

Flooded cranberry fields and reservoirs may pose drowning risk

Modern cranberry harvesting methods are efficient and effective. However, unless proper safety measures are in place, workers may be at risk of drowning.

The wet harvest process involves flooding the cranberry field with water. Workers then use machines called water reels to knock the berries off the vines. The berries then float on the surface of the water. Workers wade through the water and gather the berries to a common edge or corner using a floating boom.

Although this harvesting method is very effective, it can pose a risk of drowning to the workers who gather the berries in the water. The depth of the water sometimes varies, and in some locations may exceed the height of a worker. The water is rarely clear enough for a worker to see any serious changes in depth. As a result, a worker could fall below the surface of the water and drown.

Cranberry farms also have open reservoirs that contain water year-round. Workers may be required to carry out tasks near the reservoirs in the off-season and may be at risk of drowning.

Planning for safe cranberry harvesting

Risk identification, assessment, and control

As an employer, you must identify all workplace hazards and assess the risk associated with those hazards prior to starting work. If there is a risk of

injury or illness, you must eliminate the hazard or reduce the risk to an acceptable level. It is always best to eliminate the hazard if practicable.

For example, you could choose to modify your cranberry field drainage system to eliminate perimeter and cross ditches. Ditches increase the drowning risk due to uneven terrain and deeper water when a field is flooded.

If it is not possible to modify the drainage system, then written work procedures must be developed that detail the risk and the steps taken to avoid injury or illness. For example, if flooding the field will introduce the risk of drowning due to the depth of the water or uneven terrain, written work procedures must be developed that describe the safety measures taken to avoid drowning. These safety measures may include using lifejackets or personal flotation devices, setting up warning lines, and preventing access to certain areas.

Along with the written work procedures, a workplace evaluation is required to determine the appropriate personal protective equipment (PPE). The following sections discuss PPE and other safety measures in more detail.

Personal flotation devices and other safety measures

As an employer, you have an option to use personal flotation devices and/or to implement other safety measures when workers are exposed

to the risk of drowning. Your choice of how to proceed will be based on the site-specific hazard identification and risk assessment.

When personal flotation devices are used, they must meet *Canadian General Standards Board (CGSB) Standard CAN/CGSB-65.11-M88, Personal Flotation Devices* with a minimum buoyancy of 69 N (15.5 lb.).

When other safety measures are used, they must be documented in the form of written work procedures. Examples of other safety measures include the following:

- **Warning lines:** These lines provide a visual warning of hazards that increase the risk of drowning, such as a drainage ditches and uneven terrain.
- **Prohibited entry:** Systems or processes that prevent access to areas where there is a risk of drowning.

Lifejackets for workers working alone or in isolation

Lifejackets are designed to turn an unconscious person face up to prevent drowning. When working alone or in isolation in the water, a worker must wear a lifejacket that meets one of the following standards:

- *CGSB Standard CAN/CGSB-65.7-M88, Lifejackets, Inherently Buoyant Type* with a minimum buoyancy of 93 N (21 lb.)
- *CGSB Standard CAN/CGSB 65-GP-14M, Lifejackets, Inherently Buoyant, Standard Type* with a minimum buoyancy of 125 N (28 lb.)
- *British Safety Standard BS EN 396-1994, Lifejackets and Personal Buoyancy Aids - Lifejacket 150 N*, automatically inflatable units with a minimum buoyancy of 150 N (34 lb.)

A worker is required to wear a lifejacket when he/she is not within eyesight or earshot of another worker who can immediately come to the first worker's aid in the water. However, even if a worker is within eyesight or earshot of a second

worker, the second worker may not be able to help the first worker in time, depending on the distance between them and the depth of the water. Workers are considered to be working in isolation and are required to wear lifejackets if another worker cannot immediately come to their aid. As an employer, you must develop and implement written procedures for checking the well-being of workers assigned to work alone.

Workers working alone or in isolation must not wear personal flotation devices (PFDs). PFDs will keep workers afloat but will not turn them face up in the water.

Retroreflective material is required on PFDs and lifejackets. There must be at least 200 cm² (32 sq. in.) of retroreflective material on the surfaces that are normally above the water. This helps with locating an individual in the water.

Personal flotation devices (PFDs) vs. lifejackets

Lifejackets are made in such a way that they turn unconscious people face up in the water so they can continue breathing.

PFDs tend to be more compact than lifejackets, and the comfort level is generally higher. But PFDs are not able to turn unconscious people face up in the water.

Chest waders

Workers commonly wear chest waders during cranberry harvesting. You must ensure that chest waders are capable of safely performing their function and used in accordance with the manufacturer's instructions. Make sure chest waders are well maintained. The belt must be fastened to prevent water from entering the chest waders, which could make a lifejacket or PFD ineffective. All PPE must be compatible.

Rescue procedures during harvest

If the site-specific risk assessment for harvesting determines a need for rescue capability, you must develop and implement written procedures for rescuing workers from the water. You will need to assign a worker to coordinate implementation of these procedures. There must be enough workers, based on the risk assessment, who are available to carry out rescue procedures when work is underway. These workers must be equipped, instructed, and trained in the procedures. Practice sessions must be held so workers know their responsibilities and gain experience with the rescue procedures and equipment.

In the Regulation

This document focuses on the following sections of the Occupational Health and Safety Regulation:

- Section 4.13, Risk assessment (for emergency preparedness and response)
- Section 4.21, Procedures for checking well-being of worker
- Section 3.17, First aid procedures
- Section 8.26–8.28, Buoyancy equipment
- Section 8.30, Retroreflective material

Safety checklist (sample)

Using a safety checklist can help you ensure that key safety issues are addressed before workers start work in the water. A completed sample is shown below.

Requirements	Name and title of person responsible	Initials
<input checked="" type="checkbox"/> Workers are instructed, trained, and supervised	Bill Wade (supervisor)	BW
<input checked="" type="checkbox"/> PPE (PFD, lifejacket, chest waders) is on site	Bill Wade (supervisor)	BW
<input checked="" type="checkbox"/> Written safe work procedures are on site and have been reviewed with workers	James Wu (grower)	JW
<input checked="" type="checkbox"/> Written rescue procedures are on site and have been reviewed with workers	James Wu (grower)	JW
<input checked="" type="checkbox"/> A person has been assigned to coordinate and implement rescue procedures	Joti Sandu (first aid attendant)	JS
<input checked="" type="checkbox"/> First aid services are on site	Joti Sandu (first aid attendant)	JS

Site-specific drowning hazards (sample)

A sketch of your cranberry field can be a useful tool for identifying potential drowning hazards. A completed sample is shown below.

