rotational grazing, cover crops and plowing down of green crops are other important BMPs adopted by some Manitoba producers. Rotational grazing increases the efficiency of forage land by providing a higher live weight gain per acre, resulting in a higher net economic return for producers. Cover crops, plants that are planted to cover the soil rather than for the purpose of being harvested, improve soil fertility while reducing soil erosion by wind and water. Plowing down green crops (green manures) when crops are turned into the soil to add organic matter, nitrogen or other nutrients. While a large number of Manitoba farmers still adopt these BMPs, a lower number of farmers reported the use of these practices in 2021 compared to the 2016 census. The number of farmers reporting rotational grazing declined by 5.6 per cent, from 3,589 farms in 2016 to 3,388 farms in 2021. Similarly, the number of farms reporting winter cover crops and plowing down green crops were down by 24.3 per cent and 15.2 per cent, respectively. Figure 3 shows the number of farms reporting different land practices and land features in Manitoba.

**Figure 3. Number of Farmers Reporting Adoption of Different Land Practices and Land Features in Manitoba in 2021**



Source: Statistics Canada, Table 32-10-0411-01

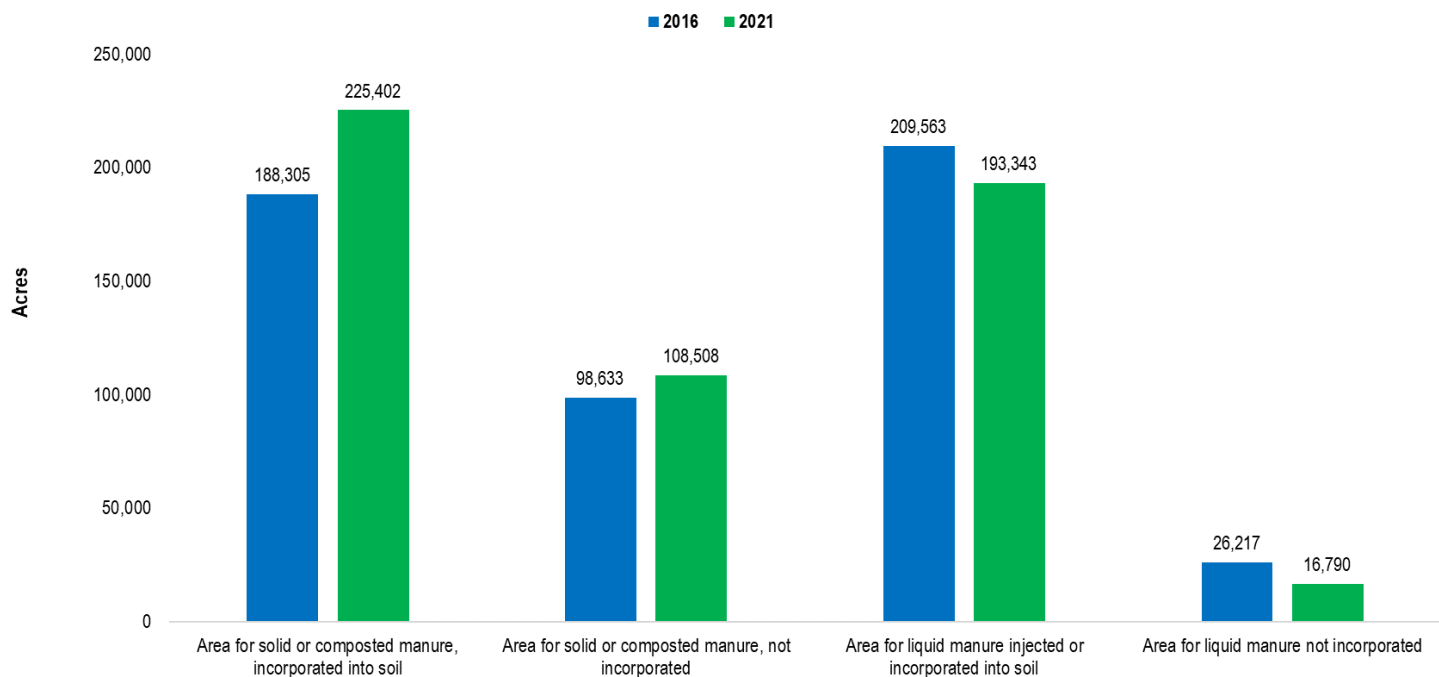
Manitoba Agriculture, Foresight and Analysis, 2022-06-08

## Manure Management

Manure management is an essential practice in minimizing greenhouse gas emissions and water pollution. Manure can be applied as either solid/composted or liquid and using two different methods – on the surface (not incorporated into the soil) and incorporated into the soil. Applying manure on the soil surface increases the loss of ammonia nitrogen that can cause odour issues and the risks of phosphorous runoff, which can cause pollution of water bodies. Incorporating manure into the soil (either in solid or liquid forms) helps to mitigate the negative effects of broadcasting manure application. Proper use of manure in crop production also reduces the need for additional nitrogen fertilizer.

