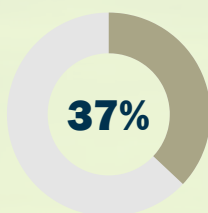


Climate Change and Opportunities in Agriculture

CHALLENGES

- Extreme weather events are on the rise in Alberta, with increased instance of floods, droughts and heat waves
- Weather patterns will become even more unpredictable, with late frosts, irregular precipitation patterns and increased inter-annual variation
- In the future, we may begin experiencing an excess of water in the seeding season, and a reduced supply during the growing season
- Achieving net benefits will require adaptation to limit the impacts of climate extremes



Alberta crop yields were down 37% after summer 2021's severe heat wave and drought

OPPORTUNITIES

With these new challenges, comes new *opportunities*, to innovate our agricultural practices, explore new crop varieties and mitigate the severity of climate change through carbon capture. Agricultural methods to mitigate climate change have co-benefits, as low-input, low-energy practices can increase efficiency and profitability, improve soil health and water conservation.



Warmer temperatures and a longer growing season could mean lower energy costs for farmers, increased livestock production and new crop varieties



The prairie's wide expanse of farmland has the capacity to be a major carbon capture tool for Canada. Agricultural producers can receive government grants to improve the carbon sequestration abilities of their land



Use of cover crops and intercropping, can both increase carbon capture and reduce soil erosion



Farmers can adapt to the changes to come by using cultivars with greater tolerance to prolonged heat stress, and by seeding earlier



Efficient water use helps us mitigate climate change, while also reducing costs for farmers