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Heat Exposure for Agricultural Workers

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March 14, 2023

CELA Publication Number: 1521

ISBN: 978-1-77842-018-4

WHY DO WE NEED PROTECTION FROM HEAT FOR AGRICULTURAL WORKERS?

The Government of Canada's National Adaptation Strategy recognizes that extreme heat events are the deadliest weather-related events occurring in Canada.¹ Average mean temperature has risen by 1.7°C from 1948 to 2016 and is expected to increase between 1.8°C and 6.3°C by the end of the century.² As a consequence of the climate crisis, the length, intensity, and frequency of heat waves in Canada are expected to increase. This is a public health crisis. Various life-threatening conditions can occur when the body cannot maintain its core temperature of approximately 36.6°C due to excessive external heat.³ These include dehydration, cramps, heat exhaustion, and heat stroke.⁴

ONTARIO'S OCCUPATIONAL HEALTH AND SAFETY ACT

The province of Ontario must protect workers against extreme heat conditions.

This includes requiring all employers of outdoor workers and greenhouse workers to implement a heat illness prevention plan.

Employers must take precautions to protect workers against extreme heat.

Sections 25(2)(h) and 27(2)(c) of Ontario's *Occupational Health and Safety Act* ("OHSA") require employers to take "every precaution reasonable in the circumstances for the protection of the worker." This includes policies and procedures to protect workers in extreme heat.

Workers may refuse to work in certain conditions. Section 43(3) of OHSA states that "a worker may refuse to work or do particular work where he or she has reason to believe that:

- (b) the physical condition of the workplace or the part thereof in which he or she works or is to work is likely to endanger himself or herself;
- (c) any equipment, machine, device or thing he or she is to use or operate or the physical condition of the workplace or the part thereof in which he or she works

¹ Government of Canada, "Canada's National Adaptation Strategy", p 7. <[national-adaptation-strategy.pdf](#)>

² Government of Canada, "Changes in Temperature" (April 9, 2019), online: <https://www.canada.ca/en/environment-climate-change/services/climate-change/canadian-centre-climate-services/basics/trends-projections/changes-temperature.html>.

³ Government of British Columbia, "Extreme Heat and Human Mortality: A Review of Heat-Related Deaths in B.C. in Summer 2021" (June 7, 2022), online: https://www2.gov.bc.ca/extreme_heat_death_review_panel_report.pdf at page 11.

⁴ Government of British Columbia, "Extreme Heat and Human Mortality: A Review of Heat-Related Deaths in B.C. in Summer 2021" at page 11.

or is to work is in contravention of this Act or the regulations and such contravention is likely to endanger himself, herself or another worker.”

Ontario law creates exceptions for agricultural workers to general labour and employment rules, including disentitlement to the minimum wage, maximum hours of work in a day or week, daily or weekly breaks to rest or eat, time off between shifts, overtime pay, public holidays and holiday pay as well as paid vacation.⁵

MIGRANT WORKERS

Migrant workers are an indispensable part of Ontario’s workforce but are an especially vulnerable group. Approximately 20,000 – 25,000 temporary foreign workers are employed in the agriculture sector in Ontario each year.⁶ Although the OHSA and the Employment Standards Act⁷ (“ESA”) apply, migrant workers face well-documented, intersecting challenges to legal enforcement of their rights, such as their precarious immigration status, the type of work they do, social and cultural factors, as well as the policy and legal framework in Ontario.

Migrant workers reported abusive practices by employers which exacerbate the risks of extreme heat. In preparing this report, CELA spoke to migrant workers about their experiences working in extreme heat in greenhouses and outdoors. Shockingly, workers reported that they were not allowed to bring water with them as they worked. This is a very dangerous practice which puts workers at extreme risk of the effects of heat and must be stopped immediately. Workers also reported that there is a lack of shade, too few breaks, and clothing can exacerbate exposure to heat because it is also necessary to protect against exposures to pesticides.

*Pearl v Ontario*⁸ was a tragic case about the death of Ned Pearl, a migrant worker, who was injured and died on a Brant County farm. The Ontario Human Rights Tribunal acknowledged that migrant workers are an especially vulnerable set of workers. Some of the findings include:

- Migrant farm workers face heightened and unique vulnerabilities to health and safety risks, which can lead to increased levels of morbidity and mortality.⁹

⁵ Government of Ontario, “Agriculture, growing, breeding, keeping and fishing”, online at <https://www.ontario.ca/document/industries-and-jobs-exemptions-or-special-rules/agriculture-growing-breeding-keeping-and-fishing#section-0>.

