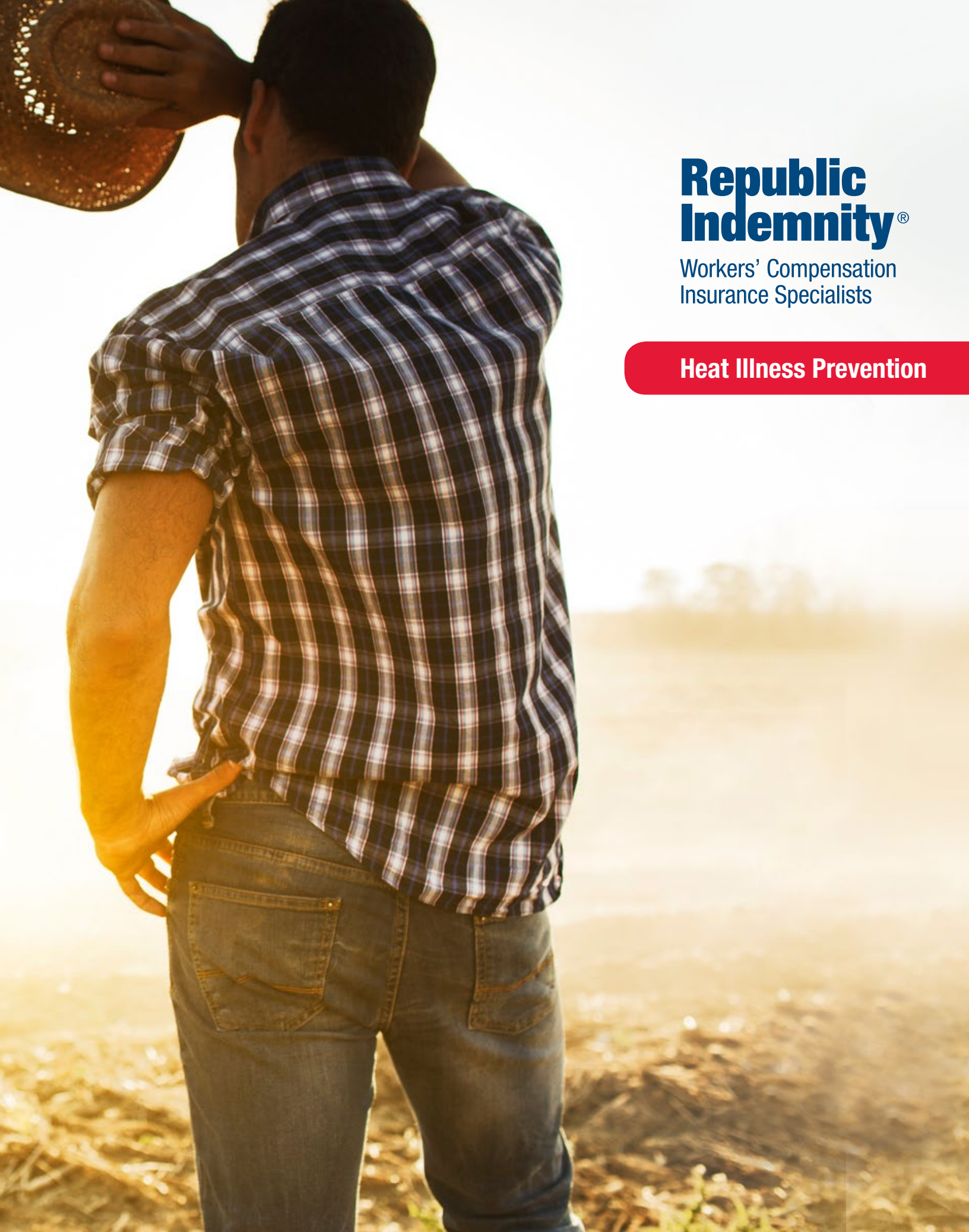


Republic Indemnity®

Workers' Compensation Insurance Specialists

Heat Illness Prevention

Heat Illness Prevention

Preventing Heat Illness is Important!

- Heat illness can be a matter of life and death. Workers die from heat stroke every summer.
- When heat stroke does not kill immediately, it can shut down major body organs, causing serious damage.
- Workers suffering from heat exhaustion are at a greater risk for accidents since they are less alert and can be confused.
- Having a serious injury or death affects everyone at a worksite.

Employers are required to take basic steps to prevent heat illness including:

1. Plan
Develop and implement written procedures to prevent heat illness that include procedures for acclimatization, training, water, rest, shade, and emergencies.

2. Train
Train all affected employees and supervisors about heat illness prevention.

3. Provide Water
Provide enough fresh water so that each employee can drink at least 1 quart per hour during the entire shift, and encourage them to do so.