The number of farms reporting incorporating solid or composted manure into the soil slightly increased between 2016 and 2021, up by 1.8 per cent. However, there was a large increase in the acres of solid or composted manure incorporated into the soil, which was up by 19.7 per cent in 2021. The number of farms reporting not incorporating solid or composted manure into soil decreased by 7.9 per cent, while the area under this manure application method increased by 10 per cent. While the reason is not so clear, there was a decline in the acres under liquid manure application (injected or not). One potential reason could be an increase in the amount of manure applied per acre. Figure 4 shows the acres under different manure application methods.

**Figure 4. Number of Acres under Different Manure Application Methods in Manitoba**



Source: Statistics Canada, Table 32-10-0410-01

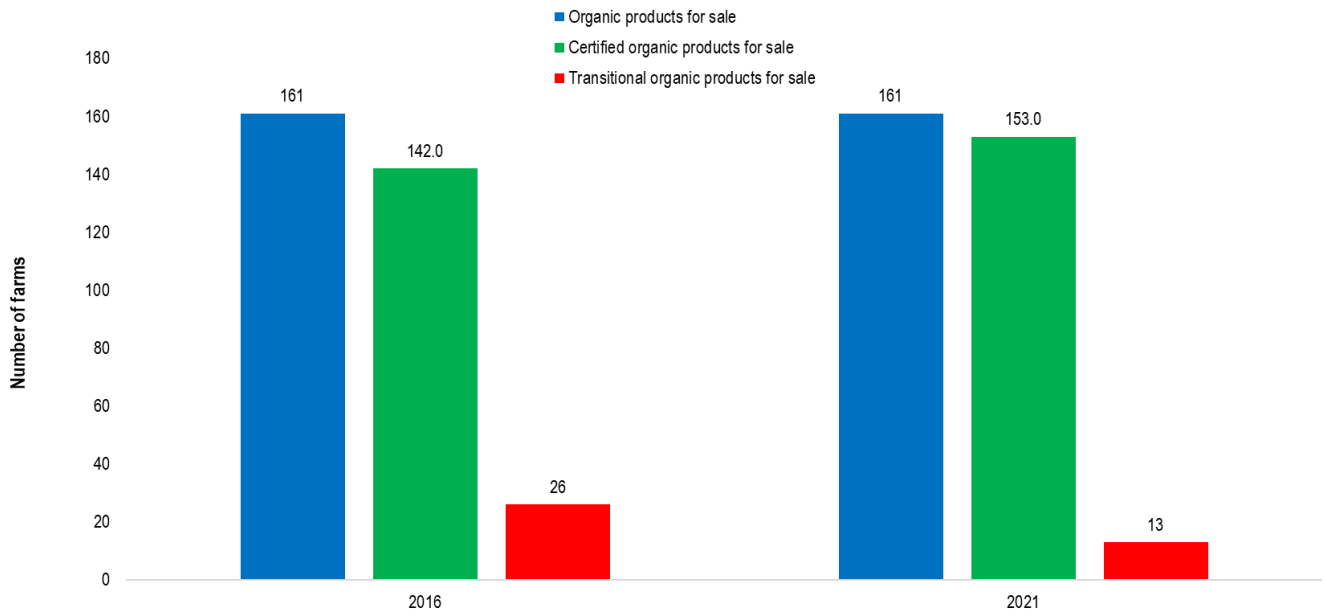
Manitoba Agriculture, Foresight and Analysis, 2022-05-30

## Farmers Reporting Organic Products for Sale Remain Unchanged

Organic agriculture places a great emphasis on agricultural practices that promote soil health and biodiversity in the agricultural landscape. Organic agriculture uses BMPs, such as compost, instead of synthetic fertilizers, cover crops, inter-cropping methods, and a cropping system that cannot use additional chemical inputs, such as nitrogen fertilizer, pesticides, and herbicides.

In 2021, 161 farms reported producing organic products for sale which remains unchanged from 2016. However, the number of farms reporting producing certified organic products for sale increased by 7.7 per cent in 2021, compared to the previous census. On the other hand, the number of farms reporting transitional organic production declined by half, from 26 farms in 2016 to 13 farms in 2021. This could be due to the fact that some of the transitional organic farms in 2016 might have now become fully certified organic farms. Figure 5 shows the number of farms reporting organic products for sale.

**Figure 5. Number of Farms Reporting Organic Products for Sale in Manitoba**



Source: Statistics Canada, Table 32-10-0414-01

Manitoba Agriculture, Foresight and Analysis, 2020-05-31

## Contact us

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- Email us at [industryintelligence@gov.mb.ca](mailto:industryintelligence@gov.mb.ca).
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