⁶ Statistics Canada, “Agriculture and Agri-Food Labour Statistics – 2020”. < [The Daily — Agriculture and agri-food labour statistics, 2020 \(statcan.gc.ca\)](https://www150.statcan.gc.ca/n1/pub/25-224-x/2020001/article/00001-eng.htm)>

⁷ 2000, SO 2000, c. 41.

⁸ *Pearl v. Ontario (Community Safety and Correctional Services)*, 2014 HRTO 611 (CanLII) [*Pearl*].

⁹ *Pearl* at para 98.

- Workers in agriculture, an industry with numerous hazards, long and fluctuating hours, and changing environmental conditions, face compounded risks.¹⁰
- Many recent studies have documented that farm workers experience widespread and systematic health concerns, and that health and safety problems among farm workers are both more prevalent and occur with greater frequency than among other occupational groups.¹¹
- Migrant crop workers have the highest rate of heat-related deaths in the United States, with a rate of death 20 times higher than that of the regular population.¹²

Some common health risks experienced by migrant workers include:

- Consecutive long days of strenuous work without adequate rest;
- Repetitive and stressful ergonomic positions;
- Exposure to intense sunlight, heat and other climatic extremes;
- Exposure to multiple hazards, including machines, tools, unsafe transportation, heavy loads, pesticides, gases and confined spaces;
- Inadequate facilities such as running water to wash off chemicals before eating;
- A lack of training in a language spoken by the workers and/or lack of understanding about safe work practices, rights and entitlements;
- Inadequate provision and use of personal protective equipment;
- Over-crowded, hot, and unsanitary living conditions, and;
- Multiple barriers to accessing health care.¹³

Migrant workers in the Seasonal Agricultural Worker Program, and some workers in the Temporary Foreign Worker Program – Agricultural Stream, are provided with on-farm accommodations. Workers reported to CELA that on-farm accommodations were often very hot and that they were unable to cool down at night. CELA has therefore recommended that housing provided by employers using either the Seasonal Agricultural Worker Program or the Temporary Foreign Worker Program require adequate and suitable cooling to maintain a maximum indoor temperature of 26°C, as detailed below in Appendix 2.

¹⁰ *Peart* at para 99.

¹¹ *Peart* at para 99, based on a study in the United States of America.

¹² *Peart* at para 102.

¹³ *Peart* at paras 110 and 116.

APPENDIX 1

HEAT ILLNESS PREVENTION PLAN

CELA recommends that the following heat illness prevention plan for agricultural workers is implemented as a regulation under the OHSA.

Section 26(1) of the OHSA should be amended to include:

"Establish a heat illness prevention plan for agricultural workers as prescribed".

This plan draws on the following sources: the Occupational Safety and Health Administration, US Department of Labour,¹⁴ Western University's Working in Hot Weather or Hot Workplace Environments Plan,¹⁵ California Division of Occupational Safety and Health Heat Illness Prevention Standard,¹⁶ Oregon Division of Occupational Safety and Health Heat Illness Prevention,¹⁷ and Heat Stress FAQs from the Infrastructure Health & Safety Association.¹⁸

Scope and Application: The employer shall establish, implement, and maintain an effective heat illness prevention plan. The plan must be available in writing in both English or French and the language spoken by the majority of workers at the workplace. The plan must be instituted by all employers of agricultural workers, including outdoor workplaces and greenhouses.

¹⁴ Occupational Safety and Health Administration, U.S. Department of Labor, "Model Heat Illness Prevention Plan", online at:

<https://www.osha.gov/sites/default/files/2021-07/Model%20Heat%20Illness%20Prevention%20Plan.pdf>.

¹⁵ Western University, "Working in Hot Weather or Hot Workplace Environments Plan", online: https://www.uwo.ca/hr/form_doc/health_safety/doc/procedures/working_in_hot_environments.pdf.

¹⁶ California Occupational Safety and Health, "Heat Illness Prevention in Outdoor Places of Employment", online at: <https://www.dir.ca.gov/title8/3395.html>.

¹⁷ Oregon Occupational Safety and Health, "Rules to Address Employee and Labor Housing Occupant Exposure to High Ambient Temperatures", online at:

<https://osha.oregon.gov/OSHArules/adopted/2022/ao3-2022-text-alh-heat.pdf>.

¹⁸ Infrastructure Health & Safety Association, "Heat Stress FAQs", online: <https://www.ihsa.ca/Topics-Hazards/Heat-Stress-FAQs.aspx#controlled>.