4. Provide Shade
Provide access to shade and encourage employees to take a cool-down rest in the shade for at least 5 minutes. They should not wait until they feel sick to cool down.

5. Engineering Controls
Engineering controls and personal protective equipment should also be considered, including:

- Power tools or machinery
- Cooling devices
- Protective clothing

Planning Requirement
A sample heat illness prevention program in Word format is only one of many sample programs and safety brochures available on our website at: **RepublicIndemnity.com** in the Loss Control section.

Training Requirement

- OSHA has numerous fact sheets, posters, and training materials on their website at osha.gov.
- Cal/OSHA has fact sheets, a training video, employer training kit, and posters at 99calor.org.

Water Requirement
Employers need to provide free of charge 1 quart of fresh, pure, cool potable water per employee per hour for the entire work shift. There must be enough water on hand at the start of the shift, or there must be an effective method of replenishing the supply. Workers should be encouraged to drink frequently.

Shade Requirement
Shade may be provided by any natural or artificial means that does not expose employees to unsafe or unhealthy conditions and that does not deter or discourage access or use. Canopies, umbrellas, and other temporary structures or devices may be used to provide shade. Shade is sufficient if objects do not cast a shadow in the area of blocked sunlight.

Non-agricultural employees may be provided with cooling measures other than shade as long as these measures are as effective as shade. These measures may include misting equipment, fans, or air-conditioned areas.

In general, employees suffering a heat illness or those who believe a preventative recovery is needed must have access to a shaded area that is open to the air, ventilation, or cooling for a period of no less than 5 minutes. This access must be available at all times.

Heat illness can be a matter of life and death.

Federal OSHA
Begun in 2011, the Heat Illness Prevention Campaign spreads the word about preventing heat illness. Although there is not a specific standard, employers can be cited under OSHA's general duty clause. An employer has a legal obligation to provide a workplace free of conditions or activities that either the employer or industry recognizes as hazardous and cause, or are likely to cause, death or serious physical harm to employees when there is a feasible method to abate the hazard. This includes heat-related hazards that are likely to cause death or serious bodily harm.

Cal/OSHA

The Cal/OSHA Heat Illness Prevention standard received final approval and became effective on July 27, 2006, and major revisions became effective May 1, 2015. The standard requires employers to develop and implement a written program and provide training, water, and shade for employees and supervisors. The standard applies to all outdoor places of employment and can be found in Title 8 Section § 3395 of the General Industry Safety Orders. For indoor places of employment, Cal/OSHA will cite the Injury and Illness Prevention Program requirement, Title 8 Section § 3203, which directs employers to address all health or safety hazards within their worksite including heat illness.

An employer has a legal obligation to provide a workplace free of heat-related hazards.

California Planning Requirement

The employer's written procedures must be available to employees and to representatives of the Division of Occupational Safety and Health.

California Training Requirement

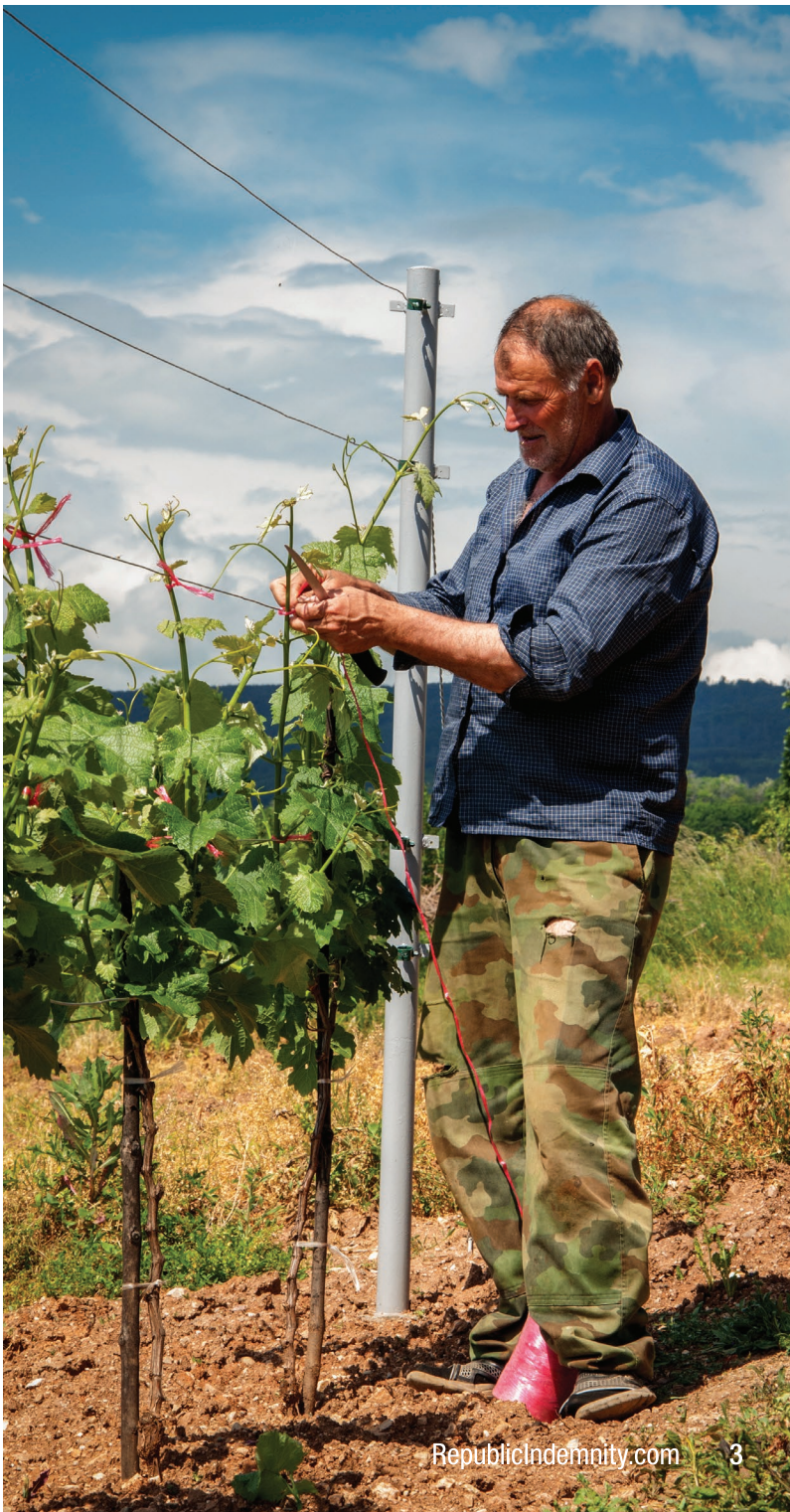
All employees need to be trained in the following:

