Ontario Canola Growers Association – 2024 Call for Research Proposals

The Ontario Canola Growers Association (OCGA) represents the needs and interests of farmers growing canola in Ontario and are:

- committed to the promotion of canola and increasing acreage of canola in the province,
- interested in investing in short-term, applied research resulting in crop production improvements or other benefits that can be applied directly to Ontario farms
- supportive of sound scientific research that benefits canola growers in Ontario.

OCGA is currently accepting proposals for research and demonstration projects that require funding.

The OCGA value all research with merit that is conducted on the research priority topics listed in the attached Research Priorities document. All proposals will be reviewed, however at this time priority will be given to projects under the following research topics:

- Chemical and biological control options for pests of canola, as well as control thresholds, reproductive biology, scouting practices, and agronomic practices that mitigate damage by pests including: swede midge, canola flower midge, clubroot, striped flea beetle, crucifer flea beetle, alternaria and sclerotinia.
- Assessment of the ideal crop rotation for canola health and yield in the different growing regions of Ontario, as well as the impact of canola on the other crops in rotation and opportunities for innovative cropping systems (e.g. relay cropping, cover crops).
- Improvement of winter canola management practices for Ontario growers, including factors related to seeding, use of fertilizer and pest control.
- Development of high yielding winter canola varieties with improved winter tolerance for Ontario conditions, including those containing beneficial transgenic traits.

Proposals should include a description of the research and demonstration objectives, the expected benefit to Ontario canola growers, and identification of collaborators. A description of the project methods is also required, and should include (if applicable) location of field sites, number of replications/project design, all products being evaluated, specific canola varieties being used, and other relevant field management details. Include a budget with expected costs of supplies, labour, communication, etc. Projects may be 1 to 3 years in length. Proposals should be no more than 2 pages long.

Please submit requests for research funding to info@ontariocanolagrowers.ca by January 31, 2024.

An answer to research proposal requests will not be made until March 31, 2024.

Requests for letters of support for canola research can be submitted at any time, and should include details as given above. At minimum of 4 weeks advance notice is required for answers to letters of support.

RESEARCH PRIORITIES of the ONTARIO CANOLA GROWERS ASSOCIATION

PLANT PROTECTION

- Chemical and biological control options for insect pests of canola, as well as control thresholds, insect reproductive biology, scouting practices, and agronomic practices that mitigate damage by insects including:
    - (High priority) swede midge, striped flea beetle, crucifer flea beetle
    - (Medium priority) seedpod weevil, lygus bug, slugs
    - (Low priority) diamondback moth
- Chemical and biological control options for diseases of canola, as well as disease identification resources and investigation of agronomic practices that mitigate yield loss to diseases including:
    - alternaria and sclerotinia diseases found in Ontario
    - clubroot, verticillium wilt, and blackleg diseases emerging in Ontario
- Assessments of the use of fungicides in protecting plant health, including but not limited to use of fungicides to reduce flower abortion caused by high temperatures
- Crop rotation restrictions for canola grown in rotation with other Ontario field crops, including the evaluation of residual herbicide impacts on canola
- Evaluation of beneficial insects and microbial organisms in canola, and the impact of crop inputs on the health of beneficial organisms
- Evaluation of the impact of canola and increased canola acreage on wild pollinator and honey bee health in comparison to other Ontario field crops

AGRONOMIC PRACTICES AND PRODUCTION EFFICIENCY

- Evaluation of canola performance under reduced till, strip till and no-till systems in Ontario
- Evaluation of practices to improve canola plant establishment in Ontario conditions, including seeding rates, seed bed conditions, planting equipment and the impact of emergence and population on yield and quality
- Assessment of the ideal crop rotation for canola health and yield in the different growing regions of Ontario, as well as the impact of canola on the other crops in rotation and opportunities for innovative cropping systems (e.g. relay cropping, cover crops)
- Optimization of canola nutrient use efficiency, and the impact of fertility management techniques on canola quality and yield, including but not limited to:
    - split nitrogen application
    - the use of precision agriculture technologies for variable rate nitrogen
    - the use of nitrogen stabilizers and protected nitrogen (e.g. eNtrench, ESN)
- Evaluation of the efficacy of foliar applied nutrients in improving plant health and yield
- Evaluation of conditions causing brown seed and increased free fatty acids in Ontario, including variety comparisons
- Investigation of practices to reduce harvest losses, including assessments of equipment, plant genetics (such as pod shatter resistance) and products applied to reduce pod shatter

- Identifying soil health parameters and agronomic practices affecting crop resilience under various stresses, including but not limited to an evaluation of cover cropping systems suitable for canola and their impact on canola production
- The use of mycorrhizae and other biological inoculants in canola and their impact on plant health and yield
- Improvement of winter canola management practices for Ontario growers, including factors related to seeding, use of fertilizer and pest control

MARKET DEVELOPMENT AND PRODUCT DIVERSIFICATION

- Development of cold press and specialty crush facilities in Ontario
- Development of varieties with specialty oil profiles adapted for Ontario
- Industrial uses for canola oil (e.g. lubricants, foam), and opportunities for industrial uses to act as alternative avenues for heat damaged canola
- Use of canola stover and meal for bio-products for existing and emerging markets, including but not limited to the use of stover as a feedstock for cellulosic ethanol production
- Evaluation of the cost of production of winter canola in Ontario

BREEDING AND GENETICS

- Development of high yielding spring canola varieties adapted for Ontario conditions with traits for:
    - Resistance and/or tolerance to insects and diseases in Ontario
    - Improved stand-ability, suitable for direct harvest
    - Reduced pod shatter
    - Increased oil content
    - Improved tolerance to late spring frost, including but not limited to crosses of spring and winter canola varieties
    - Resistance to clubroot
- Development of high yielding winter canola varieties with improved winter tolerance for Ontario conditions, including those containing beneficial transgenic traits
- Development of high yielding Ontario spring canola varieties with acceptable levels of free fatty acids, and evaluation of fatty acid expression in western Canadian varieties when grown in Ontario