The heat illness prevention plan must be implemented in the following conditions:

1. The humidex on-site reaches or exceeds 35°C
2. Environment and Climate Change Canada reports air temperature that exceeds 30°C and a humidex of 40°C
3. Heat waves of 32°C or more are predicted for three or more days¹⁹
4. The Ontario Ministry of the Environment, Conservation and Parks issues a smog alert

The following workplaces and operations are exempt from implementing a heat illness prevention plan:

1. **Incidental heat exposures** where the worker is not required to perform an activity for more than 15 minutes in any sixty-minute period.
2. **All emergency operations** that are directly involved in the protection of human life or property, or the restoration of essential services (such as but not limited to evacuation, medical, firefighting, law enforcement, utilities, and communications).
3. **Buildings and structures that have air-conditioning** or other active cooling mechanisms that keep the temperature below 26°C.

Relevant Definitions

1. **“Acclimatization”** means the gradual adaptation of the body to new climate conditions including heat in the workplace.
2. **“Employer”** means a person who employs one or more workers or contracts for the services of one or more workers and includes a contractor or subcontractor who performs work or supplies services and a contractor or subcontractor who undertakes with an owner, constructor, contractor or subcontractor to perform work or supply services
3. **“Worker”** means any of the following, but does not include an inmate of a correctional institution or like institution or facility who participates inside the institution or facility in a work project or rehabilitation program:
 - a. A person who performs work or supplies services for monetary compensation.
 - b. A secondary school student who performs work or supplies services for no monetary compensation under a work experience program authorized by the school board that operates the school in which the student is enrolled.
 - c. A person who performs work or supplies services for no monetary compensation under a program approved by a college of applied arts and

¹⁹ Heat wave defined by Environment Canada, <https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/climate-change-health/extreme-heat-events-guidelines-technical-guide-health-care-workers.html#a.12>

- technology, university, private career college or other post-secondary institution.
- d. Such other persons as may be prescribed who perform work or supply services to an employer for no monetary compensation;

All of the following rules and standards apply equally to migrant workers.

As the definition of a worker under OHSA applies whenever an individual is paid for performing work or supplying services for monetary compensation, both domestic and foreign farm workers are encompassed.²⁰ Migrant workers, including workers without immigration status, are included under the broad definition of a worker.

4. **“Workplace”** means any land, premises, location or thing at, upon, in or near which a worker works
5. **“Shade”** means the blockage of direct sunlight. Shade is sufficient when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the shaded area defeats the purpose of the shade, i.e., to allow the body to cool. Shade may be provided by any natural or artificial means that does not expose workers to unsafe or unhealthy conditions and that does not deter or discourage access or use.
6. **“Supervisor”** means a person who has charge of a workplace or authority over a worker.

Personal Risk Factors

Employers must keep in mind that some workers are more susceptible to heat-related illnesses. High risk factors include certain medical conditions, lack of personal fitness, age, medications that affect water retention or other physiological responses to heat, alcohol or drug consumption, and previous history of heat-related illnesses.

Personal Protective Equipment

Personal protective equipment acts as an insulator. If personal protective equipment must be worn by the worker, employers shall account for the added

²⁰ Ontario Ministry of Agriculture, Food and Rural Affairs, online at: <http://omafra.gov.on.ca/english/busdev/facts/qandaohsa.htm#employees>.

insulation and increased heat retention. Please refer to the table below adapted from the Canadian Centre for Occupational Health and Safety.²¹

Clothing Type	Wet Bulb Globe Temperature Correction (°C)
Work clothes (long sleeve shirt and pants)	0
Cloth (woven material) coveralls	0
SMS (Spunbonded - Meltdown - Spunbonded) polypropylene coveralls	+0.5
Polyolefin coveralls	+1
Double-layer woven clothing	+3
Limited-use vapour-barrier coveralls	+11

It is important for employers and employees alike to understand that agricultural workers are particularly vulnerable to heat-related illness because they wear protective equipment and clothing to reduce exposure to pesticides. That clothing will exacerbate the effects of extreme heat. Exposure to pesticides can inhibit sweating which also contributes to overheating.²²

Requirement 1: Employers must be trained on their responsibilities

All employers must be trained on their responsibilities to provide water, shade, sunscreen, cool-down rests, and accelerated access to first aid. An employer must also be aware of a worker's right under OHSA to refuse work if the physical condition of the workplace is likely to endanger them. Employers must also ensure that they communicate their responsibilities to employees to ensure they are aware of both their employer's responsibilities as well as their own rights. These communications should be available in various languages if an employer is employing workers whose first language is not English.