- Environmental and personal risk factors for heat illness.
- Employer's procedures for complying with requirements of California's Heat Illness Prevention Standard.
- The importance of frequent consumption of small quantities of water, up to 4 cups per hour under extreme conditions of work and heat.
- The importance of acclimatization.
- The different types of heat illness and the common signs and symptoms of heat illness.
- Appropriate first aid and/or emergency responses for heat illnesses, and that heat illness may progress quickly.
- The importance of immediately reporting to the employer, directly or through the employee's supervisor, symptoms, or signs of heat illness in themselves, or in coworkers.
- Employer's procedures for responding to signs or symptoms of possible heat illness, including how to request emergency medical services if they become necessary.
- Procedures for contacting emergency medical services, and if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider.
- Employer's procedures for providing emergency responders with clear and precise directions to the worksite.

Supervisors must also receive training in:

- Procedures to ensure heat-induced emergency protocols are followed.
- Procedures to follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.
- Monitoring weather conditions.

If you require additional assistance, please contact Republic Indemnity's Loss Control Department at **1-800-821-4520** (select option 8) or send an email to **RICALC@ri-net.com**.



Heat Illness Prevention

Heat Illness: Symptoms and Treatments

Variability in Symptom Recognition and Reporting – The symptoms of heat illness may vary between individuals. Employees should be encouraged never to discount any discomfort or symptoms they are experiencing when working in heat, after work, or before the next workday. Heat illness symptoms can occur even after work has stopped. They should immediately report any problems they are experiencing to a supervisor, coworker and/or family member to seek prompt medical attention. Employees and supervisors must be fully trained on the prevention of heat illness before employees are assigned to work in locations where they are at risk for heat illness.

	Description	Symptoms	Treatment
Heat Rash (Prickly Heat)	Mild skin reaction	• Red pimples with intense itching and tingling • Often appears on neck, upper chest, folds of skin • Can be extensive and can become complicated by infection	• Move victim to a cool, shady spot • Allow the skin to dry • Regular bathing
Fainting (Heat Syncope)	Mild reaction to excessive heat that usually occurs in a worker that is not acclimatized to a hot environment.	• Sudden dizziness • Light headedness • Loss of consciousness	• Move victim to a cool, shady spot • Allow victim to lie down on back and elevate feet slightly After regaining consciousness, allow victim to slowly walk around • Immediate return to work is not advisable
Heat Cramps	Results from loss of body fluids and salt due to sweating and not drinking enough replacement fluids.	• Painful muscle spasms • Heavy sweating • Pain	• Move victim to a cool, shady spot • Have victim drink water • Seek medical attention in cases of severe cramping, vomiting, or loss of consciousness
Heat Exhaustion	Results from loss of body fluids due to sweating and not drinking enough replacement fluids.	• Weakness or fatigue – may lose consciousness • Giddiness, nausea, or headache • Skin clammy and moist while body temperature is normal or elevated • Thirst • Fast heart beat	• Allow victim to rest in cool, shady spot • Provide water • Loosen clothing • Cool body by fanning and gradual soaking with cool water • Apply ice packs • Get medical attention if signs or symptoms worsen or do not improve within 60 minutes • Return to work is not advisable
Heat Stroke	• The most serious heat illness, caused by the body's inability to regulate its core temperature. The ability to sweat is lost, preventing the release of excessive heat. Heat stroke victims usually die unless treated promptly.	• Mental confusion • Fainting • Convulsions or coma • Body temperature of 106° F or higher • Hot, dry skin - may be red, mottled, or bluish • Excessive sweating	• Immediately call for medical assistance • Move to coolest, shadiest spot available • Loosen clothing • Cool body by fanning vigorously and soaking clothing with cool water • Apply ice packs • Provide water • Stay with worker until help arrives

