

INITIAL EXPLORATION OF CANOLA PRODUCERS' APPROACHES IN RESPONSE TO CHANGING CLIMATE IN THE CANADIAN PRAIRIE PROVINCES

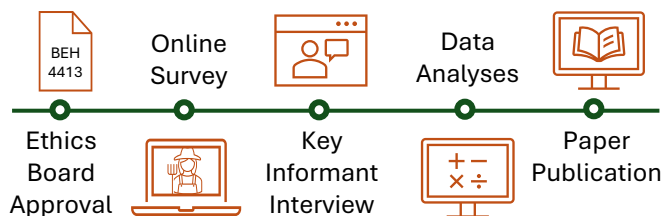
Yohanne Gavasso-Rita, Simon Michael Papalexiou, Yanping Li, Amin Elshorbagy, Corinne Schuster-Wallace
Plant-Environment Interactions, 2026; 7:e70107, DOI: <https://doi.org/10.1002/pei3.70107>



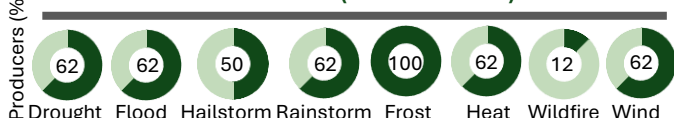
RESEARCH OBJECTIVES

- Bring producers' realities into scientific research
- Outline self-reported experience and adaptation to changing climate and water resources
- Summarize future directions on adaptation strategies and public policies

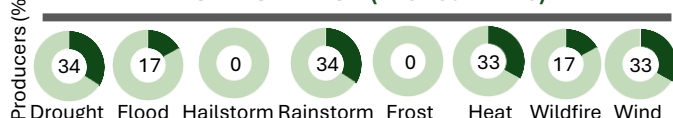
METHODS: OVERVIEW



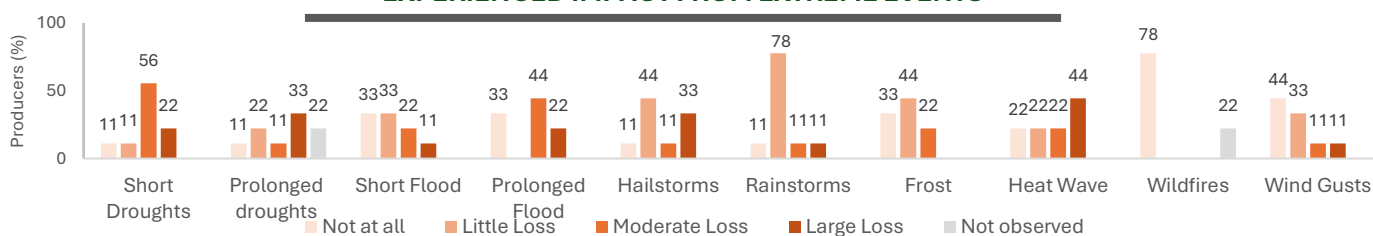
EXPERIENCED EVENT (LAST 10 YEARS)



EXPERIENCED CHANGE (LAST 30 YEARS)



EXPERIENCED IMPACT FROM EXTREME EVENTS



INCREASING CONCERN INCREASES ACTION

Participant adaptation actions increased with higher concerns or increased experience of different types of events affecting their canola production

VIABLE ADAPTATION

≥40% of participants identified these as viable actions

- ✓ Drainage plan
- ✓ Diversified crops
- ✓ Reduce/no tillage
- ✓ Swathing
- ✓ Water management
- ✓ Monitor weather
- ✓ Pest and disease control
- ✓ Planting dates
- ✓ Continuous crop
- ✓ Calibrate drill
- ✓ Tolerant seeds
- ✓ Restore/preserve wetlands
- ✓ Fertilization plan
- ✓ Insurance plan

ADVICE TO FUTURE GENERATIONS

- Be informed on new technology and holistic methods
- Listen to older peers and plan for bad conditions
- Use crop insurance and support programs
- Prioritize work-life balance and mental health

RECOMMENDED PUBLIC POLICY IMPROVEMENT

- Canola seed markets
- Diversification in agriculture
- Land and water management by producers
- Climate-smart farms
- Precision Agriculture, AI, and Genetics
- Sustainable fertilization
- Hail and crop insurance



CONCLUSIONS

- Climate variability, especially shifting soil moisture and drought, is seen as the biggest challenge to Prairie canola production
- Producers adapt by evaluating economic trade-offs, and investing strategically in equipment and practices
- Genetic improvement was the top cited adaptation strategy, but producers see sustainable growth as more than just yield gains
- Strong communication across producers, experts, and researchers, plus long-term government investment, is essential for building climate-smart, resilient canola systems for future generations