Requirement 2: Regular observation and communication

²¹ Canadian Centre for Occupational Health and Safety, "Hot Environments – Control Measures" https://www.ccohs.ca/oshanswers/phys_agents/heat_control.html.

²² *Peart* at para 102.

Employers must implement a buddy system. In extreme heat, a buddy system shall be implemented to monitor symptoms of heat-related illness and to ensure that all heat-related procedures are being followed. If a buddy system is not feasible, the employer shall implement another equally effective method of observation and communication.

Requirement 3: When a heat wave is underway (32°C or higher for three or more consecutive days) where workers will be working continuously in a hot environment, employers must ensure that workers are acclimatized

Employers must acclimatize their workers:

- A. If the worker is new or not experienced on the job, they should spend 20% of their time working in the hot conditions on the first day and subsequently increase their time by 20% each day.
- B. If the worker is experienced, they should spend 50% of the shift on the first day in the hot environment, 60% on the second day, and 80% on the third day. It is only on the fourth day that the entire shift can be completed in the hot environment.

	Day 1	Day 2	Day 3	Day 4	Day 5
New Worker	20%	40%	60%	80%	100%
Experienced Worker	50%	60%	80%	100%	100%

Requirement 4: Lessen the physical workload where possible by utilizing mechanical assistance such as hoists and carts.

Employers must provide adequate safety training. If employers are to provide mechanical machinery to employees to aid in lessening the workload during extreme heat events, the employer must ensure that adequate training on how to operate the machinery is provided to the workers, as well as adequate safety training in the event of an accident.

Requirement 5: Workers must consistently be supplied with water or other fluids that provide electrolytes at no cost.

Employers must provide potable, cool drinking water. Potable drinking water or other fluids that provide electrolytes must be provided at no cost to the worker. The

workers must be able to access drinking water while they work. The drinking of fluids should be encouraged, i.e., one cup every 15-20 minutes.

Requirement 6: Sunscreen must be provided

Employers must provide sunscreen at no cost to the worker. The sunscreen must have a sun protection factor of at least 30 to protect workers from harmful ultraviolet rays.

Requirement 7: Workers should take more frequent breaks in cooler or shaded areas.

Employers must provide shade. Shaded or areas sheltered from the sun to eliminate ultraviolet exposure must be provided for workers to take breaks. Workers shall be allowed to take cool-down rest breaks in the shade to prevent themselves from overheating.

It is important for employers and employees alike to understand that agricultural workers are particularly vulnerable to heat-related illness because they are engaged in difficult, physical labour under extreme heat (often in direct sunlight) for long periods of time, without adequate rest or hydration. This may be in part because a) they fall within the limited exceptions to the general rules under the OHS and ESA²³ and b) because of their job location, i.e. in open fields with very little tree cover.

Shade provision requirements:

1. The amount of shade present must be sufficient to accommodate the number of workers on recovery or rest periods, so that they can sit in a normal posture fully covered by the shade without having to be in physical contact with each other.
2. The shade must be located as close as reasonably possible to the areas where the workers are working.

Exception

1. If the employer can demonstrate that it is infeasible or unsafe to implement a shade structure, the employer may utilize alternative methods for providing access to shade so long as the alternative procedures provide equivalent protection.

²³ Government of Ontario, "Agriculture, growing, breeding, keeping and fishing", online at <https://www.ontario.ca/document/industries-and-jobs-exemptions-or-special-rules/agriculture-growing-breeding-keeping-and-fishing#section-0>.

An individual worker who takes a preventative cool-down break:

1. Shall be monitored and asked if they are experiencing symptoms of a heat-related illness;
2. Shall be encouraged to stay in the shade; and
3. Shall not be instructed to go back to work until any symptoms of heat-related illness have subsided.

Heat Index (°C)	Rest Break Durations and Intervals
30 - 34	10 minutes every two hours
35 -36	20 minutes every hour
37 - 39	30 minutes every hour
40 or greater	40 minutes every hour

*This table is adapted from the Oregon Division of Occupational Safety and Health.²⁴

Requirement 8: Emergency response procedures for workers experiencing symptoms of heat-related illness.

Employers and supervisors must be aware of the signs and symptoms related to heat-related illnesses. If an employer or supervisor observes, or a worker reports any signs or symptoms of a heat-related illness, actions proportionate to the severity of the symptoms must be taken.

If the signs or symptoms are indicators of severe heat-related illness (including decreased level of consciousness, staggering, vomiting, disorientation, irrational behavior, or convulsions), the employer must implement emergency response procedures.