California Heat Illness Prevention Requirements

The requirements in the table apply to all outdoor workplaces with the exception of the High-Heat Procedures, which only apply to agriculture, construction, landscaping, oil and gas extraction, and transportation of various industrial products.

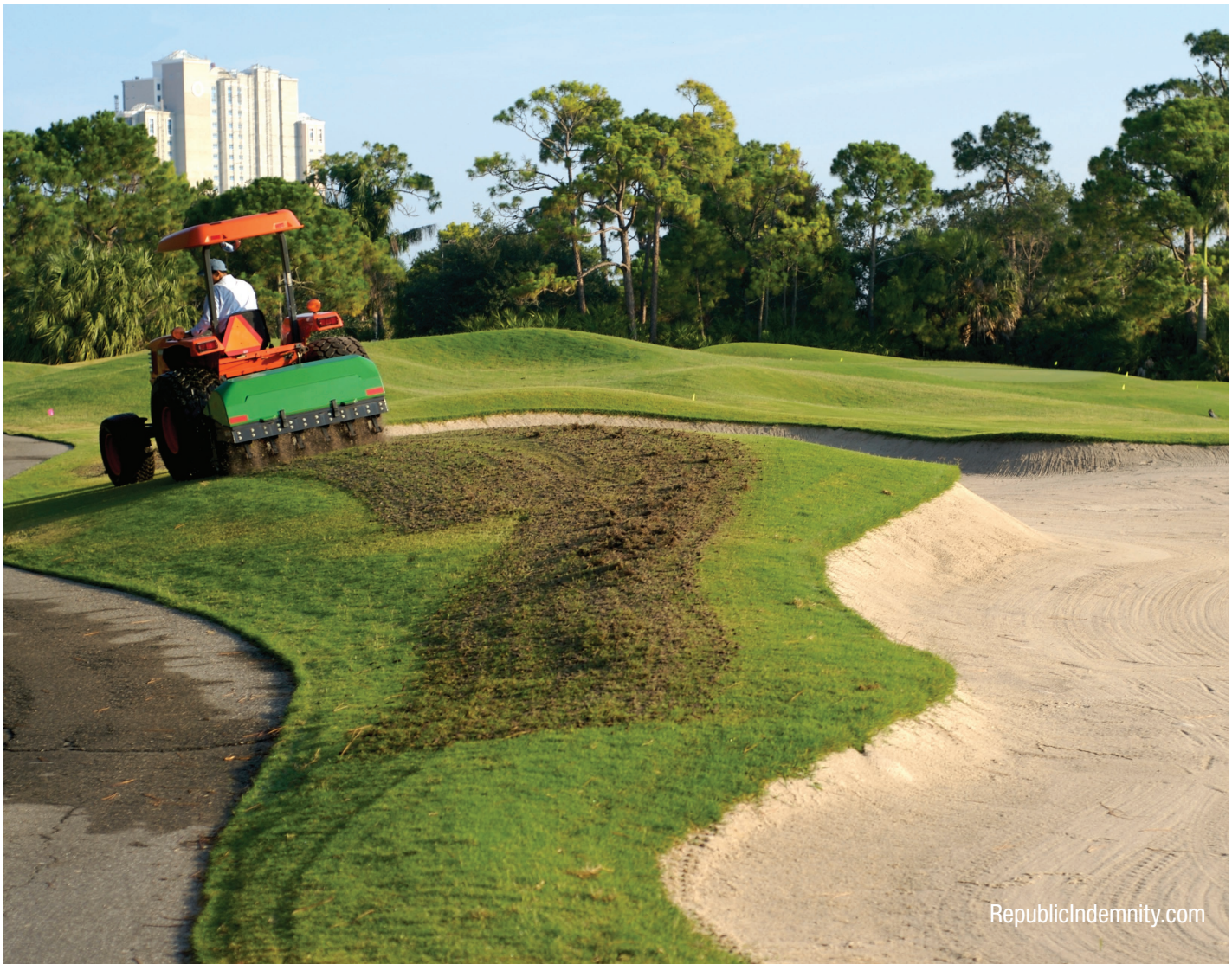
Requirements	< 80° F	> 80° F	> 95° F High-Heat Procedures
Provision of Water Employers need to provide 1 quart of potable water per employee per hour for the entire work shift. There must be enough water on hand at the start of the shift or there must be an effective method of replenishing the supply. Workers should be encouraged to drink small quantities frequently.	√	√	√
The water should be fresh, pure, suitably cool, and provided to employees free of charge. It shall be located as close as practicable to the areas where employees are working.	√	√	√
Access to Shade Timely access to shade must be provided upon employee request. Employees must be allowed and encouraged to take a preventative cool-down rest in the shade when they feel the need to do so to protect themselves from overheating. An individual employee who takes a preventative cool-down rest shall be: • monitored and asked if he or she is experiencing symptoms of heat; • encouraged to remain in the shade; and • shall not be ordered back to work until any signs or symptoms of heat illness have abated (no less than 5 minutes).	√	√	√
If an employee exhibits signs or reports symptoms of heat illness while taking a preventative cool-down rest or during a preventative cool-down rest period, the employer shall provide appropriate first aid or emergency response.	√	√	√
Shaded area must be located as close as possible to work areas. Shade may be provided by any natural or artificial means that does not expose employees to unsafe or unhealthy conditions and that does not deter or discourage access or use.	√	√	√
Shade must be available for all employees on a recovery or rest period, with the area sufficiently large so as to accommodate employees sitting normally to be in full shade and not be touching each other.	√	√	√
High-Heat Procedures Ensure availability of effective communication by voice, observation, or electronic means so that employees can contact their supervisor.			√
Provide observation of employees for alertness and signs or symptoms of heat illness. The employer shall implement one of the following: • supervisor or designee observation of 20 or fewer employees • mandatory buddy system; • regular communication with sole employee such as by radio or cell phone; or • other effective means of observation.			√

