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Promoting Biodiversity in Canola Cropping Systems: Ecosystem Services on the Canadian Prairies

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Globally, the concept of ecosystem services is rapidly becoming a mainstay of sustainable modern agriculture. The Canola Council of Canada, as part of the 2015 Strategic Plan, has committed to increasing the supply of Canadian canola while improving the ecological footprint of production, and maintaining seeded acres at current levels.

Recent land use changes on the Canadian prairies are not particularly well documented, with the exception of wetland conversion (Ducks Unlimited Canada, 2017). Regardless, farm and field consolidation are common practice both globally and in Canada, as well as the small-scale removal of remaining sources of wildlife habitat in and around farmer's fields (fencerows, forest bluffs, long-term pasture, abandoned farmsteads etc). The role these uncultivated areas play in habitat for wildlife and beneficial insects is well documented, and a global literature supports a positive relationship between proximity to these natural/uncultivated areas and crop yield.

Current, ongoing ecological research both globally and in Canada aims to further refine and value the contribution provided by biodiverse landscapes on crop yield and farmer profitability. These landscapes provide crucial and timely habitat for thousands of species of pollinators, parasitoids, and predators. Recent farmer-funded research in Canada demonstrated a positive landscape-scale effect on crop yield, and has since been expanded to include field-level effects of pollination efficiency (through various insect genera), pest management, and the contribution of abiotic factors (wind, water) on crop yields. These results, and continued education, will incentivize Canadian farmers to conserve or enhance the remaining sources of biodiversity at the farm level, and continue to reduce the ecological footprint of crop production in Canada.

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