At least one employer, supervisor or worker at each worksite must be designated and equipped to call for emergency medical services. If symptoms are continuous and/or signs of heat stroke appear, the worker must receive immediate medical attention by calling 911.

²⁴ Oregon Division of Occupational Safety and Health²⁴, “Rules to Address Employee and Labor Housing Occupant Exposure to High Ambient Temperatures” at page 21.

APPENDIX 2

ADEQUATE COOLING IN ON-FARM ACCOMMODATIONS

The Government of Canada requires employers to provide housing to Seasonal Agricultural Workers. The *Immigration and Refugee Protection Regulations*, SOR/2002-227, s.209.3(1)(a)(vi) require that employers using the Seasonal Agricultural Worker program provide “adequate accommodations” to workers.²⁵ The non-modifiable contracts for the Seasonal Agricultural Worker Program for 2023 include some requirements for housing, but do not address maximum indoor temperature.²⁶

Agricultural workers recruited through the Temporary Foreign Worker Program may live in housing on-site or off-site.²⁷ As of January 1, 2018, a housing inspection must be conducted prior to approval of an application by the Government of Canada for the temporary foreign worker program, but it does not address maximum indoor temperature²⁸.

The Residential Tenancies Act does not apply to accommodation contingent on continued employment on a farm.²⁹ Advocacy Centre for Tenants Ontario, CELA and Low-Income Energy Network have recommended municipal by-laws which would state that all indoor rental housing provide and maintain adequate and suitable cooling of a maximum indoor temperature of 26°C.³⁰ Agricultural worker housing must meet the same indoor temperature standard even if it is not classified as rental housing.

²⁵ *Immigration and Refugee Protection Regulations*, SOR/2002-227, s.209.3(1)(a)(vi). < [Immigration and Refugee Protection Regulations \(justice.gc.ca\)](https://www.justice.gc.ca/immigration-and-refugee-protection-regulations)>

²⁶ Government of Canada, “Contract for the Employment in Canada of commonwealth Caribbean seasonal agricultural workers – 2023”, < [SAWPCContract_2023-Caribbean-PDF-EN.pdf \(canada.ca\)](#)>; Government of Canada, “Contract for the Employment in Canada of seasonal agricultural workers from Mexico – 2023”, < [SAWPCContract_2023-Mexico-PDF-EN.pdf \(canada.ca\)](#)>.

²⁷ Government of Canada, “Hire a temporary foreign worker through the Agricultural Stream: Program requirements”, < [Hire a temporary foreign worker through the Agricultural Stream - Program requirements - Canada.ca](#)>.

Foreign Agricultural Resource Management Services, “SAWP/ Agricultural Stream Comparison”. < [SAWP/Agricultural Stream Comparison - F.A.R.M.S. \(farmsontario.ca\)](#)>

²⁸ Government of Canada, Schedule F – Housing Inspection Report. < [Form Detail \(servicecanada.gc.ca\)](#)>

²⁹ *Residential Tenancies Act, 2006*, SO 2006, Ch 17, s 5(b). < [SO 2006, c 17 | Residential Tenancies Act, 2006 | CanLII](#)>

³⁰ Advocacy Centre for Tenants Ontario, Canadian Environmental Law Association and Low-Income Energy Network, “Recommendations for Municipalities. Focus: Extreme Heat and Rental Housing”, < [1488-Extreme Heat and Rental Housing Recommendations.pdf \(cela.ca\)](#)>

CELA recommends that the Seasonal Agricultural Worker Program Agreements and the Temporary Foreign Worker – Agricultural Stream Program Requirements be amended to include the following requirements for the provision of adequate housing on-farm:

(1) Definitions

1. “adequate and suitable cooling” means an indoor air temperature in the dwelling unit that does not exceed 26 degrees Celsius (26°C).
2. “dwelling unit” means one or more habitable rooms used or designed to be used for human habitation;
3. “habitable space” means a room or area used or intended to be used for living, sleeping, cooking or eating purposes and includes a washroom;

(2) Accommodation provided or rented to workers on-farm shall provide and maintain adequate and suitable cooling so that the room temperature at 1.5 metres above floor level and one metre from exterior walls in all habitable space and in any area intended for normal use by persons living in the accommodation, including recreation rooms and laundry rooms but excluding locker rooms and garages, is a maximum of 26°C.

(3) Every accommodation shall have cooling equipment capable of maintaining the temperature levels required by subsection (1).

(4) Only cooling equipment approved for use by a recognized standards testing authority shall be provided in a room used or intended for use for sleeping purposes.

(5) The employer responsible for the on-farm accommodation shall hire a qualified professional to install the cooling equipment.