Heat Illness Prevention

Requirements	< 80° F	> 80° F	> 95° F High-Heat Procedures
Designate one or more employees on each worksite as authorized to call for emergency medical services and allow other employees to call for emergency services when no designated employee is available.			√
Provide reminders to employees throughout the shift of the need to drink plenty of water.			√
Pre-shift meetings before the commencement of work to review the high-heat procedures, encourage employees to drink plenty of water, and remind employees of their right to take a cool-down rest when necessary.			√
For agricultural employees, when the temperature equals or exceeds 95° Fahrenheit, employers must provide one 10-minute "preventative cool-down rest period" every 2 hours.			√
Emergency Response Procedures Employers must implement effective emergency response procedures including: • effective communication; • responding to signs and symptoms of possible heat illness; • contacting emergency medical services and if necessary, transporting employees to a place where they can be reached by a medical provider; and • ensuring clear and precise directions to the worksite in an emergency.	√	√	√
Acclimatization • All employees shall be closely observed by a supervisor or designee during a heat wave (80° Fahrenheit and at least 10° Fahrenheit higher than the average high daily temperature in the preceding five days). • New employees assigned to a high-heat area shall be closely observed by a supervisor or designee for the first 14 days of employment.	√	√	√
Training Effective training shall be provided before anticipated exposure on: • Environmental and personal risk factors for heat illness and heat load as well as the added burden of heat load on the body caused by exertion, clothing, and personal protective equipment. • The employer's procedures for complying with the requirements. • The concept, importance, and methods of acclimatization. • The different types of heat illness, common signs and symptoms, and appropriate responses. • The importance of employees reporting signs or symptoms immediately. • The importance of frequent consumption of water. • The employer's procedures for responding to signs or symptoms. • The employer's procedures for contacting emergency medical services. • The employer's procedures for providing clear and concise directions to the worksite.	√	√	√

Requirements	< 80° F	> 80° F	> 95° F High-Heat Procedures
Supervisors shall be trained on the aforementioned training topics, as well as how to implement the procedures, the procedures the supervisors are to follow when an employee exhibits signs or symptoms, and how to monitor weather reports and respond to hot weather advisories.	√	√	√
Heat Illness Plan The employer shall establish, implement, and maintain an effective heat illness prevention plan. The plan shall be in writing in both English and the language understood by the majority of employees.	√	√	√

Employees should never discount any discomfort they are experiencing when working in heat, after work, or before the next workday. Heat illness symptoms can occur even after work has stopped.



Heat Illness Prevention

Definitions:

Acclimatization is the gradual adaptation of the body to work in a particular environment. Most people can become acclimatized to working in hot temperatures by working at least 2 hours per day for a period of time ranging from 4 to 14 days.

Environmental risk factors for heat illness are working conditions that create the possibility that heat illness may occur. Factors include air temperature, relative humidity, radiant heat from the sun or other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing, and personal protective equipment worn by employees.

