



Bonnefield Quarterly Newsletter Q3 2021

An Increasing Focus on AgTech

Those who follow the agricultural industry will be aware of the increasing attention that agriculture technology (AgTech) firms are receiving, and with it, significant investment dollars. In fact, one of Canada's largest institutional investors, the Ontario Teachers' Pension Plan (OTPP) recently made its first AgTech investment through its venture capital arm, Teachers' Innovation Platform. With the spotlight on the AgTech industry, we wanted to review the role that technology has played in agriculture and explore how ongoing innovation can drive industry performance through the lens of a farmland owner / investor.

Technology in Agriculture: A Driver of Productivity & Farmland Values

Innovation and technological advancements in agriculture have been around for as long as farming itself. The search for increased efficiency to meet growing consumer demands is not going away and significant technological advancements have been made in the agriculture industry over the past several decades. Today, technologies such as GPS Guidance for farming equipment and Site-Specific Crop Management practices allow farmers to be more precise and efficient in crop production. As a farmland owner, this raises a key question: how do technological advancements affect producer income and subsequently, farmland values?

For a conventional crop producer, farm income is a function of underlying commodity prices, expected crop yields, and the cost of crop production. Commodity prices are determined by the global market and, while producers can use certain marketing strategies to help reduce risk, individual producers cannot ultimately influence commodity prices. As such, farm operators looking to improve productivity, and thus profitability, can be better served by finding ways to boost crop yields and lower production costs to increase income.

Since farm incomes are a key driver of farmland value, the result of sustainable increases in overall farm profitability can be seen through appreciation of farmland values, making new advancement in AgTech interesting for not only the farm operator but the farmland investor as well.

Examples of AgTech Areas of Focus

Plant Breeding

While longer growing seasons resulting from climate change certainly play a role in increasing crop yields in certain geographies, advances in agricultural technology are also widely acknowledged as being a major driver of improved yields. Notably, there have been significant advancements in plant science and breeding over the past 30 years. Varieties of certain key crops, such as corn, soybeans, and canola can be engineered to mature over a specific number of growing days to accommodate local growing conditions and allow farmers to plan for crop maturity at desired times, or to be more resilient against certain diseases. This allows farmers to select and seed optimal plant varieties that are best suited to their location and the characteristics of their land.

Precision Agriculture

Precision agriculture (also referred to as Site Specific Crop Management) uses aerial and satellite imagery, weather data, and crop health indicators to enable farmers to be more exact in the planting of seeds and the application of fertilizer. For example, variable-rate fertilizer application allows producers to apply the ideal amount of fertilizer to different regions of a single field to maximize crop health and avoid unnecessary overuse of fertilizer. Beyond increasing crop yields, this technology also has considerable benefits from an environmental perspective as it reduces the overall amount of fertilizer required thus preserving supply and limiting unnecessary run-off. Other technologies, such as GPS guidance, have allowed for more accurate planting of crops and fewer wasted acres.

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Larger, More Efficient Machinery

Technological advancements have also created significant cost savings in agriculture, and farming operations are larger and more efficient than ever. This is made possible by new technologies such as the large machines that allow producers to plant, fertilize, and harvest greater acreage in less time. Today, large tractors with planting implements spanning over 60 feet in width can cover over 300 acres in a single day, whereas the smaller 15-foot no-till drills of the past would have taken more than four days to cover the same amount of land.

What this Means for Farmland Values

Technological advancements have helped producers to increase yields, reduce costs and have ultimately had a positive impact on farm income and farmland values. As noted in our Q1 newsletter, there has been much excitement in the Canadian farmland market in the first half of 2021, attributable to commodity prices rising to multi-year highs, low transactional activity in 2020, and the prolonged low interest rate environment. However, these factors are cyclical and can shift in a relatively short period of time. In contrast, activities by farm operators and the agriculture sector as a whole, to develop and implement new technologies, increase yields, manage costs, and reduce their environmental footprints are something we believe will support the ongoing capital appreciation of Canadian farmland.

About Bonnefield Financial

Bonnefield is the foremost provider of land-lease financing for farmers in Canada. Bonnefield is dedicated to preserving farmland for farming, and the firm partners with growth-oriented farmers to provide farmland leasing solutions to help them grow, reduce debt, and finance retirement and succession. The firm's investors are individuals and institutional investors who are committed to the long term future of Canadian agriculture. www.bonnefield.com

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