

Canadian Prairie Canola Yield Trends from 2011 to 2020

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The average Canadian prairie canola (*Brassica napus* L.) yield has increased from 1867 to 2268 kg ha⁻¹ from 2011 to 2020. This is in part because of an increase in genetic resistance to yield limiting diseases, the development and adoption of pod shatter tolerant cultivars, and the optimization of agronomic management practices. Developing genetic resistance to yield limiting diseases, like blackleg or clubroot, is a continuous effort because of their active shifts in pathogen virulence. Plant breeders and pathologists have and continue to work in collaboration to provide genetics that are resistant to current strains. The availability of resistant sources has strengthened integrated pest management to reduce the incidence and severity of diseases. The adoption of pod shatter tolerant cultivars has optimized canola production for direct harvesting, provided versatility in harvesting logistics, and has increased crop resilience to adverse environmental conditions. Agronomic management practices have been enhanced by adopting target seeding rates based on seed size, suitable fertilizer application practices, appropriate crop sequence, consulting established pest thresholds, and by reducing grain losses during harvest. As well, environmental conditions have affected overall disease development, yield, and the management practices deployed. The optimization of the forementioned within our control has led to increased canola production and profitability, long-term positive environmental sustainability, and ultimately, the continued competitiveness of the Canadian canola industry. Ongoing research, innovation, and collaboration among farmers, agronomists, and researchers is necessary for current canola production levels to be maintained and increased.