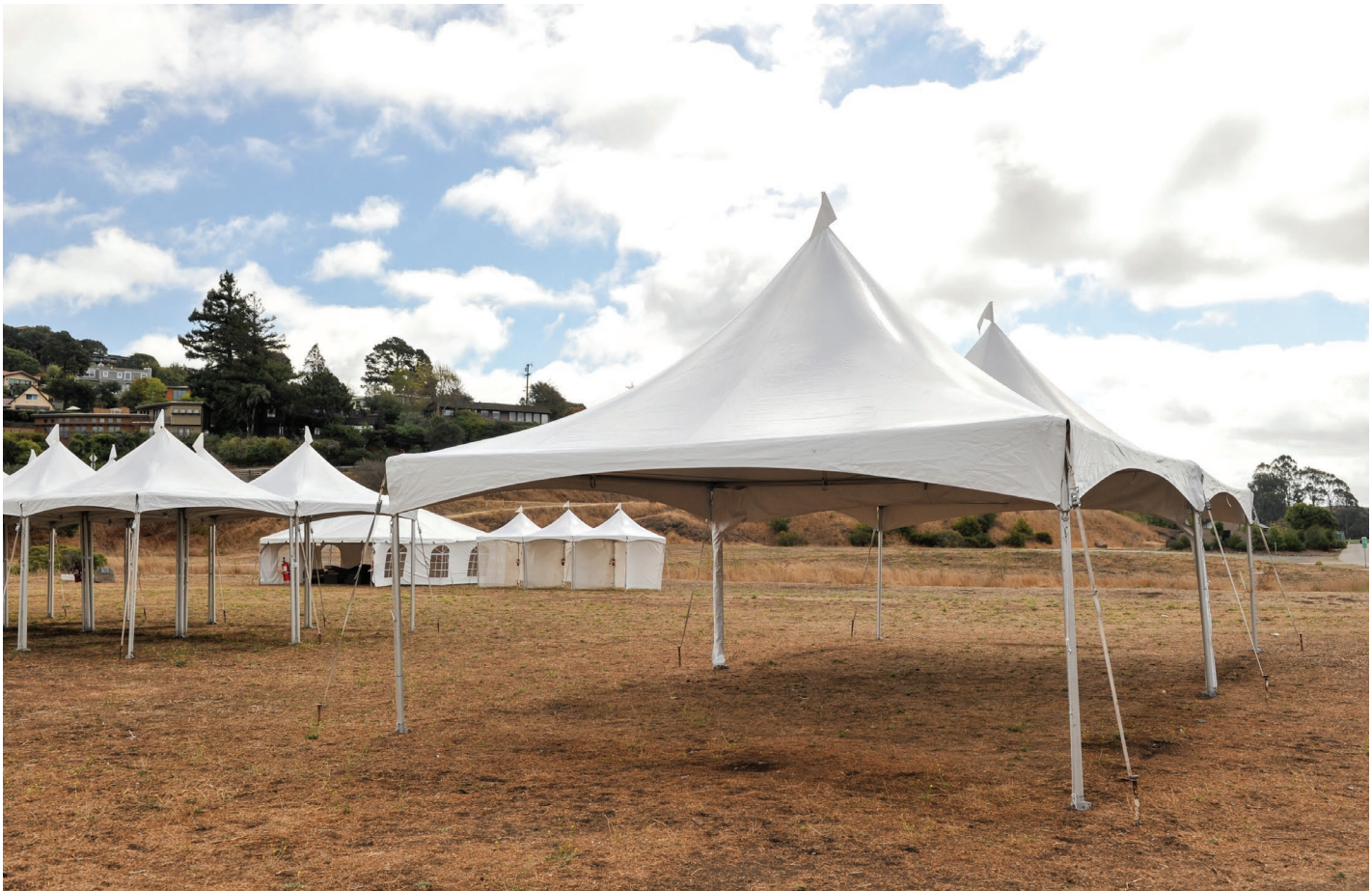
Heat Illness is a serious medical condition resulting from the body's inability to cope with excessive heat. Heat illness can include heat rash, fainting, heat cramps, heat exhaustion, and heat stroke.

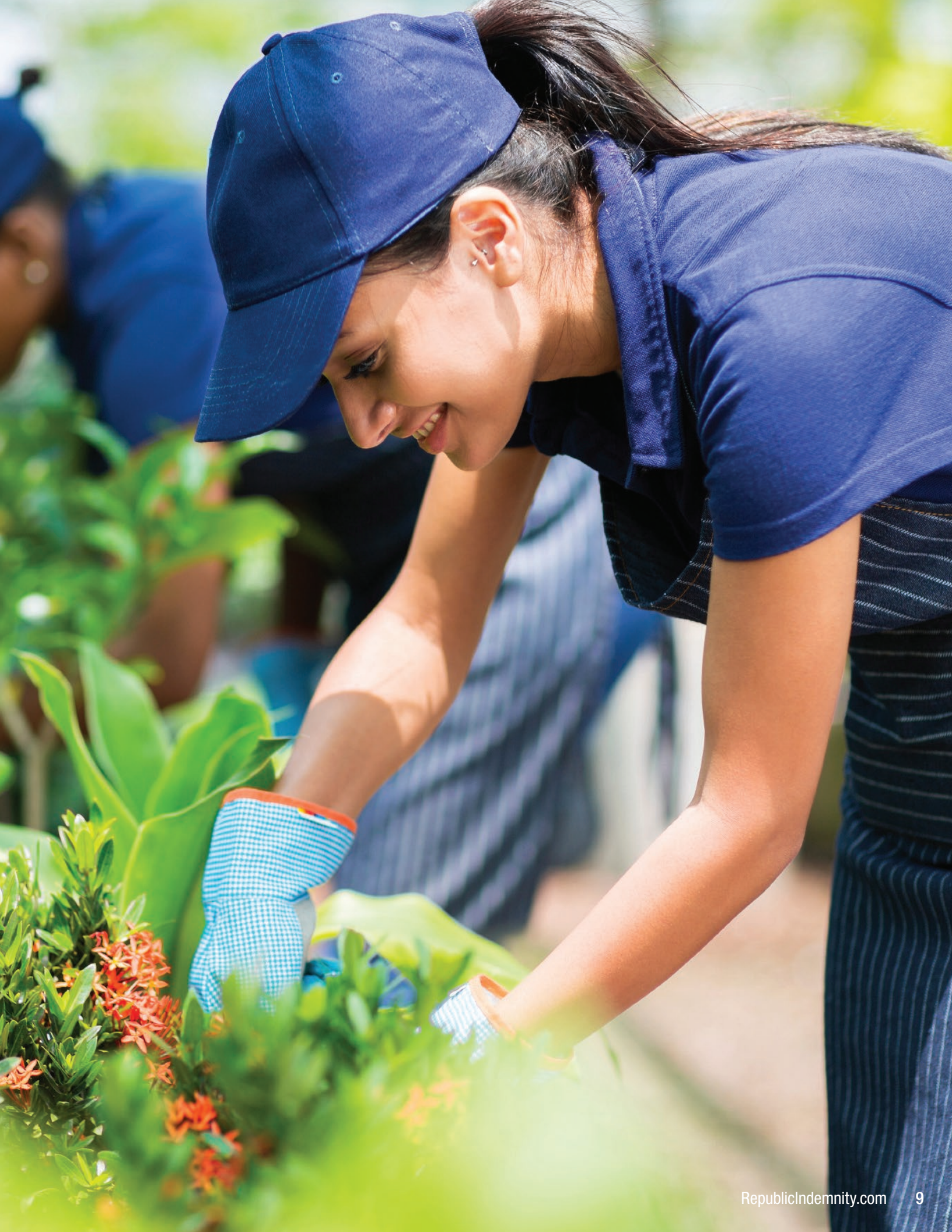
Personal risk factors for heat illness include an individual's age, degree of acclimatization, health, water, caffeine and alcohol consumption, and use of prescription medications that affect the body's water retention or physiological responses to heat.

Preventative recovery period is a period of time required to recover from the heat in order to prevent heat illness.

Provision of water means employees shall have access to potable drinking water meeting the requirements of Sections 1524, 3363 and 3457, as applicable, including but not limited to the requirements that it be fresh, pure, suitably cool, and provided to employees free of charge. The water shall be located as close as practicable to the areas where employees are working. Where drinking water is not plumbed or otherwise continuously supplied, it shall be provided in sufficient quantity at the beginning of the work shift to provide 1 quart per employee per hour for drinking for the entire shift. Employers may begin the shift with smaller quantities of water if they have effective procedures for replenishment during the shift as needed to allow employees to drink 1 quart or more per hour. The frequent drinking of water shall be encouraged.

Shade means blockage of direct sunlight. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning. Shade may be provided by any natural or artificial means that does not expose employees to unsafe or unhealthy conditions and that does not deter or discourage access or use.





Heat Illness Prevention

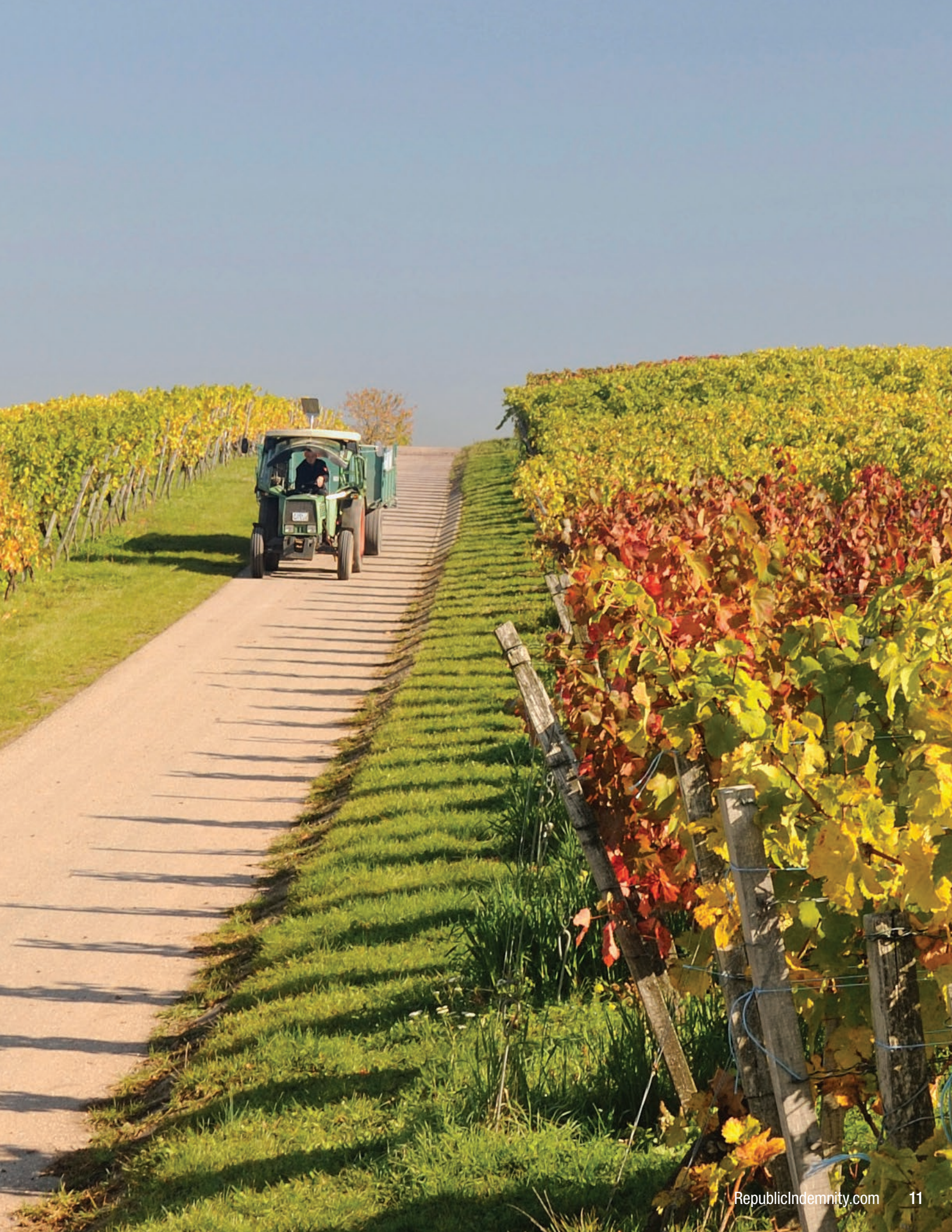
Temperature and humidity are key risk factors leading to heat illnesses. The following chart from the National Weather Service shows the relationship between temperature and humidity and the degree of hazard associated with climatic conditions.

Heat Index °F

Relative Humidity (%)

Temp.	40	45	50	55	60	65	70	75	80	85	90	95	100
110	136												
108	130	137											
106	124	130	137										
104	119	124	131	137									
102	114	119	124	130	137								
100	109	114	118	124	129	136							
98	105	109	113	117	123	128	134						
96	101	104	108	112	116	121	126	132					
94	97	100	103	106	110	114	119	124	129	135			
92	94	96	99	101	105	108	112	116	121	126	131		
90	91	93	95	97	100	103	106	109	113	117	122	127	132
88	88	89	91	93	95	98	100	103	106	110	113	117	121
86	85	87	88	89	91	93	95	97	100	102	105	108	112
84	83	84	85	86	88	89	90	92	94	96	98	100	103
82	81	82	83	84	84	85	86	88	89	90	91	93	95
80	80	80	81	81	82	82	83	84	84	85	86	86	87

Category	Heat Index	Possible heat disorders for people in high risk groups
Extreme Danger	130° or higher	Heat stroke or sunstroke likely.
Danger	105 - 129°	Sunstroke, muscle cramps, and/or heat exhaustion likely. Heatstroke possible with prolonged exposure and/or physical activity.
Extreme Caution	90 - 105°	Sunstroke, muscle cramps, and/or heat exhaustion possible with prolonged exposure and/or physical activity.
Caution	80 - 90°	Fatigue possible with prolonged exposure and/or physical activity.



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